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ADVISORY COMMITTEE ON REACTOR SAFEGUARDS

DECEMBER 4, 2001

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NUCLEAR REGULATORY COMMISSION

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ADVISORY COMMITTEE ON REACTOR SAFEGUARDS

(ACRS)

RELIABILITY AND PROBABILISTIC RISK ASSESSMENT

SUBCOMMITTEE MEETING

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TUESDAY,

DECEMBER 4, 2001

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ROCKVILLE, MARYLAND

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The Reliability and Probabilistic Risk Assessment Subcommittee met at the Nuclear Regulatory Commission, Two White Flint North, Auditorium, 11545 Rockville Pike at 1:00 p.m., George E. Apostolakis, Chairman, presiding.

COMMITTEE MEMBERS PRESENT:

GEORGE E. APOSTOLAKIS, Chairman

THOMAS S. KRESS, Member

STEPHEN L. ROSEN, Member

E. PETER FORD, Member

MARIO V. BONACA, Member

WILLIAM J. SHACK, Member

STAFF PRESENT:

MICHAEL T. MARKLEY

ALSO PRESENT:

CYNTHIA CARPENTER

TIM REED

EILEEN McKENNA

STEVE WEST

DAVID DIEC

ANDRIEN HEYMER

GLENN KELLY

MARK RUBIN

MIKE CHEOK

THOMAS SCARBOROUGH

TONY PIETRANGELO

JOHN FAIRWEATHER

A-G-E-N-D-A

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

(1:01 p.m.)

CHAIRMAN APOSTOLAKIS: The meeting will now come to order. This is a meeting of the Advisory Committee on Reactor Safeguard Subcommittee on Reliability and Probabilistic Risk Assessment. I am George Apostolakis, Chairman of the Subcommittee.

Subcommittee members in attendance are Mario Bonaca, Peter Ford, Thomas Kress, Stephen Rosen and William Shack.

The purpose of this meeting is to discuss proposed revisions to the special treatment requirements of 10 CFR, Part 50, Option 2.

The subcommittee will gather information, analyze the relevant issues and facts, and formulate proposed positions and actions, as appropriate, for deliberation by the full committee.

Michael T. Markley 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 published in the Federal Register on November 21, 2001.

A transcript of the meeting is being kept and will be made available as stated in the Federal

Register notice.

It is requested the speakers first identify themselves and speak with sufficient clarity and volume so that they can be readily heard.

We have received no written comments or requests for time to make oral statements from members of the public regarding today's meeting.

The ACRS last issued their report concerning the proposed 10 CRF 50.69 and associated Appendix D, dated October 12, 1999.

The staff is no longer pursuing Appendix D and is considering guidance provided in NEI 004, Option 2 implementation guideline.

The ACRS has reviewed the licensed amendment request from South Texas Project concerning special treatment requirements and issued a report dated July 23, 2001.

Today the subcommittee will also consider pilot activities at the Quad Cities and Wolf Creek nuclear power plants.

We now proceed with the meeting and I call upon Ms. Cynthia Carpenter, from the Office of Nuclear Reactor Regulation to begin.

MS. CARPENTER: Thank you. My name is Cindy Carpenter and I'm the branch chief for the Risk

Informed Initiatives, Environmental Decommissioning Rulemaking Branch, and I have oversight responsibility for the Option 2 and Option 3 rulemakings.

I want to thank you for this opportunity to brief you on Option 2.

And what you have in front of you is -- we issued, in accordance with an SRM in August, draft rule language for public comment.

So it is on the website and it is available in Adams for the public to review. And I think the public comment period ends December 31st, if I'm not mistaken.

And we look forward to hearing any insights that you might have as we go forward to prepare the proposed rules.

I need to leave at 2 o'clock for a PRA Steering Committee meeting and Steve West will be taking my place as the management representative while I'm gone.

CHAIRMAN APOSTOLAKIS: Why didn't you tell them to come here? This will be PRA.

MS. CARPENTER: They will be. For some reason it was set up in conflict with this meeting. So I'm going to go to that meeting and then come on back.

So you have Tim Reed and Eileen McKenna,

who are the lead on the rulemakings for Option 2, and Glenn Kelly, who is in the risk assessment branch. Thank you.

CHAIRMAN APOSTOLAKIS: Are you requesting a letter?

MS. CARPENTER: No, not at this time. Because this is just draft rule language. We'll be back for a letter.

MR. REED: I'll address that in the very first slide. I'm Tim Reed from the Division Regulatory Programs. And I'll be leading through the presentation today and I have technical support throughout the room. So if you have questions, we'll direct them to the appropriate person.

And I've got Eileen McKenna from DRIP also with me, and Glen Kelly, from DSSA, who's basically acting for Mike Cheok until Mike returns, hopefully.

So we have Mike Cheok also here today, who's the author of a lot of Appendix D.

CHAIRMAN APOSTOLAKIS: Mike Cheok is late.

MR. REED: He's late. Why don't we get rolling here. The first slide here is just to go through what we hope to achieve today, or the objective of this briefing, is to provide a status of where we are today on Option 2, what the ongoing tasks

are, how we're doing on those.

Most of the folks on the focus on the briefing will be on the draft rule language, which has already been mentioned. It's out on the website. I think last week it went out there. So we'll focus mostly on that.

And if there are major issues with the direction we're heading in, we'd like to hear that. We're not asking for a detailed letter or anything like that.

CHAIRMAN APOSTOLAKIS: So we will not discuss NEI-OOO --

MR. REED: We're going to discuss the status where we stand on the pilot activities, as well as the status on NEI 004. So both those will be also discussed.

CHAIRMAN APOSTOLAKIS: So we're going to get into technical discussions there.

MR. REED: Well --

CHAIRMAN APOSTOLAKIS: Why are you guys laughing? The subcommittees meetings are the place to do these things; right?

MR. REED: Why don't we start -- just to get everybody on the same page then. We'll go back through a little bit of background real quickly,

because we haven't been here for a while.

As you recall, SECY-99-256 was the paper that put out the proposed or the rulemaking plan for Option 2 and also attached advance notice proposed rulemaking. That went out in October of '99 and then we actually published the NPR in I think it was March of 2000.

We got several -- I think a hundred to 200 comments or thereabouts on the NPR and then in SECY-00-194, which was published in September of 2000, we provided our preliminary views on the NPR comments, as well as discussing our further thoughts on the regulatory approach.

Since that time, really, actually, in the last year, as some of the committee members are very well familiar with, most of the technical effort here has been focused on the South Texas exemption request and the staff's approval of that.

It was approved for concept for Option 2's. I think you're well aware.

In the last couple of years, we've also had at least three workshops. We've briefed the Commission twice, September, 2000 after we published SECY-00-194 as well as in conjunction with STP when the exemption was issued.

CHAIRMAN APOSTOLAKIS: Was the Office of Research involved in the public workshop? Do they ever come?

MR. REED: Oh, I believe the Office of Research was at, I think -- I'm not going to say every workshop. I know they were at some of them. The last one -- was the Office of Research at the last one?

CHAIRMAN APOSTOLAKIS: So this is an NRR effort exclusively?

MS. CARPENTER: The Office of Research -- this is Cindy Carpenter, again. The Office of Research participates on the Risk Informed Licensing Panel. Even the draft rule language, many of the things we do in Option 2 we take through the RILP.

And the Office of Research participates through a division director on the RILP. So they are participating.

CHAIRMAN APOSTOLAKIS: But are there any -- is there any work that the Office of Research is doing to support you in this effort?

MR. REED: Yes. Yes. They're reviewing NEI-00-02, which is the peer review guidance for its application to Option 2. So they're supporting Option 2 in that respect. In the PRA quality issue they're supporting us.

CHAIRMAN APOSTOLAKIS: Are they reviewing NEI-000-04?

MR. REED: NER is the lead review on NEI-000-04 -- 00-04. And we have a RILP 50 Option 2 core team, which research is also a member of that too. They participate on that as well as on the RILP. So they're involved.

To refresh your memories then, the concept --

CHAIRMAN APOSTOLAKIS: If you can do that, we'll love you.

MR. REED: The basic four box diagram --

CHAIRMAN APOSTOLAKIS: Freudian slip.

MR. REED: Just the first of many, I'm sure.

I'm showing what I like to call the two different worlds here. The old deterministic world in the columns when we divided the world into safety-related --

CHAIRMAN APOSTOLAKIS: Can you use the world traditional, rather than deterministic? There is nothing deterministic about it, in the sense the physicists use the word. It's not deterministic. It's a traditional way of doing business.

MR. REED: That's true. It is traditional.

Absolutely. It's the way we've been doing it for 30 plus years. And now with the risk informed and pressure taken in Option 2, of course, we're dividing the world into safety significant and low significant through using a risk-informed characterization process, which we'll talk about here.

For RISC-1, the RISC-1 box, of course, that's safety related. The SSC's that are, in fact, determined to be safety significant through the risk-informed characterization process.

RISC-2 are non-safety related SSC's that are safety significant through the risk informed categorization process.

RISC-3 are safety related, low safety significant, and RISC-4 are non-safety related, low safety significant.

As you'll see, a little bit different there -- basically, RISC-1 and RISC-2, current requirements continue to apply to these.

And in addition to that, you've got to basically make sure that your categorization process is valid and remains valid, and then we'll go into the details here in a second when we get into the actual rule requirements.

The focus on Box 3 has to been maintain

design basis functions. As you're aware, for Option 2 we're not giving up the design basis. We're trying to maintain the design basis functions.

What we're only risk informing, if you will, is the assurance that's associated with maintaining those design basis functions. So that's where the focus is on Option 2.

CHAIRMAN APOSTOLAKIS: Let's go back to 2. RISC-2.

MR. REED: Sure.

CHAIRMAN APOSTOLAKIS: These are safety significant, but have been declared from day one as non-safety related. So the special treatment requirements don't apply to them.

MR. REED: There can be some SSC's that have been called important to safety.

CHAIRMAN APOSTOLAKIS: Some part.

MR. REED: Yes, there are some.

CHAIRMAN APOSTOLAKIS: But by and large, they didn't apply to them. Have we had any incidents where what -- SSC's have turned out to be RISC-2 -- were involved, that something went wrong, or some observation that they played a role in some way in a safety-related incident?

MR. REED: Mike Cheok.

MR. CHEOK: The thing that comes to mind, George, is the main feed water system for PWR's, and in some cases the service water system in PCNB's. So those are safety significant as far as the PRA's concerned, that it's not safety related.

CHAIRMAN APOSTOLAKIS: I understand the categorization. But were they involved in any real situation where the fact that they had not been classified as safety significant -- safety related played a role? The bottom line is do the special treatment requirements do anything for us?

MEMBER BONACA: I think pressurized PORV's were not --

CHAIRMAN APOSTOLAKIS: And?

MEMBER BONACA: And we had TMI.

CHAIRMAN APOSTOLAKIS: And if the special treatment requirements had been imposed on them, we would not have had the TMI?

MEMBER BONACA: No. No. But I'm saying that that's the component that was not safety related because it was not credited for an accident analysis.

CHAIRMAN APOSTOLAKIS: But the heart of my question is if I look at the significant experience. I mean, the numbers vary, but I think most people would agree we have about 2,500 years of -- reactor

years of experience.

And we're making a big deal about relaxing these requirements for RISC-3. Is it a fair question to ask how effective these requirements have been, or are we making a big deal out of nothing?

I'm not saying to eliminate them, but I think that's a very interesting perspective. I mean, you've been operating for so many years with a number of SSC's being declared as non-safety related, and yet you haven't really had any serious problems.

MEMBER SHACK: Yes, but the circumstances in which you're asking them to perform is something that you don't --

CHAIRMAN APOSTOLAKIS: Are you using the microphone? And identify yourself with sufficient clarity and volume.

MEMBER SHACK: The experience isn't relevant. I mean, the number of incidents in which these things are tested under the conditions that you're really interested in in an accident are fortunately --

CHAIRMAN APOSTOLAKIS: Very few.

MEMBER SHACK: -- are rather limited.

MEMBER ROSEN: And, George, your experiment is purely an academic one anyway, because

the utilities know which components are important, whether or not they're safety related and take good care of the ones that are, whether they're in the balance of the plan or not. So it's not a pure experiment.

CHAIRMAN APOSTOLAKIS: So you're saying that they were doing things even though they were not required.

MEMBER ROSEN: Correct. I might also add, we don't get a whole lot of design basis events, fortunately. So we don't even challenge the safety related SSC's throughout the years very often. It's been very, very few times it's ever been challenged, which is good.

CHAIRMAN APOSTOLAKIS: But it's still -- I think there is a message there somewhere that maybe the debate that we have seen on RISC-3 requirements maybe is not justified, completely justified.

MEMBER ROSEN: I think there's some data in the South Texas filing that indicates that there's very limited difference between the performance of those components of the same kind that are treated with the full panoply of safety-related and special treatment requirements and those that are not. There's very little difference in their performance.

CHAIRMAN APOSTOLAKIS: And others have said the same thing.

MEMBER SHACK: Under the conditions in which they've been asked to perform. Under normal operating conditions that's, I think, unquestionably true.

MEMBER KRESS: I agree with Bill. The real experiment has never really been done.

MEMBER BONACA: Absolutely. If you have a component that has to work in a steam environment in high temperature, you never have that. You'll never know if it will work.

CHAIRMAN APOSTOLAKIS: Did we have that for TMI?

MEMBER KRESS: We had some, but that's not very good.

MEMBER BONACA: Environmental qualification of equipment or seismic event, for example. How do you know? The most you can do is to do the best you can to make sure it will work if you get a seismic event. So you don't have experience to support one conclusion or the other.

MEMBER KRESS: You could do some things with seismic. You can stick them on Shaker Tables. It's some of the other things you can't do much with.

But I don't think the experiment has ever been done.

MEMBER SHACK: Well, I think it's certainly clear that if you change the design requirements, it would have a big impact on whether -- now, whether all the other special treatment -- you know, how much that adds is probably the more questionable statement. But I think --

CHAIRMAN APOSTOLAKIS: Well, that's what I had in mind.

MEMBER KRESS: Yes.

CHAIRMAN APOSTOLAKIS: Okay. So I got my answer, which also tells me that the argument we've heard in the past from other people that this industry is not as mature, because we have a lot of reactor of experience so we don't need any more research, so that's not a valid argument. Right? That's what you guys just told me.

That this experience was not long enough to really see some of these bad environments. Anyway, let's go on.

MEMBER BONACA: Before you change this, I'm going to go make to this question, so I might as well raise it now.

In dividing this region in four, you know, you used a criteria of CDF and LERF, you're using. And

I've asked this question before in different ways.

But the FSAR really was based on a frequency consequence. I mean, it really wanted PRA based.

So in defining safety-related components that contributed to, for example, not exceeding Part 100 limits or things of that kind.

Now when you go to this approach in which you're still using only CDF and LERF, by definition you're saying that components that prevent Part 100 limits, exceedants or whatever, in the low consequence, high frequency portion of those curves are, by definition, low safety significant.

MR. KELLY: This is Glen Kelly. They will be in RISC-3, not RISC-4.

MEMBER BONACA: RISC-3.

MR. KELLY: And so they'll still have to have their design functions maintained.

MEMBER BONACA: Well, I'm trying to understand -- it seems to me you're driving so much in this application, in maintaining design function, because you consider them important.

And it seems to me that the only tie to that statement is, in fact, this no consequence, high frequency portion of the curve that you're abandoning

there.

Why didn't you take an approach where you would consider including the separation of those boxes, some consideration of a frequency consequence curve, rather than just simply CDF and LERF, which implies that the only risky thing that can happen to the plant is a core damage.

See, because it brings to definition throughout the NEI report of the fact that anything that causes a core damage is not safety significant.

MR. REED: Unless it's important for defense.

MEMBER KRESS: I think what Mario's saying is if you had done it that way, it might have turned out that a lot of those items in Box 3 would haven been in Box 2 or Box 1, rather.

MR. KELLY: No, they'd be in Box 4.

MEMBER KRESS: Well, a lot of them would been in Box 1.

MR. KELLY: Well, if we were saying that they were -- the but reality is -- and for the PRA space, they don't count. They don't matter much, because --

MEMBER KRESS: Only because you're looking at LERF and CDA. If you were looking at something

else, then they might move up to Box 1. That's what I think Mario is saying.

MEMBER BONACA: We have -- for new plants presenting us a curve in which they're considering also no consequence, high frequency limits. Why should they consider those, when here you're presenting us something that says only core damage is important?

MR. REED: We'll get into the categorization process and Mike can do a lot better job than I can. That's why this is a blended approach.

It's not just core damage frequency and LERF. It's a RISC -- what I'd like to call a REG Guide 1.174 type of approach where we're considering defense margin of safety, qualitative pieces of information, in addition to any kind of quantitative pieces of information you have from the PRA, like CDF and LERF.

MEMBER BONACA: The reason why it is an issue, is that it's very hard for you to define some of the requirements you are imposing in the back of these documents here -- under functionality plus, when you have already a component as low safety significant, it doesn't account for nothing.

MR. KELLY: And part of this is we can go back to the Commission's policy statement on the use

of PRA.

It was that PRA should be used to the greatest extent possible in regulatory framework, and at the same time that the PRA would work in conjunction with the deterministic process.

The Commission did not expect us to go to a risk-based approached, but to a risk-informed one where we use a combination of both deterministic and probabilistic insights.

So I think one may sit down and ask, you know, do we have the right combination of requirements for RISC-3? It may be that we can argue about whether we have too much or too little, or whatever.

But, basically, I think that our idea of maintaining the functionality of the equipment is in keeping with the Commission's policy of -- policy statement, unless it wants to indicate that it really wants us to change, like we do under Option 3; change the design itself, the design basis.

MEMBER ROSEN: A couple of points I'd like to make. One of them, Mario, is that most of the components in the plant are not in the model. Most of the safety-related components.

MEMBER BONACA: True. True.

MEMBER ROSEN: So you don't get a value

for CDF or LERF.

MEMBER BONACA: True.

MEMBER ROSEN: It's basically a deterministic process, a traditional process, which is informed by the PRA when the PRA results are available.

What you're basically running is a careful, expert elicitation process that's almost fundamentally 95 percent deterministic. That's the first point.

And so I think that goes a lot to your question of well what about all this other stuff at the high frequency, low consequence end. That's what the expert panel is looking at. It's looking at all the things.

Feed and bleed, trangients, loss of off-site power, events that can happen but have low consequence that happen once every ten years, let's say, but have low consequence.

The other point I'd like to make is about -- and maybe it's partly a question.

MEMBER KRESS: Or if they come up with a component -- it was important for one of those. And I know what they're measure of importance is. Would it be -- the expert panel, would they say oh, this is

important to keep the dose within a certain limit or to keep --

MEMBER ROSEN: It might be functionally important for operational purposes, in order to bring the plant from operating condition to hot shutdown.

MEMBER KRESS: Okay.

MEMBER ROSEN: It might be important because operators need it to access --

MEMBER KRESS: If I decided it was important, then would they put it in the -- in Box 1 then?

MEMBER ROSEN: Yes, probably.

MEMBER BONACA: They could.

MEMBER ROSEN: If it was already safety related, they'd put it in Box 1. If it wasn't safety related, but there was some strong view on the expert panel that it was important that it go to box 2.

MEMBER KRESS: It's the same as putting it in --

MEMBER ROSEN: Well, mostly, it's in -- box 1 is for safety-related things that were -- the original equipment manufacturer provided a safety related -- some of these things you can't put in box 1 because there were provided by a non-Appendix B supplier to begin, so you don't have all the data and

the certifications that -- certificates of conformance and all of that rest that you would need to put into box 1.

But you can very much treat it, in terms of inspection, maintenance and test and Box 1 component.

Let me ask about, or make a point about this. Is that throughout the whole -- my whole troubled career of involvement with this topic, I felt that there was another definition needed, rather than just low-safety significant.

And at South Texas, in fact, we did include not risk significant, as I guess it came to be understood between the staff of South Texas and the staff of the NRC that that was not risk significant, was subsumed inside of low safety significant.

But, clearly, there were a lot of things that we simply had no nexus, none whatsoever, between the risk to the core and or the plant.

And this component was purely a convenience for maintenance, or a way to drain the system when you were shut down.

I mean, there's lots and lots of things that one of my staff used to call ornaments. The operators maybe didn't think so, but from a safety-

related point of view, he called them ornaments. But they weren't called --

MEMBER BONACA: But could it be --

MEMBER ROSEN: So why didn't we have -- so the question is why not have a non-risk --

MEMBER BONACA: But could it be that you already had a system that included a lot of components which really should not have been there to start with.

I mean, you mentioned once that at South Texas you really went overboard in including either safety-related -- all I'm trying to say is there are plants out there that may not have gone overboard in including components into the safety class, and therefore --

MEMBER ROSEN: That's correct. There are a lot of reasons people put stuff in safety related during design and construction that really didn't need to be in there.

MEMBER BONACA: So you really probably had a large number of those components which are non-safety important. And I think other plants, most likely, are not in that condition, but it's just an observation.

MEMBER SHACK: I think --

MEMBER ROSEN: I'd like to come back to a

fundamental objection to Mario and Tom's point of view. I mean, if it's low consequence, it's low consequence. And it belongs in Box 3.

MEMBER KRESS: It depends on what you've --

MEMBER ROSEN: Even if it's high frequency level.

MEMBER KRESS: No, no, no. We're talking about safety, not consequence. And you have to determine what your definition of safety is.

MEMBER ROSEN: You're almost treating a regulatory limit in the same way you're treating CDF.

MEMBER KRESS: That's correct. I am. That's what I want to do.

MEMBER ROSEN: Oh, okay. I guess we have a fundamental disagreement.

MEMBER BONACA: But these are -- there are releases out there, for example, or those issues. They're that important to the people around the plant.

They may not be important to you -- have knowledge that says that a few millirems maybe are not doing anything to your health, but some people would like to know what your definition of safety significant is.

CHAIRMAN APOSTOLAKIS: I think this issue

should be addressed a bit more explicitly in the deliberations of the integrated decision making panel.

And if you go to NEI-00-04, pages 58 and 59, this is where there is some guidance as to what the IDP should be doing, and the question to you, Mario, is if you read those four bullets on page 59, do you think that it covers your concern?

No defense in depth has been raised again as the savior here. It seems to be defense in depth is a concept that is relevant.

I have the point here that I want to protect some release or something and the hazard is on the other side, how much defense and depth do I have in between. Okay?

So I can talk about defense in depth with respect to releases and defense in depth with respect to core damage, right?

If you read this document, and you haven't heard this discussion over the last five minutes, it seems to be defense in depth is really with respect to core damage. So it doesn't really cover Mario's concern.

But the only question is whether these four bullets -- for example, the panel is supposed to look at this categorization and determine whether

failure of the SSC will significantly increase the frequency of an initiating event, including those initiating events originally screened out of the PRA based on anticipated low frequency.

So now you're focusing only on initiating events, which is really very different from looking at the core damage frequency.

MEMBER BONACA: That's right.

CHAIRMAN APOSTOLAKIS: And then later on it says the SSC is necessary for safety-significant operator actions created in the PRA.

MEMBER BONACA: Oh, there are elements there.

CHAIRMAN APOSTOLAKIS: So there are elements that address concern, but if they expanded this and made it with more rigorous explicit language, perhaps it would address your concerns.

MEMBER BONACA: Exactly.

MEMBER KRESS: George, let me articulate just a little more about what my concern is, and it's a lot like Mario's.

If I had the regulatory curve on frequency versus consequences, which we've talked about in the past, it would cover all ranges of frequencies and consequences.

And I maintain that implicit in the regulations is such a curve. They deal with all of these things in some way.

And if I wanted to define that curve as what I meant by safety, the whole curve, then I could ask my PRA to give me importance measures related to that whole curve.

And I might get a few or several things that didn't show up here on CDF and LERF.

Not only that, I would have guidance I would give this panel that's different than asking those particular questions. I would ask -- except maybe the initiating event might be one of them.

But there would be guidance that would relate to that sort of thing, and that's what I see as kind -- that's what I see as missing in this.

MEMBER BONACA: And once you would have done that, I would take all the RISC-3 components, which are not required for any of the curve, and simply say I don't need to have any burden any more or demonstration.

MEMBER KRESS: I would push it over --

CHAIRMAN APOSTOLAKIS: I am not going to argue against what you said. Bill and Tom were here when I was trying to convince this committee that the

FC curves was a good way to do.

MEMBER KRESS: You convinced me.

CHAIRMAN APOSTOLAKIS: The committee was not convinced. Now in all fairness to the staff, they have to go with what rules and regulations have been approved --

MEMBER KRESS: Oh, they have to go with the rules --

CHAIRMAN APOSTOLAKIS: -- and 1174 is in the books. There is nothing in the books that says with FC curves.

MEMBER KRESS: There's nothing in 1.174 that says it should be applied for this special treatment requirements.

MEMBER BONACA: But it's a general guideline for risk informing the regulations.

MEMBER KRESS: It changes.

MEMBER BONACA: So what can be done now -- I mean 1174 will be revised at some point.

MEMBER KRESS: Who made it a general guideline for risk informing the regulations? It was never meant for that?

MEMBER BONACA: For changes?

MEMBER KRESS: Its purposes were minor changes to the licensing basis where you keep the rest

of the regulations in tact.

MEMBER BONACA: That's correct.

CHAIRMAN APOSTOLAKIS: Minor? I don't know about minor.

MEMBER KRESS: Minor, because they have --

CHAIRMAN APOSTOLAKIS: It doesn't say minor anywhere.

MEMBER KRESS: Minor, because they have a small impact on the CDF.

CHAIRMAN APOSTOLAKIS: Ah.

MEMBER KRESS: So it was never intended to be a guidelines for risk informing the regulations. It was made into that by somebody deciding that would be an interesting way to go.

CHAIRMAN APOSTOLAKIS: But there is no mention of low consequence, high frequency regions and so on. There is nothing there that talks about that, but just because general --

MEMBER KRESS: Well, it says you will maintain the rest of the regulations.

MEMBER BONACA: In a practical sense, they would have had now a foot to stand in imposing the additional requirements, or whatever remains in Box 3 and eliminating any requirements on what moves now to Box 4.

Because you have a demonstration that you absolutely have met your definition of safety. If you don't need it for that, everything goes into 4.

CHAIRMAN APOSTOLAKIS: It seems to me --

MEMBER BONACA: Right now you have a hodgepodge of both in 3 and you're still trying to impose the requirements, which are going to be almost as demanding as Appendix B. That's the point I wanted to make.

CHAIRMAN APOSTOLAKIS: Would it be -- I mean, in order not to revolutionize everything here, would it be a good idea to say that in the guidance to the -- what is it? IDP. Integrated Decisionmaking --

MEMBER KRESS: That's where I would put it, because I don't think that PRA properly deals with this.

CHAIRMAN APOSTOLAKIS: Because that way you don't attack 1174.

MEMBER BONACA: I can live with that.

MEMBER KRESS: I don't want to attack 1174.

CHAIRMAN APOSTOLAKIS: And when 1174 comes up for revision --

MEMBER KRESS: We can talk about that.

CHAIRMAN APOSTOLAKIS: -- for license

renewal, then we'll --

MR. KELLY: Can I make sure I understand what Dr. Kress is saying here, just to make sure it's clear from my limited understanding of things?

Let's take an example of the standby gas treatment system, which is safety related, but is not -- would be a category 3 component because it really has no impact on core damage frequency or large early release. And, as a matter of fact, doesn't have any affect on late containment failures either.

However, from the way we calculate our design basis locus, it's important for maintaining the nearby offsite consequences to within part 100.

So in my understanding, that from your standpoint you would say if we really believe that that's what the standby gas treatment would effectively do, that it should become a RISC-1 -- that your proposal would be that it should be a RISC-1 --

MEMBER KRESS: That's the general idea. I'm not sure about that specific one, but that's the general idea.

MR. REED: Let me see if I understand this. If it's a frequent -- like loss of main feed water, a more frequent event.

MEMBER KRESS: Yes.

MR. REED: But very low consequences, and there's SSC's in the plant that are basically there just to mitigate that, let's say. Box 1, unfortunately -- will come out -- will be important no matter what.

But that's -- if it didn't, let's just assume for the example, this is the only reason it was there for that high frequency, low consequence event, that you say that this would be somehow a measure of frequency times consequences, that you want to basically keep this curve, that even for this very high frequency, low consequence event, it if comes up, through some measure you'd use -- I guess, out of the PRA, or however else you want to do it. You may not need it.

But this would be a piece of information you'd be able to hand to the IDP and say yes, this is how you can make the determination on this.

CHAIRMAN APOSTOLAKIS: Well, not only that, but you will also have a problem now of by how much would you change the curve, or pieces of the curve, and still find it acceptable.

MEMBER KRESS: Yes, there's a problem.

CHAIRMAN APOSTOLAKIS: So you don't have a Delta CDF and Delta LERF.

MEMBER ROSEN: This whole discussion to me is deja vu all over again. We spent most of the time --

CHAIRMAN APOSTOLAKIS: For us too.

MEMBER ROSEN: -- at South Texas arguing about the things that didn't matter. The low consequence events. That's what you want to talk most about. The ones that are high frequency, low consequence.

And I keep getting turned off by that discussion. I'm much more interested in the high -- the low frequency, high consequence events.

CHAIRMAN APOSTOLAKIS: Well, I'm not so sure that's right, Steve, because this point of view assumes that the consequences are only what we mean by consequences here. And sometimes they're not.

Now, in another context, there was a minor release of tritium from Brookhaven, and they almost shut down the lab. The consequences --

MEMBER BONACA: Absolutely.

CHAIRMAN APOSTOLAKIS: The real consequences were nothing. So, you know, I mean, the Commissioner really wants to build public confidence and all that. So having a low consequence event with very high frequency, may not be wise.

MEMBER BONACA: I mean, the Commission is concerned about --

MEMBER KRESS: The question is what should it be in the purview of NRC and what should not? What should be left to the licensee, and that's sort of more of a policy issue than anything.

CHAIRMAN APOSTOLAKIS: In terms of real risk I think Steve is right.

MEMBER KRESS: Steve is probably right.

MEMBER BONACA: There was a speech by Dr. Meserve this summer speaking about we have to focus still on certain issues of lesser consequences, okay, that, in fact, for the public are significant. And that's an important issue.

CHAIRMAN APOSTOLAKIS: That is a perennial problem there, Mario. I mean, I won't argue now against what I just said.

The perennial problem is this is a technical agency. It's supposed to use the best science and engineering.

Should it run its business according to people's perceptions, or according to technical evidence and analysis? I don't know. I don't think anybody knows.

The truth of the matter is perceptions are

important to some degree.

MEMBER BONACA: I agree with that. Just let me say one thing. One last thing and I will just keep quiet on this.

If you consider that, for example, at South Texas there were probably 40,000 components on the Box 3.

MEMBER KRESS: That's a lot.

MEMBER BONACA: And I would say that maybe of those if you applied this frequency consequence curve, maybe 3,000 would end up being in Box 2 and 37,000 would be Box 4.

I would have a very strong base to stand in saying for this 37,000 I want no requirements. Absolutely commercial grade. Not this debate or anything. I have a base to stand on it, because there is no connection to any curve.

And for the others, I'll have a commitment for the 40,000. Right now, they have 40,000 in the box and they are going to have this fight on what kind of commitment they're going to impose on these components.

They want functionality. They want some basis to demonstrate that and it is very hard to do, unless you go to Appendix B

So it's going to be this pulling and pulling because it's a very hazy -- there is no clear foot to stand on.

CHAIRMAN APOSTOLAKIS: Let me ask one last question on the subject.

MEMBER ROSEN: I never got an answer to the first question.

CHAIRMAN APOSTOLAKIS: Which was?

MEMBER ROSEN: Which was where are not risk significant components?

MR. CHEOK: ARN --

CHAIRMAN APOSTOLAKIS: Maybe it's a related question, what I was about to say.

MR. CHEOK: In Box 3 right now. At the beginning of this project, we had discussed a four box diagram and six box diagram. I think we have decided that the four box diagram was simpler.

I mean, if you wanted to have a six box diagram, if you had no requirements for box six or box five, as you called it, NRS components, you have to remember, we are still in Option 2 space. We cannot remove requirements in this rulemaking process.

In Option 3 space, we can say special treatment requirements do not apply. In this space, we still are constrained by the functionality

requirements.

CHAIRMAN APOSTOLAKIS: Let me ask Mario one last question, or maybe he can make a statement.

You referred to -- I mean, if you want to use the FC curves, you said that some of them would go to Box 2.

Is it obvious that the same boxes would apply? These boxes are CDF and LERF-based.

MEMBER BONACA: Yes, right.

CHAIRMAN APOSTOLAKIS: You might have different boxes, which is something like --

MEMBER BONACA: I agree. You may have another box there that is low safety significance, but then you have -- you want to relegate to almost an Appendix B program, and that's a residual box.

CHAIRMAN APOSTOLAKIS: So the number of boxes is not obviously the same.

MEMBER BONACA: No, it's not obvious. And then the bulk of that stuff within that -- in RISC-4. That's the advantage of it.

And there will be no contention, because it's obvious it doesn't meet -- it doesn't impact CDF, it doesn't impact LERF, it doesn't impact Part 100 and so why should you ever keep it there.

CHAIRMAN APOSTOLAKIS: Again, could they

address the fundamental concern you have in the guidance to the IDP on Page 58, 59 by giving --

MEMBER BONACA: Yes, I think so.

CHAIRMAN APOSTOLAKIS: -- more explicit guidance?

MEMBER BONACA: Yes.

CHAIRMAN APOSTOLAKIS: Because I would hate to say go back and use FC curves instead of --

MEMBER KRESS: I think they have to, George, because --

MEMBER BONACA: Absolutely.

MEMBER KRESS: Most of those 40,000 things aren't treated in the PRA anyway.

CHAIRMAN APOSTOLAKIS: I don't have any problem with that, any problem with that. Because that's an improvement.

MEMBER SHACK: That's still fundamentally asking them to change the basis on which they're doing the classification.

CHAIRMAN APOSTOLAKIS: No, because these bullets are changing -- not the categorization. I mean, the bullets --

MEMBER SHACK: No, but the rules that you used to put the guys into the bins changed.

CHAIRMAN APOSTOLAKIS: But then you're

looking at the frequency of initiating events. So you are really forgetting about the box, and you're saying now I have this component. They told me it belongs into this category. Now I ask these questions of myself.

MEMBER SHACK: And I changed the classification process.

MEMBER BONACA: No, no, no.

CHAIRMAN APOSTOLAKIS: No, that's why it's integrated.

MEMBER BONACA: It is the treatment of RISC-3 components. That's part of --

CHAIRMAN APOSTOLAKIS: They've already accepted this.

MEMBER BONACA: Once you get to the RISC-3 components, you look at its curves and you separate them in having some residual function -- safety function and the bulk not having any.

And those for those having a residual safety function, you apply some requirements you are proposing here. You have a foot to stand.

MEMBER ROSEN: It seems to me, the height of myopia or colorblindness, or something, to have a four box deal that shows non-risk significant components, when the plant is full of them. If you're

not careful, you're going to stumble on them.

There are thousands and thousands of them, and they're no place on this document.

CHAIRMAN APOSTOLAKIS: Some of them are safety related now?

MEMBER ROSEN: Oh, yes.

MEMBER BONACA: But you're only starting --

MS. McKENNA: I guess I don't understand your question. Are you saying because we call the bottom row low significant that that masks, if you will, the fact that some of those lows are really no's?

MEMBER ROSEN: Most of those lows are really no's.

MEMBER KRESS: You could call them low or non-risk.

MS. McKENNA: Yes. The terminology -- you notice, we didn't say high and low. And for some of these reasons is that you kind of get into judgements about what some of these things mean.

And, yes, I think I agree that within the bin that says low, there is obviously a range. And some at the bottom, maybe a lot at the bottom --

MEMBER KRESS: Zero is pretty low.

MS. McKENNA: Yes. And that's -- I think that's what you're fundamentally getting to and that within those, obviously, some of those are going to be in Box 3 if they started out being safety-related. And a whole lot of them are going to be over in 4.

CHAIRMAN APOSTOLAKIS: Okay. I think it's time now to move on. We all made our points.

MEMBER KRESS: I think we dealt with that.

MR. REED: Okay. Going to the next slide, then we'll get into the actual draft rule requirements. The first slide here -- we've already been through the definition, so I don't need to talk about that.

But the definitions are in paragraph A of the draft rule. Paragraph B of the draft rule is really just saying that this -- you can adopt this option for, basically, any reactor power -- power reactor licensee, basically, whether it's a current licenses, a Part 52 or Part 54. That's what that's saying.

And now we get to the meat, really, of the draft rule, which is really in paragraph C and D. C, the categorization requirements, and D is the treatment requirements.

Start here on the categorization

requirements. A big change since the last time we were here. You're now going to be required to categorize you SSC functions the rest of the season to the four risk categories, using an NRC-approved categorization process.

You don't see Appendix T now in the draft rule, or connected to the draft rule. It's been removed.

CHAIRMAN APOSTOLAKIS: This puzzles me a little bit, because ultimately they will have to show that the Delta DCF and Delta LERF are acceptable, right? So why do you care what categorization process they use? Why is that of interest?

MR. CHEOK: You are right, George. Ultimately, we do have to rely on the change in risk as our ultimate criteria.

But I believe that if they use the importance measures, it's something that the plant's already familiar with, something they have already used in applications like the maintenance rule.

It also, basically, points out the risk outlines that they may not want to change -- I understand that there are importance measures -- is an extreme measure.

But it does also point out the outlines,

the SSC's that you may not want to change the treatment requirements to if a change would create too much a disturbance to the risk profile.

But you're right. Ultimately, it will depend on change in risk.

CHAIRMAN APOSTOLAKIS: I mean, if the component of an SSC turns out to be really important, I mean, you're going to see it in your Delta CDF population, aren't you?

MR. CHEOK: That's correct. You are.

CHAIRMAN APOSTOLAKIS: So the thing that you save that way is the agony of defending the categorization process.

MR. CHEOK: We merely say that you use the importance analyses to identify the candidates that you could consider to put into --

CHAIRMAN APOSTOLAKIS: You're saying much more. You're telling them how to do it.

MEMBER SHACK: No. I think you're saying, George -- it's a defense in depth argument. There's a certain amount of uncertainty in how you calculate that change in CDF when you change the requirements.

And so this sort of tells you that you've gone through this in a way that's ultimately sensible even if you don't believe the absolute, the final

number, that you've given this a lot of considerations that are important in a number of senses.

CHAIRMAN APOSTOLAKIS: But you can still have the integrated decision making panel doing these things with guidance and without being so specific regarding the categorization.

Because what really matters at the end is the panelists view and -- it's an NRC-approved categorization process.

MR. KELLY: Dr. Apostolakis, can you explain, perhaps, what part of the rule in paragraph C that you feel would be inappropriate as guidance?

CHAIRMAN APOSTOLAKIS: Where is paragraph C?

MR. KELLY: I mean, because that's what lays out at the high level --

CHAIRMAN APOSTOLAKIS: But isn't NEI-0004 going to be --

MR. REED: I think the reality is that if we reach agreement with NEI on 0004 that, in fact, they would come in and say our categorization process is as per 0004 and we'd say great. That solves that piece of the problem.

And then we'd them well, how good's your PRA? And that's the next piece -- that's the next

question.

So this is just, basically, putting the high level requirements in place that we need to have. But with the new approach, basically, paragraph C isn't getting into a lot of these details anymore.

CHAIRMAN APOSTOLAKIS: No, it does not.

MR. REED: You don't see the Appendix D type detail anymore.

CHAIRMAN APOSTOLAKIS: That's right. There's not.

MR. REED: So I think it's actually doing what you just -- what you're suggesting. Maybe not as far as you're suggesting.

MS. McKENNA: I think we were trying to cut between just send in approved categorization process, period. And then you figure out as you go.

The details of Appendix T, what we were trying to do was give kind of what we saw as the basic elements that we would expect to see and that they would then be supplemented and the guidance would explain more how they would go about these things.

But for a matter of having the regulations give some idea of what we're going to find acceptable, is a process that has these kinds of characteristics.

MR. REED: That's really all this is

saying. One, you're going to use an approved characterization process. Two, it's going to --

CHAIRMAN APOSTOLAKIS: Do you see the rule being approved without the NEI document being approved at the same time?

MR. REED: I think it's entirely possible that we could have the rule out there and still not have the guidance firmed up completely yet.

But I think we're going to have to be pretty close and pretty comfortable that we can get there.

MEMBER BONACA: In the package I received, in fact, in many places you say that the NEI document is not acceptable. Not sufficient.

MS. McKENNA: I think this came up earlier. I mean, you have take a look a little bit at the timeframe too.

The latest draft of the guidance is June, and we had been going back and forth on reviewing the guidance, and then we had to stop trying to match things up.

We ended up -- we had two moving targets, and we needed to settle one before we can reconcile them, so we kind of focused our energies on trying to come to agreement on what the rule and the process

would require.

And then our next turn is it will come up later, so then go back and say, okay; what respects does the guidance need to be supplemented or need to be changed in order to meet those things together?

So, yes, there are areas right now where we would not find 04 acceptable.

CHAIRMAN APOSTOLAKIS: So, Mario, coming back to your earlier comment. Maybe if we add some language to paragraph C-4, Page 2 of attachment 1, I guess. Up front. The very front. Not NEI. The rule itself.

MEMBER BONACA: Okay.

CHAIRMAN APOSTOLAKIS: Where they list 1, 2, 3, 4, 5 things that the panel --

MEMBER BONACA: That's page -- what page is it?

CHAIRMAN APOSTOLAKIS: Two.

MR. REED: Top of the page. Bullet 4 and then the sub-bullets.

CHAIRMAN APOSTOLAKIS: Maybe there they can put some language that is generally enough to give some idea of what you want to worry about.

MEMBER BONACA: I don't know what it means in this context. It's so open.

CHAIRMAN APOSTOLAKIS: Actually, I was proposing that before because I think that would simplify so much. Everything else that comes after that.

You would have a foot to stand in not imposing these additional requirements in the back, or anything that is not required for that curve.

MR. REED: I think, the problem associated with using that curve by itself is that that would potentially be a risk-based approach and the Commission has to date indicated that it's willing to go that way, that it prefers a risk-informed, with a combination of deterministic and probabilistic insights.

And that -- inclusion of that would be a significant shift from what the Commission's approved.

CHAIRMAN APOSTOLAKIS: But you can make it part of roman IV, results and insights from the PRA, including those from importance measures, including those from something else.

MR. REED: I think it's just a different way of looking at it --

MEMBER BONACA: Just once you have the Box 3, you have to deal with it. Right now, the way you're dealing with Box 3 is to impose those components a

diluted Appendix B required and not so diluted either.

In some cases, it's pretty hard -- Appendix B. So you're back to square one. You're really imposing unnecessary burden on the majority of those components because of a small minority that you want to preserve. That's exactly what you do.

MR. KELLY: Well, again it comes back to the question of in Option 2 are we going to maintain design functionality of safety-related equipment.

If the answer is not necessarily, then it's really in Option 3 space, because we're changing the design basis at that point.

It was our intention under Option 2 is to maintain that design basis. It has been proposed to us to do that, but we've -- so far, we've attempted to keep the two separate and to deal with them each in its own area.

MEMBER BONACA: You may want to think about it. I mean, I'm saying that rather than shut it out, I mean, I'm sure you're going to have a lot of difficulty in --

MR. REED: That's one way to do it, either in a categorization area. Another way to do it is in the RISC-3 treatment area. And when we say pertinent, what do we mean? Can we apply that, and in sort of a

grated fashion.

And for things that have absolutely no nexus at all with safety, what does that mean word?

MEMBER BONACA: In my judgement, you will probably take ten percent of the equipment to RISC-3, and force maybe Appendix B requirement on that.

But the rest, it will be free of this imposition that's -- it's a huge burden.

MR. REED: It's certainly a concept that we've discussed before.

MEMBER BONACA: And you almost have no basis for justifying this right now, because you're saying at RISC-3 it's all low safety significant, and I agree with that. But anyway --

MR. REED: Getting back to this, this is basically following through the rule language that you have in front of you.

What's in Paragraph C, first to be used in approved categorization process. Secondly, to use a plant specific PRA that's got internal events at full power at a minimum in your PRA.

We don't require you to have the external events and shut down PRA's, but you have to consider the SSC's performance and those modes.

And so you basically use whatever you

have. And for the most part you're using -- I'll call them -- I don't think they're really -- deterministic type models. I think Mike knows the names of them. Five -- or whatever the different names of these models are that are used.

But you use all that information you have available to you, and that's what this is really saying. So you give the expert panel, basically, all the information you can give you them on the significance of the SSC.

MEMBER BONACA: Why wouldn't you require external initiating events?

MR. REED: Excuse me?

MEMBER BONACA: Why wouldn't you require external events? I mean, just -- most PRA's have treatment of those.

MR. REED: Why don't we have -- we're requiring the PRA to have external events?

MR. KELLY: Well, we've indicated -- again, this is a voluntary rule. And we had previously indicated when we did the IPEEE's that it was acceptable for plants to use for a margins approach for seismic, fire and other areas, where they were looking to identify vulnerabilities.

Currently, we're considering that at least

for Option 2 here that it was acceptable to just look at -- to take the insights that you got out of those types of non-PRA analyses.

However, we also are indicating that if you do have a PRA that includes external events, that we would expect that when you're categorizing the equipment, you would take into account directly the information from your PRA. And that's what you should be presenting to the IDP.

MR. CHEOK: We also expect that if you do use the PRA, you can be less conservative. And that if you use a non-PRA margins type approach that you would categorize small SSC's as being important.

MEMBER SHACK: Of course, your language in the bullet on the view graph is really wrong, because it's not either as part of the PRA or as part of the -- the PRA is only part of the IDP anyway.

CHAIRMAN APOSTOLAKIS: Where is this?

MEMBER SHACK: The last line there is not right. It's either as through a PRA or margins analysis, but they're both input to the IDP.

MS. McKENNA: It's probably one is the more quantitative aspect, and the other is the more qualitative.

MR. REED: You may have that wrong in the

rules then too, also.

MR. KELLY: I don't think it's wrong in the rules.

MR. REED: You got it right in the rule? Okay.

MS. McKENNA: I think it's okay.

MR. REED: That's just my --

MR. KELLY: When it translating into view graph language --

CHAIRMAN APOSTOLAKIS: Now, the first bullet I'm trying to understand. An NRC-approved categorization process.

So if say somebody wants to come in with the top event prevention methodology. Would this tell them that first they have to submit that methodology for approval, and then come for a 50.69 application, or they can do it at the same time?

MR. REED: They would do it at the same time.

MS. McKENNA: I think the point is that in either event, they have to get an approval, whether it's a top event or they were coming in with a process that looks like this.

MR. REED: Paragraph E talks about the submittal requirements, and that's basically what

you're getting to now. What will they have to submit in order to implement Option -- 50.69.

And one of the things they'll have to submit is the description of the categorization process and how it meets paragraph C.

In this case -- and the PRA. And how good's the PRA, these two items being the key pieces.

In this case, top event prevention, they'd have to describe, I think to some extent, what are they doing for top event prevention.

MEMBER KRESS: With respect to the second sub-bullet, relative importance, is your requirement going to -- with respect to that going to include some guidance as to how to determine the cut off line to put in there? Is there any guidance to be given on that?

CHAIRMAN APOSTOLAKIS: You mean the important --

MEMBER KRESS: Where do you draw the line?

MR. REED: Yes, it's in the guidance -- NEI-00-04 right now.

CHAIRMAN APOSTOLAKIS: In the reg guide.

MEMBER KRESS: And it just uses the same value for all plants?

CHAIRMAN APOSTOLAKIS: Yes.

MR. REED: Yes.

CHAIRMAN APOSTOLAKIS:

MEMBER KRESS: Are you going to endorse that?

CHAIRMAN APOSTOLAKIS: My point is that you look at these things, you're about to ask questions, and then you say why should I ask a question? At the end, they calculate Delta DCF and Delta LERF and so it doesn't matter. Nothing matters. Nothing.

MEMBER ROSEN: That's not true, but we don't calculate it for most of the components. Very few of them are modeled. Only maybe ten percent of the safety --

CHAIRMAN APOSTOLAKIS: But he's talking about those.

MR. REED: Even though they're important measures, I think -- and Mike, correct me if I'm wrong, it's really just like an initial screen. They just basically put things, in my mind, in little piles.

And at the end you say, well, are my piles too big? Because you're basically seeing a CDF and LERF and if it's not okay, then you've got to back and move things from one pile to the other, until you get

--

So the bottom line is, absolutely. CDF and LERF. That's true. You do that through the sensitivity studies.

MR. KELLY: You've got three parts to the IDP process. The first is your PRA analysis where you come through and you use your importance measures through your initial screening to tell you what you think about the components, plus some deterministic evaluations of looking at the functions themselves and whether or not they're important.

Then once you've got your initial screening of the components, then you plug that into your PRA, taking a look at some value that you assume that if you're reducing your treatment on certain equipment, what's going to -- how that's going to affect the reliability of that equipment.

MEMBER KRESS: That doesn't show up in the rule.

MR. KELLY: Pardon?

MEMBER KRESS: That doesn't show up in the rule. That's in the NEI document, that part?

MR. KELLY: It shows up in the rule and it tells you you have to do sensitivity studies. It doesn't -- I mean, that's what we're looking for.

We're looking for them to look at the impact -- calculating the impact of changing the treatment.

Now if that passes the guideline there, then they now present that information to the panel, where the panel would then take into account additional things like defense in depth, margins, other types of issues about -- for determining whether or the equipment -- whether they're in the right boxes.

MEMBER KRESS: Does that sensitivity guidance spell out that they need to change this sensitivity -- change the value of each of these things at the same time?

MR. KELLY: Yes, it does.

MEMBER SHACK: By a factor of two to five.

MEMBER KRESS: Oh, it's two to five. And where did the two to five come from?

CHAIRMAN APOSTOLAKIS: We'll come to that.

MR. KELLY: That was the recommended number in the reg guide. That's correct.

MEMBER SHACK: Just coming back, that language in the view graph is in the rules. So take that as a criticism of the language in the rule.

MS. McKENNA: Sorry. Which thing being in the rule?

MEMBER SHACK: The part of the PRA or part of the IDP.

MS. McKENNA: Oh, that you're commenting -- yes.

MR. REED: What I generally did was actually took the words right out of the rule and then --

CHAIRMAN APOSTOLAKIS: Why should the categorization process be NRC approved and not the plant specific PRA? Shouldn't that be NRC approved as well and is that a more serious matter than the categorization?

MR. REED: Mike?

MR. KELLY: Just as the NRC is going to be looking at the categorization process, currently, the NRC is looking at how we're going to judge adequacy of PRA's.

We have not, as an agency, come to a final determination of that. We're looking at that and --

CHAIRMAN APOSTOLAKIS: Well, the rule may say --

MR. KELLY: Well, the rule is a draft language. And it -- depending on where we end up with that, about the quality of the PRA, we'll -- that may need the change over time as we get down to the end of

the rules and we see what actually --

MEMBER KRESS: Could you put in weasel word in that second bullet like, use an acceptable -- specific PRA --

CHAIRMAN APOSTOLAKIS: That's what I'm saying. Acceptable; without specifying what that is.

MEMBER KRESS: And you're going to worry about that later?

CHAIRMAN APOSTOLAKIS: I don't see why the process --

MEMBER SHACK: Well, that's part of the acceptable categorization process, I assume.

CHAIRMAN APOSTOLAKIS: No, it's not.

MEMBER SHACK: It's that the PRA --

CHAIRMAN APOSTOLAKIS: No. The categorization process refers to importance measures.

MS. McKENNA: Well, no. I think the categorization process refers to all of this.

MR. KELLY: Yes. The way we have it defined is that the categorization process includes them having a plant-specific PRA --

CHAIRMAN APOSTOLAKIS: Well, make it clear then. Because that's not what I read.

MR. REED: Certainly, one of the most, if not the most important piece of the categorization

process is the quality of the PRA.

So it's a valid issue, but we haven't, as Glenn said, really come down to exactly what the details -- what we really need to see, what pieces of the PRA do we really need to see.

Right now we're going down a path that's basically industry -- in fact, I think by the end of this year we'll have peer reviewed all of the PRA's out there. I think just about all of them by the end of the year. So they'll have that out there.

And we have some problems with that peer review, as we look at it today, in trying to determine what was actually done and what the criterion mean. That's a side issue right now.

So we have to determine what it is we need to see from these people to get enough confidence in the PRA and we haven't determined that yet.

But I think we're going to have to look at something, for sure. And you see that language in the middle section. How much it is, how much detail we have to go in. That remains to be seen yet.

CHAIRMAN APOSTOLAKIS: It seems to me that it's a very simple thing to put the word "acceptable" there or make it clear somewhere that NRC approved includes everything.

MS. McKENNA: But if we put the word acceptable in there, then we have to have some means of what is it that we would consider to be acceptable, and then we're back to the standards issues that we haven't closed on.

CHAIRMAN APOSTOLAKIS: Yes. Which you are in the process of evaluating.

MS. McKENNA: Yes, but we're a little bit out of phase trying to put that word into the rule when we haven't reached an agreement in some other space about -- so we try to do it more within the context of the overall categorization being approved, and the NRC is going to have to make the judgement with respect to the quality of the PRA and how it's used in this application, and whether that's good enough to support what they're -- how they're planning to use it.

CHAIRMAN APOSTOLAKIS: They're putting a hell of a lot of a burden on the reviewer.

MEMBER ROSEN: The fact of the matter is that South Texas PRA was approved; the only one that ever was. I mean, it went through many, many years and reviews, detailed by the staff and the staff's contractors.

MR. KELLY: Well, the staff has reviewed

a number of PRA's in significant detail. Indian Point, Millstone, Cheyenne.

CHAIRMAN APOSTOLAKIS: And all the signs are that industry peer review process is pretty good, including our own Mr. Markley here. He attended one of those, right? You were favorably impressed.

So I'm not saying that it's impossible. But I don't see -- well, anyway, the precise language of the rule.

MEMBER ROSEN: Aren't we dealing with two different things here; for existing plants and for plants that are in the license renewal process requiring that PRA's be approved by the NRA. You'd have to think about -- for considerations. For the new plants, for Part 52 plants, I'm not so sure. Do you see a distinction?

MR. KELLY: Well, this is a voluntary rule. And from that standpoint, utility may choose to continue with their -- treating their equipment exactly the way they do today.

They're not required to change this to -- they're not required to follow this procedure and submit a PRA.

We're just saying that if you're going to be using this process, that you'd have to have a good

quality PRA.

MEMBER ROSEN: Good, but not approved. It has to be done in accordance --

MR. KELLY: We are still working out what constitutes an approved PRA and how we're doing that and I'm not --

MR. RUBIN: This is Mark Rubin from the staff. I think, yes, Mr. Rosen's exactly's correct. A good quality -- clearly, that's our objective. We probably are not on a pathway of formal approval of PRA's.

I think it was maybe an interesting concept back 15, 20 years ago when the methodology was less mature.

But I think that peer review process, the standards activities, I think, hopefully, those are going to give us the confidence the qualities are acceptable.

CHAIRMAN APOSTOLAKIS: Tim, this is the only set that you're presenting?

MR. REED: I have some backups, but --

CHAIRMAN APOSTOLAKIS: And the NEI document is presented in half an hour by Mr. Heymer. That's a half an hour, right?

MR. HEYMER: Fine.

CHAIRMAN APOSTOLAKIS: No, it's not fine, because my question's going to be much longer than half an hour. So I wonder when we will discuss this?

MR. REED: Discuss --

CHAIRMAN APOSTOLAKIS: I'm going to get into technical details.

MR. REED: I have status slide --

CHAIRMAN APOSTOLAKIS: And I don't see us getting there. So I'm a little concerned. So when are we going to do this? Now? Do you want me to raise the questions now?

MR. REED: I have a slide on the NEI-00-04 guidance. We can hold it till then and go into your technical. Do you want to do that?

CHAIRMAN APOSTOLAKIS: Sure. As long as we have an opportunity. Because this is a subcommittee meeting, and I have a lot of questions.

MR. REED: Sure. Why don't we just do the slides on NEI -- your questions on NEI-00-04 on that slide, which is coming up here towards the end.

CHAIRMAN APOSTOLAKIS: So you're done now with the categorization. Now you're going to IDP?

MR. REED: Yes.

MEMBER KRESS: Can I ask one more question on the categorization.

MEMBER KRESS: In your guidance and in the rule, is there any consideration given to the fact that some sites have multiple plants?

MR. REED: No.

MEMBER KRESS: Is that discussed at all?

MR. RUBIN: Mark Rubin again. No, no specific recognition of that, that decisions be consistent with the approach we've been taking up to this point that we've discussed with the committee as plant specific, CDF frequency per unit, per reactor year.

MEMBER KRESS: Well, CDF, of course, is all right. My problem is with LERF. That it seems to me like your importance measure on LERF, that's where you draw the line for acceptable ought to be divided by the number of plants on the site.

That's just a comment and it's something you need to think about. This process ought to have some consideration of the number of plants on a given site.

MEMBER ROSEN: Does that go, Tom, all the way to a pebble bed site with ten --

CHAIRMAN APOSTOLAKIS: That's where it started.

MEMBER KRESS: That's where it started.

CHAIRMAN APOSTOLAKIS: That's where it started with the ten units.

MEMBER KRESS: That's where it started.

CHAIRMAN APOSTOLAKIS: I see here that on slide 9 you're entering the draft treatment requirements, right?

MS. McKENNA: Yes.

CHAIRMAN APOSTOLAKIS: So maybe before you go there we'll take a break.

MR. REED: Okay.

CHAIRMAN APOSTOLAKIS: So you finish 7 and 8.

MR. REED: Okay. Then continuing through to paragraph C on slide 7, we get to the fact that we're going to require that you have an IDP, integrated decision process, system making process, with the expert panel. They'll have to make a determination.

In my mind, this whole thing centers around having an expert panel and in all the requirements here to give this expert panel enough information to make the categorization call, if you will.

So you have to have an IDP and then this also states that what -- the information that you must

provide to the IDP or what they must consider; the PRA results and insights, obviously, the quantitative information coming out of the PRA, but also this function and other information you have as a non-quantitative models or determinist approaches.

Defense and depth must be considered and safety margins must be considered. So once again, it's a blended IE reg guide 1.174 type of approach that we've already talked about today.

If something's low, if it's low, then it must be justified in terms of these above items, in terms of defense in depth safety margin. Again, an item we've already discussed pretty heavily today.

And ultimately, as George has already mentioned, the bottom line here is that the potential increase in CDF and LERF has to be small. That's the real measure of whether this is acceptable or not.

CHAIRMAN APOSTOLAKIS: It's a necessary but not sufficient condition, right? Is that what it is?

MR. REED: Yes, that's right.

CHAIRMAN APOSTOLAKIS: Because for other reasons you might say, no, this component --

MR. REED: That's right. We're going to require you to have a means for monitoring the

performance or condition of the SSC's that can affect the categorization process or results.

And if you do find that an SSC is degraded, then you'll have to take means to insure the continued validity of the categorization.

And there will be a provision, as you can see in paragraph C, for timely updates to the PRA and categorization process to make sure that reflects the actual plant conditions and the information that you've been collecting as far as performance.

So it's got to be maintained valid every time.

That's all I have on the categorization. That brings us to treatment.

CHAIRMAN APOSTOLAKIS: Maybe we'll take a beak now.

MEMBER SHACK: Let me just come back to this monitoring the performance that can affect the categorization results.

I mean, I can understand that in terms of -- if we're talking about things that really change the PRA.

But does this come down to really a whole new collection of data on the reliability of components, which is another way to read this?

MEMBER ROSEN: Bill, it's not new data.

The data we're now taking on the reliability of components is -- the question is whether or not you're going to update the PRA and include the new estimates of unreliability and unavailability.

MEMBER SHACK: Well, I guess that's the -- I mean, are there any new requirements for monitoring the RISC-3 components above and beyond what you're talking about now?

MS. McKENNA: Certainly not for 3.

MEMBER SHACK: Not for 3.

MR. REED: RISC-1 and 2 you could argue that we're telling you to monitor all failures, not just maintenance preventable failures. It's a little broader than the maintenance for monitoring, in that respect.

MEMBER SHACK: Right.

MR. REED: Although the fact is as a practicality to do the maintenance rule, you have to monitor all failures and then figure out which ones are maintenance preventable anyway.

So I don't see how you wouldn't have the information available to you.

MEMBER SHACK: Okay. So this one isn't monitoring to assure that you're providing the functionality of the RISC-3. That comes in the next --

MS. McKENNA: Right.

MR. REED: That's considered treatment RISC-3 treatment.

CHAIRMAN APOSTOLAKIS: Okay. We'll be back at 2:30.

(Whereupon, the meeting went off the record at 2:14 p.m. and went back on the record at 2:32 p.m.)

CHAIRMAN APOSTOLAKIS: Back to session. Let's go on. I'm just curious, when two members speak at the same time, what do you do over there?

THE RECORDER: We have problems.

MEMBER ROSEN: How about three members?

CHAIRMAN APOSTOLAKIS: Bigger problems.

MR. REED: Okay. Why don't we continue with the treatment portion of the draft rule. I have along now with me up here Tom Scarborough from the division of engineering to help out with questions in this area.

First, going to then 59.6 paragraph D, which is just the requirements -- now called requirements for structured systems, or what we've been calling treatment requirements, for RISC-1 and RISC-2 SSC's.

Basically, it's all the existing

regulatory requirements will continue to apply. That means, special treatment requirements continue to apply, obviously for RISC-1.

And if there isn't any such requirements on the RISC-2 SSC's, those also continue to apply.

And we have a requirement that you need to insure that the categorization assumptions and the treatment applied to these SSC's are consistent.

Those are the two requirements that we have in this section for RISC-1 and RISC-2.

CHAIRMAN APOSTOLAKIS: Now, what does that mean?

MR. REED: Basically -- and correct me if I go wrong, anybody. But, basically, what that means is that the assumptions you're making for these SSC's in the categorization process that they are -- that the treatment that you're applying to them is sufficient to support the assumptions initially.

CHAIRMAN APOSTOLAKIS: Is there an example?

MR. REED: Like a validation, I think -- in terms of -- it's really -- making valid assumptions for these.

MS. McKENNA: An example that's come up before is, for instance, PORV's. If you're assuming in

your PRA that you're going to take credit for a feed and bleed function, are the valves capable of passing water versus steam?

And I think it's those kinds of -- and the things that you do to it in your treatment, do they provide that -- what you're assuming that they can do for your PRA.

MEMBER KRESS: Does that include something like reliability that shows up in the PRA?

MS. McKENNA: To some degree I think it would. Especially, if -- I think you'll get into it. Putting a lot of reliance on that particular function being provided by particular components, then are you doing the things to the component that will give it that reliability.

MEMBER KRESS: Be sure --

MS. McKENNA: Yes.

MEMBER KRESS: -- that reliability.

MEMBER ROSEN: I think that phrase is so vague that you need to be careful in describing what you mean?

MS. McKENNA: Yes, we've wrestled with different wording. I think one of the earlier drafts we talked about had wording like evaluate the treatment, and it was kind of like which one do you

look at? Evaluate the treatment and then match with the categorization or do you see what's assumed and then look at the treatment?

So I think we're still wrestling with exactly the right way to word this. But that's the concept of what we're trying to get to.

MR. REED: I'm pretty certain that this piece of the draft rule language will change. I know we have stakeholder concerns and what that means to -- it's a little bit too vague, I think. But that's the idea; the concept.

Then for RISC-3 -- and, basically, what we're doing here, what the entire focus is here is to maintain the design basis functions.

As we put it down here apply the pertinent programmatic requirements to provide reasonable confidence in the capability of RISC-3 SSC's, perform the safety-related functions under the design basis conditions.

So what do we have? Well, first thing we do is, of course, remove the special treatment requirements. And if you look in D-3 that shows you the list of the ST, special treatment requirements that will be removed.

And in there, instead of those special

treatment requirements, what we've placed on is a set of high-level, programmatic requirements that are described in paragraph -- in RISC-3.

And those processes are to control the design procurement, installation, maintenance inspection, tests, corrective action, oversight and configuration of the SSC.

So we've gone to -- this current version of the draft rule is not simply just stating that you need to maintain basic function, for example. It ends -- what we're doing is also the means, the progamatic piece.

And if you look in the draft rule, I don't have a slide that goes through all of this, but I do have the draft rule language. We can put that up, if you'd like.

We go -- in each of those two headings, then we describe one or two sentences what we want. So that's basically the focus of RISC-3.

And this is, I think, a major area of discussion that with stakeholders I think will continue, as I think you're well aware. It was a big area with South Texas and I'm sure it will continue to be an area here.

CHAIRMAN APOSTOLAKIS: So, again, the

second bullet there, these are not special treatment requirements? What are they?

MR. SCARBOROUGH: They're replacement requirements.

CHAIRMAN APOSTOLAKIS: It says procurement.

MR. SCARBOROUGH: Right. They're replacements for the special treatments. They're replacement for Appendix B. They're replacements for the other requirements, for EQ, the specific sort of programmatic type requirements for EQ. That sort of thing.

It's a replacement -- these are replacement minimal, high-level objectives of treatment would be -- the alternative treatment that would be applied to this safety-related equipment.

CHAIRMAN APOSTOLAKIS: So let's take procurement. What was it before and what will it be now?

MR. SCARBOROUGH: Before you had to have a very detailed evaluation of anything obtained from a vendor. I mean, you had to insure very carefully through your own analysis and evaluation that that equipment would perform properly. It was the licensee's obligation to do that.

Under the new approach, there's -- and this was sort of laid out in detail with the South Texas model.

But we -- and we haven't gotten down to the detail of doing it for this 50 Option 2 yet.

But in concept, there were like five different methods that you could use. One of them, for example, is vendor, where you could just rely on the vendor's documentation. That they would say it can function under this high temperature environment or high radiation environment.

You don't have to go back and do any shake table testing. You don't have to back and do an environmental test of it yourself.

There's a lot more reliance on the vendor without having to go out and audit in detail the vendor's own activities, which is what we do now, of what they're doing.

So there's a lot more flexibility in terms of how you purchase equipment. If a vendor comes in and says we did this, we prepared this so that this equipment can work under these conditions, you can rely on that vendor certification much more readily that you can now.

CHAIRMAN APOSTOLAKIS: So it's not really

very clear, is it. I mean, it says suitable methods must be used to support the determination that procured SSC's will be capable of performing the safety-related function and so on. I guess you can interpret the word suitable in many ways.

MR. SCARBOROUGH: Right. Well, what we're going to do, is in the same considerations we're going to have a lot of discussion of sort of the concept that we used in South Texas.

And then in the regulatory guide that goes along with this, hopefully, we can endorse the NEI document.

But that also would lay out what would be approaches -- for example, vendor certification would be one method they could use.

So those would be laid out so they could understand that. So there's a lot that's going to go with this, just like in the current regulations, there's a lot of guidance that goes along with it.

We have to make sure we prepared detailed guidance for this -- for these requirements. And we'll be doing that as we sort of to prepare the process along.

CHAIRMAN APOSTOLAKIS: So this is not -- we're not eliminating anything. This comes back to

what Mike Choek said earlier, that under Option 2 you cannot eliminate -- I'm a little confused.

MR. KELLY: Under Option 2 you're not eliminating the design basis function capability. You're not changing the design basis, and it was part of the design basis, continues to be part of the design basis.

What we're saying here is that you may have less assurance that the equipment is actually capable of operating under design basic conditions. Then you would have under normal conditions, because they don't have to meet Appendix B and so forth.

MR. RUBIN: This is Mark Rubin. If I could just trip in. It would probably be slightly more accurate to say not changing the design basis itself, rather than the design basis of the equipment.

The inherent design basis of the plant, the equipment is selected to respond to meet the acceptance criteria. And the design basis elements are not being changed, except in the Option 3 approach.

Currently, licensees can redefine equipment as not being safety related because it's no longer required to meet the design basis, and they have that flexibility right now.

MS. McKENNA: But I think the comment was,

I think, perhaps, with respect to whether we were removing treatment requirements.

And I think what we're saying is we're removing some of the specific detailed and in some cases viewed as overly burdensome requirements of how you have to do these things and substitute for some of the categories some other -- what we hope is less burdensome, more flexible types of requirements.

But it's not strictly -- and I think it originally might have been viewed as it was strictly remove, no more requirements exist and we didn't quite get to that point. We still have something there because of this functionality issue that we have.

MEMBER SHACK: But wouldn't bullet A, the design control processes, basically, preserve the functionality and you can sort of quit at that point?

MR. SCARBOROUGH: Except over time with equipment, for example, motor operated valves, you may design it and put it in there, but unless you monitor it over time to insure that it's going to perform --

MEMBER SHACK: But you should be monitoring equipment as part of your ordinary operation of your plant.

MR. SCARBOROUGH: No, not if it's equipment that's in standby or safety related

equipment that wasn't going to be operated except in response to an accident.

It may not see any type of function, and you may not know if it has that capability. It may be degraded.

MR. REED: I think what you're saying, Dr. Shack, is if you maintained the design capability, that would be sufficient.

And I'm thinking what you're hearing is it probably takes a little bit more than just the procurement spec, having the capability in there. And you're not explicitly changing the design. We need a little more than that. Is that fair?

MEMBER SHACK: Well, I guess, the design, it seems to me, buys me a lot in assuring the thing will work. The rest of the stuff is adding the Delta's of assurance at rapidly escalating cost.

And for something that's of low safety significance, if my basic requirement is to preserve the function, it seems to me that preserving the function is making sure it's suitably designed, the materials are suitable and procured.

MR. SCARBOROUGH: Yes. That's true. And that's the foundation. Unless you sort of have a good foundation, everything else you do is going to fall

apart, unless you install it properly. You have to have some assurance that it's going to be installed properly.

If there is a failure, that you have corrective action that responds to that and deals with that. Those types of things.

That's what this was intended to do. Try to find a bare bones type of process where you would install it with some reasonable confidence of functionality and then you monitored it with reasonable confidence.

MEMBER SHACK: But, I mean, the plant puts in lots of equipment that it certainly expects to work without any special requirements.

MR. SCARBOROUGH: There's a lot of equipment that they -- that specially that generates electricity that they spend a lot of time and resources on.

A lot of this equipment is equipment -- in this RISC-3, is equipment that's maybe standby equipment that may be like mainstream isolation valves, or feed water isolation valves, or diesel generator air start vales. Valves and components that may not see normal system operation that significant.

And so that's what this is trying to do.

It's trying to give a sort of a safety net bare bones amount of treatment but still be able to yes, we have a reasonable confidence, less -- definitely less than Appendix B, because we're not going to be nearly as confident in the design, because we're going to rely a lot more on the vendor, without the checks that we do now.

So we won't have that confidence, but it will be sufficient, we think, for this lessor important equipment.

But it still has a safety function to perform that we want to make sure that there is an adequate level of confidence that it's capable.

MEMBER KRESS: And if you had gone all the way to RISC-4 category with those, you would still have some confidence that they would work.

MR. SCARBOROUGH: Well, RISC-4 is non-safety related.

MEMBER KRESS: Oh, I understand. I understand.

MR. SCARBOROUGH: And we don't deal with those at all. I mean, those are -- now there may be some equipment that's --

MEMBER KRESS: No, no. But in reality you have some confidence level that they would work if it

has to.

Now the question that I have is how do you know where to draw that line on your confidence level that you are comfortable with?

You just decided that this was a level that's better than the confidence level that you had on the RISC-4 component?

MR. SCARBOROUGH: Well, because we don't have a confidence level for RISC-4. I mean, that's not equipment that NRC cares about, for the most part.

I mean, that's plant equipment and it doesn't have a safety function. So we don't monitor that equipment.

And that's one reason why we went out and did a look at commercial practices at different plants, to see how they dealt with that type of equipment and we found out that it was across the map. There were so many different levels of treatment applied to that type of equipment.

If it was equipment that was generating electricity, they were very careful about making sure it had a lot of treatment, a lot of design, a lot of qualifications and that it was monitored.

But if it's a equipment that's a valve or a piece of equipment that's only used for maintenance

purposes or standby, they do very little with that piece of equipment, because they don't have the need to have confidence in it.

So that was what we felt we needed to have some minimal level of criteria to indicate that yes, these are sort of the areas that you need to address as part of treatment.

But there's a lot of flexibility in these areas. They're very general in terms of the flexibility that's allowed for licensee's to meet it.

MEMBER BONACA: First of all, every component in the plant, even though safety significant, goes through a process of procurement, installation, maintenance.

I mean, everything gets maintained. There are some procedures. You're not involved with it, because they're not safety related so, therefore, you have no business on those.

But the plant has its processes for everything that comes through. All you're doing for these components, you're imposing some level of requirement that is different than others.

For example, that you have a procurement. That they must be able to perform safety-related function and the design basis conditions throughout

the service life. That's the only variation that you have --

MR. SCARBOROUGH: Right.

MEMBER BONACA: -- to impose a requirement there.

MR. SCARBOROUGH: Yes. It's just trying to provide a minimal level that we can with regulatory assurance -- have some regulatory assurance when we write -- just like we did with South Texas, we had a minimal level of regulatory assurance that we could write the safety evaluation.

The same thing here because, for example, installation, or procurement, when you have receipt inspection.

It could be equipment under this RISC-4 or this low level risk category that it might be. It can be kick and count type inspection.

I mean -- and that may not be sufficient to insure that you did receive the proper piece of equipment and it's the right one to go into that application.

So we feel there needs to be some minimal level so that we could in full confidence be able to say that yes, there is a minimal level of treatment that's going to be applied to this equipment because

of the broad range of treatment that's out there that's available for licensees for a type of equipment that's not Appendix B.

MEMBER KRESS: You must have in the back of your mind then that the fact that these originally were categorized as safety relating, that that had some meaning to it, even though you went back now with another process and said it has no safety significance.

But the original process, the original categorization in your mind must have had some meaning to it.

And what you're trying to do is preserve that meaning to some extent?

MR. SCARBOROUGH: Well, we're trying to preserve that this equipment on an individual basis that falls down that has a safety function, when you risk rank them it falls down to this low importance on an individual basis.

But on a group basis, it can be very significant. We found out that some of the equipment that falls into this from the South Texas risk-informed --

MEMBER KRESS: That's the first I've heard that it has -- related to the fact that they have a

group significance.

CHAIRMAN APOSTOLAKIS: But that's why you do the Delta CDF and the LERF. That's what takes care of the group. You change all of them.

MEMBER KRESS: If you do it right.

CHAIRMAN APOSTOLAKIS: Well, you do change all of them, right. South Texas multiplied everything by 10.

MR. SCARBOROUGH: But it doesn't deal with across systems.

CHAIRMAN APOSTOLAKIS: Why not?

MR. SCARBOROUGH: Because it doesn't. When we asked South Texas how they dealt with across systems, the only across system common cause it dealt with was the 41KV breakers. They did not --

CHAIRMAN APOSTOLAKIS: I thought they took all the failure rates.

MR. SCARBOROUGH: No, they did, but you still -- when you start combining a cut set, you start multiplying those across. There's no linkage in between the systems.

So when you start multiplying those failure rates together, you quickly become a very, very strong number. And that's the concern, that there is not a lot of treatment across the systems, because

that's where the concern falls with this type of equipment.

When you deal with taking away all Appendix B requirements completely, and you have -- you're left with no specific requirements for treatment, what does that do for treatment for all your motorized valves, for example, where you might go to stroke time testing, which was found to be inadequate for demonstrated design case capability.

And you can't fall down to a 80 or 90 percent reliability for this equipment. It still has to be very high.

CHAIRMAN APOSTOLAKIS: So you're saying that the factor of ten was not sufficient?

MR. SCARBOROUGH: The issue would be does it deal with a cross -- the systems themselves.

CHAIRMAN APOSTOLAKIS: Why not?

MR. KELLY: It does in a point of view that when you increase -- if you were -- use the factor of ten to increase the unreliability of the equipment, that should increase the common cause failure rate by a factor of ten also.

CHAIRMAN APOSTOLAKIS: But I thought they did. That's what we were told.

MR. KELLY: Mike, you want to give him the

details --

CHAIRMAN APOSTOLAKIS: That the common cause failure term is the random failure rate times some coupling number.

MR. KELLY: Right.

CHAIRMAN APOSTOLAKIS: So if you increase the random failure rate, it increases the common cause failure too.

MR. KELLY: That's correct. So it would have been factor of ten higher than it was before.

MR. SCARBOROUGH: Within the system. Within the system. It doesn't go across systems.

CHAIRMAN APOSTOLAKIS: Because there's no common cause failure term for across systems. That's correct.

MR. SCARBOROUGH: Right. And the guidance, NRC NUREG that talks about common cause across systems talks about you defend against that by defense and depth in treatment.

Because there isn't a good way -- it gets very, very complicated very quickly when you try to go across systems.

And that's one reason why we were interested in having some minimal level of treatment for this equipment --

CHAIRMAN APOSTOLAKIS: What is this guide that you refer to?

MR. SCARBOROUGH: What's the NUREG number? NUREG/CR 5485, Guidelines on Modeling Common Cause Failures and Probabilistic Risk Assessment.

CHAIRMAN APOSTOLAKIS: Okay. I'd like to see it. I think I have it.

MR. MARKLEY: You said 5485?

MR. SCARBOROUGH: Yes, sir.

CHAIRMAN APOSTOLAKIS: But if that is important here, why isn't it important for a normal PRA to consider this coupling? I mean, somebody has decided that it's not --

MR. SCARBOROUGH: Well, this is the first time -- and I've seen -- because we've used PRA's quite often in risk ranking for model operator valves programs and things of that nature quite often.

This is the first time we've cut across the entire plant and reduced -- the initial proposal for us was to take the special treatment requirements and just eliminate them, and have no replacement whatsoever, and to let common commercial practices deal with it.

So this is such a broad, wide-ranging application of the PRA. This is really one of the

first times we tried to do something like this.

CHAIRMAN APOSTOLAKIS: So it's the fact that a relaxation of these requirements affect of group of components is what bothers you and motivates you to do this.

MR. SCARBOROUGH: Right.

MR. REED: I think what Tom's saying is that by removal of the special treatment requirements, Appendix B and the whole list, that you're increasing the probability of all these things failing.

Not just increasing failures, but failing across systems in an event. Because you don't have all this treatment applied.

That treatment, in fact, is what's assuring that this common cause failure the way it's done today --

CHAIRMAN APOSTOLAKIS: Essentially, what you're saying is that there may be an additional term in the PRA that is not there now. Because otherwise, you know, multiplying by ten is good enough.

But you're saying there may be an additional common cause failure that we are not modeling right now which may become important during some accident condition because they relaxed the requirements across the systems.

MR. SCARBOROUGH: Right.

CHAIRMAN APOSTOLAKIS: And I don't know why the PRA's when they do the severe accident analysis don't consider it. There must be a reason.

MEMBER BONACA: You're right, however. I don't understand that.

CHAIRMAN APOSTOLAKIS: Now, the report you refer to I think has one or two cases where they did look across systems.

MR. SCARBOROUGH: They do try and what they do is they show how rapidly that becomes very unyielding, even for the present day computers in terms of trying to model across systems that way.

And so because of that, I mean, we think it's handling adequately by having this sort of safety net of treatment.

It gives you a minimal level of confidence and there's a lot more flexibility that licensees can use in meeting them, but it doesn't try to do something with the PRA which would be very difficult.

MEMBER KRESS: Minimum cut sets go out of sight probably.

MR. SCARBOROUGH: They do. And that's what they were showing in this NUREG.

MEMBER KRESS: Yes, I can see.

MR. KELLY: So I think the real question the people have to look at is the determination -- do we feel that a reduction in special treatment really is going to significantly increase that probability that you're going to get cross system common cause failures?

Is there a reason to believe that we're really going to get that linkage today, that by the things that we're talking about reducing, that it's going to get that?

CHAIRMAN APOSTOLAKIS: If that's important, than the current PRA's should have something.

MEMBER BONACA: Sure, it is.

MEMBER ROSEN: Well, this assumes that every one of those components was changed out and you applied this lesser treatment to all of them. But that's not the case.

CHAIRMAN APOSTOLAKIS: Maybe that's why it's not there.

MEMBER ROSEN: What in fact happens is occasionally a component fails and we go to the warehouse and replace it with something that was the same as was there to begin with.

But in the case where something fails and

we don't have a replacement in the warehouse that was purchased many years ago to the same standards as the one that failed, we go out and buy a new one, and that one goes in the plant and it may have some slightly reduced special requirements.

So you have an isolated component out here that's like that and maybe one over there. But not wholesale.

So the assumption that they're all out there ready to fail in the event -- in this giant event where all the special treatment requirements come into play and they don't -- and the components don't work and the plant safety net collapses is a figment of the imagination. It can't happen, because the components are not changed out in a wholesale way.

MR. RUBIN: Additionally, the cross system sensitivity calculation will give you insights on what the impact will be, if it does cross throughout the plant.

And so that's a significant factor in assessing what the potential downside could be.

MEMBER ROSEN: These are all the low safety significant components we're talking about here. Again, an excessive concentration on that which has little importance. This whole debate for many

years what characterized by these sort of discussions.

MEMBER BONACA: But, for example, I noticed there was an observation somewhere that for South Texas the -- and the -- for example, are low safety significance. Can you explain -- the reason why they are is because you have three trains.

MEMBER ROSEN: Three trains.

MEMBER BONACA: Right.

MEMBER ROSEN: Very low probability of off site -- loss of off site power.

MEMBER BONACA: That's right.

MEMBER ROSEN: And you have to figure all these things into consideration if you're doing a realistic analysis.

MEMBER BONACA: I understand that. But assuming that you have loss of off site power, you're going to have --

MEMBER ROSEN: Many very, very robust off site power network to the plant.

MEMBER KRESS: How would we know that the components that are in category 4 shouldn't be treated like category 3 because of this problem that we've sort of overlooked in all of our categorization process?

MR. SCARBOROUGH: Right. They have no

safety -- they have no safety function. They're on that side of the line.

And so deterministically for years we've never relied on them. And then on top of that with the PRA, drops them down to low. So not only are they --

MEMBER KRESS: Yes, but the PRA drops them down to low because it didn't consider this problem.

CHAIRMAN APOSTOLAKIS: Right. If the baseline PRA doesn't have those terms, I think you're opening up a whole new --

MEMBER KRESS: Yes, you're opening up -- you might want to move those things --

CHAIRMAN APOSTOLAKIS: My whole prioritization relaxes, right? Because I don't know how important these terms are.

MR. KELLY: There was -- one way to give you -- and these are numbers that were told to me and I don't have the details of it, and maybe Mike knows the details better.

But I was told that sensitivity studies were done looking at increasing the overall unreliability by a factor of ten for equipment that was ranked low safety significance, and that that increase was relatively small. It was less than a ten

to the minus five type increase.

However, if all of the low safety significant equipment on reliability went to one, then it about doubled the core damage frequency.

MEMBER ROSEN: Everything fails?

MR. KELLY: If all of the --

MS. McKENNA: All three. All of the lows.

MR. KELLY: All of the lows failed, it about doubled the core damage frequency. More than doubled.

MEMBER ROSEN: Several magnitudes.

MEMBER KRESS: They weren't even there at all.

MR. KELLY: Well, let me ask Mike, because he has the exact numbers.

MEMBER ROSEN: A most absurd and ludicrous an assumption as anyone would possibly make.

MR. KELLY: I understand that, but it was just to look at -- that's why it's a sensitivity study. It looks at -- you know, what are the edges, the worst cases that you could get.

MEMBER ROSEN: No, I don't see that as a sensitivity study. I see it as an absurdity. A sensitivity study makes some sort of assumption that maybe the failure rate will double, or triple, or even

go up by a factor of ten.

But to assume that everything fails with a probability of one is not sensible.

MR. KELLY: Well, if that number would turn out to be insignificant, then you really wouldn't have cared, and it wouldn't have made any difference at all. But it didn't turn out that that was the insight that you got.

MS. McKENNA: Those would have been interesting.

MR. KELLY: Yes, it would have been very interesting, and then you really would have said -- but I think the one thing it did say is that you -- at least you need to consider the thoughts about the possibility for common cause failures going across systems and it could make difference.

To what extent it does make some difference I don't think we have a good numerical handle on it.

CHAIRMAN APOSTOLAKIS: But I think we know that it's not a major driver, I don't think. I mean, geez, you're talking about a disaster here that many things fail.

MR. KELLY: Because even when we've looked at problems in maintenance, I don't think that we've

seen failures that cascade across systems like that.

CHAIRMAN APOSTOLAKIS: And -- and for some important potential common cause failures, like earthquakes and so on, I mean this is done. They do consider the conditional failure probability, given the earthquake, and I think they go across systems.

So you're talking now about this other category of unidentified failure modes, which we commonly call common cause failures that may fail -- a whole bunch of components and that's really hard to comprehend.

MEMBER ROSEN: It's a whole bunch of low safety significance components.

MEMBER KRESS: And I think there is a lot of truth to this statement that Steve made about you're not going to have a condition where all of these things are suddenly changed from their special treatment requirements to non-special.

And that's not considered really in the risk analysis at all. It's really the real condition.

MR. SCARBOROUGH: You would for monitoring. Because South Texas proposal -- because South Texas eliminated all code ISI, inservice testing and inservice inspection. That's all gone.

And so across the board, across all

systems, you no longer are monitoring under the code anyway. But they have some requirements in the FSAR that they monitor in another way somehow, for example, all their motor operator valves.

But they could -- you could say, okay, we're not going to test these at all. We're never going to test them. Or we might even use stroke time testing, which has shown to be inadequate.

And so with that, those compliments will degrade and they will fail. I mean, those motor operator valves will not sit there and stay capable over long, long periods of time, unless you go in there and you adjust the torque switches and make sure that you're lubricating the stems and things of that nature which, when treatment's all gone, you're not going to be doing that.

MEMBER ROSEN: Let me see if I understand what you're saying. You said because we took away the ASME requirements, that we're not going to maintain the valves? That's your contention? See, that's false.

MR. SCARBOROUGH: I know you're not, because in the FSAR it's in there now. But in the original version, the plan was -- the proposal was that we're not going to deal with that.

MEMBER ROSEN: I think you can go back to a lot of original pieces of paper and pick at them. I think that's irrelevant.

I think the point is where we ended up, not where we may have started or --

MR. SCARBOROUGH: And that's why there's a safety net there. I mean, there's a safety net and this sort of models what's in this -- it sort of models the South Texas --

MEMBER ROSEN: Well, those kinds of comments, that we're not going to maintain vales, we're not going to inspect them. I mean, South Texas is not going to maintain or not going to inspect them don't help, because they're not true.

And I think that when you look at the things that are left on RISC-3, the design control process -- I think Bill Shack made this point very well.

You pick things -- well, make good selections. And the next thing is procurement -- the procurement process. Make sure you got what you picked.

Then the next thing's an installment process. You make sure that you install those things well and test them to be sure that they're adequate.

The next thing's the maintenance process. Having installed the correct thing well, you now make sure that over its lifetime it continues to work. And here it comes to the point that Mr. Scarborough made.

We're not going to abandon components. We're going to make sure they work. And then through a maintenance process and the next thing is inspection test and surveillance.

And ultimately, if all of that fails and we're wrong, that the things that we did -- all the five or six preceding steps don't, in fact, lead to good performance, the corrective action process, we'll find that out and we'll correct it.

CHAIRMAN APOSTOLAKIS: So, Steve, now, how is what you said different from what he's saying?

MR. SCARBOROUGH: We're saying the same thing. Our draft language is right out of the South Texas --

CHAIRMAN APOSTOLAKIS: The thing that --

MEMBER ROSEN: The idea that just because we relieve the ASME requirements, that we're not going to take good care of it is the point that I'm fussing about.

MEMBER KRESS: Can you say that across the board for all the plants out there?

MEMBER ROSEN: Yes. Oh, for all the plants out there.

MEMBER KRESS: Yes.

MEMBER ROSEN: I don't know.

MEMBER KRESS: Well, you see you have to deal with every, not just South Texas.

CHAIRMAN APOSTOLAKIS: I'm reaching the conclusion here that -- maybe you guys can correct me -- that maybe what you propose in terms of treatment makes sense, but your argument that you may have common cause failure across systems probably is not the right argument.

MR. SCARBOROUGH: It's true though.

CHAIRMAN APOSTOLAKIS: I think what Mr. Rosen just said is -- no, I'm not sure it's true. And I take exception to the argument that we failed a bunch of components and boy, the core damage frequency was doubled. I think that's pretty good that it was only doubled.

MR. SCARBOROUGH: Well, I don't know if that's the right number.

CHAIRMAN APOSTOLAKIS: It's nothing.

MR. SCARBOROUGH: I think I'd double check that.

CHAIRMAN APOSTOLAKIS: Doubling it means

nothing to me.

MR. SCARBOROUGH: I think I'd check that number.

CHAIRMAN APOSTOLAKIS: I'm not close to having an accident. If it's ten to the minus five -- excuse me, that's pretty safe under such a dramatic assumption. So even if it's a factor of five, I don't care.

MEMBER KRESS: That's an argument in favor of --

CHAIRMAN APOSTOLAKIS: Yes, in favor of not doing anything. But I think in terms of good engineering practice, that you really -- as you went through the litany, you want to buy them, make sure that they're doing what they're supposed to do and then you don't abandon them. I think that's a powerful argument.

But to say this common cause failure thing -- because then you say well, gee, why don't you do it in the PRA's now, if that's such an important thing.

Even for the redundant elements within one system, I mean the beta factor is about one in ten, right? So one in ten failures is -- a failure of one component involves the other one.

So now if I go across systems, I can't

imagine it remains one in ten. And then if I have ten of those, I can't believe that --

So I wouldn't advance this argument, although your conclusion is probably okay.

Now, I still don't see us going into the details of NEI. And that really bothers me, because I have a whole list of comments, and it will be too late if you guys come back six months from now and say we approved it.

So I don't know how you want to handle that.

MR. REED: Well, let's get onto it.

CHAIRMAN APOSTOLAKIS: Is anybody here who can --

MS. McKENNA: We have a representative from NEI here, which I believe wanted to speak.

CHAIRMAN APOSTOLAKIS: Can you go into the details of the technical analysis?

MR. REED: If you'd like, we can -- if you guys would like, we can jump to NEI-00-04.

CHAIRMAN APOSTOLAKIS: Well, this is important.

MEMBER ROSEN: How about doing it by exception? Does anyone have any comment on the rule? Yes, I do.

MS. McKENNA: Okay. That's --

CHAIRMAN APOSTOLAKIS: No, wait a minute. Mr. Heymer wanted to say something. I'm sorry.

MR. HEYMER: Up until now, it was our understanding that we were going to try and reach some agreement on the rule and then really focus back in on the guidance, and that's what I understood that we were trying to do, and what we came here today was to talk specifically about the proposals that the staff had put on the table, that come into some of the issues that have been discussed here.

I think the discussion on the guidance, once we got some better understanding on what the rule language might be are going to go on, and we can certainly have those discussions at a later date.

I mean, I think we've got some guidance out there at the moment. We've -- as regards categorization, the staff looked at it and felt that it was satisfactory to move forward and test it with the pilot applications.

We've looked at two pilot plans -- or three if you take South Texas. But we've got two pilot plans. We've got two more to do. Once we've done that we'll sit down amongst ourselves and see where do we need adjust.

We'll have a meeting with the staff and incorporate lessons learned from that and then we're going to have to adjust the guidance in the document to make it consistent with whatever's in the rule and those discussions that took place in the rule, and the statements of consideration that are associated with that.

So that's where we are at the moment? That's not to say we're unwilling to get into the guidance document now, but I don't think it's -- we're at that point in the discussion process.

MR. WEST: This is Steve West. I agree with Adrien. I think we'll have other opportunities to talk about the guidance document.

It's kind of -- our energy is kind of focused right now on the rule itself. And we could work with Mike to set up another meeting, a subcommittee meeting where we could devote whatever time you'd like to the guidance document before we approve it.

CHAIRMAN APOSTOLAKIS: Now, what's the timetable here?

MR. WEST: I think we have plenty of time, actually. Months.

CHAIRMAN APOSTOLAKIS: I thought you guys

wanted to approve something by April.

MR. WEST: Well, we're thinking now about maybe separating the guidance from the rule development, maybe like we did on 50.59.

CHAIRMAN APOSTOLAKIS: Put the word acceptable there.

MR. WEST: We're going to look at that.

CHAIRMAN APOSTOLAKIS: The classic -- we'll consider it and think about it. Go ahead, Steve.

MR. WEST: But we do actually have a lot of time to get back with you on the guidance document, say February, March timeframe.

MEMBER ROSEN: I would like to make a specific comment about 50.69e, Roman 5.

CHAIRMAN APOSTOLAKIS: Which page is this?

MEMBER ROSEN: Page 5. 50.69, little e, 2, roman 5. It says -- it places a requirement for the licensees who wish to implement Section 50.69 shall submit a license amendment that contains a schedule for implementation of 50.69.

I think that's an unnecessary and, in fact, unwise requirement, because it will require licensees to set out a schedule in response to a regulation which might, in fact, force them to do work

on a schedule which is not of the high quality that would ordinarily be needed under these circumstances for something as important as this.

My experience with this is that this turned out to be harder than ever we anticipated it to be and more intellectually challenging and we took our time and controlled the pace and quality of it.

So I would not ask for a schedule for implementation within the rule. If the staff has the need, and I think they probably do, to manage their resources, they could ask for the licensee to indicate in a cover letter in general what the schedule was. But certainly not in response to a requirement of the rule.

MS. McKENNA: I think we indicated that part was more for information, rather than something that we felt needed to approved for purposes of our understanding kind of how the licensee was going to go about implementing it, but we can certainly take your comments back to the core team and think about whether it belongs in the rule or it could be covered in another manner.

MR. CHEOK: And I think the one intent of this requirement was that the I guess the licensees may not pick and choose -- sort of they can pick the

systems where they think they have the most relaxations and leave the systems that may be important to -- 45 years down the road.

MEMBER ROSEN: Well, I don't think that -- if that's a real concern, which I don't think it is, that you can handle it with a schedule anyway.

I mean, the worst that can happen is they'll leave the system under the current regulatory environment, which by a prima facie assumption is adequate.

MR. KELLY: In the current way, it's purpose is that the utility would have the opportunity to pick and choose what systems it wants to work on.

MEMBER ROSEN: Sure.

MR. REED: Why don't we just try to get through quickly the rest of the draft rule. The next two slides go the list of special treatment requirements that are lifted off of RISC-3 and RISC-4 and there's some interesting points to be made here.

Most of these -- I think you've seen the list before. Of course, Part 21 is a key -- a very key regulation in lift off.

There's portions -- and this is something that's a little bit different than South Texas, but there's special treatment pieces in 10 CFR 50.44, I

think the committee's well aware that's being addressed under Option 3, and that, in fact, may influence what's left in 50.44, which would then affect our references there, as pieces that move around.

But there is special treatment pieces in there and we'd have to lift off -- assuming that, in fact, that equipment's associated with our regulation it turns out to be RISC-3.

Of course, 50.49 in the draft that you have in front of you I think we have -- basically, have a type there. We don't actually say 50.49. We say equipment qualification. That's an oversight. It needs to say 10 CFR 50.49 in there, in addition to everything else.

But we also in there have a statement that you must continue to satisfy the conditions they listed in 50.49e 1 through 7.

And the intent there is to simply point out that the technical requirements in that regulation continue to apply. Pressure, temperature, humidity, submergence.

The lists in there are technical requirements that the staff believes need to be continued to -- the equipment needs to be capable to

meet those, but you don't need to do that under 50.49 qualification type program.

This is an important one, 50.55A. It's been listed all the way back from SECY-98-300 as a special training rule.

It's not on the list. And the reason it's not on the list is not because it's not being risk informed, it's because it's being risk informed under code cases.

And right now the ASME is developing a risk informed code case for repair and replacement, and that's the road that that's going down right now.

MEMBER SHACK: What does that mean, exactly?

MR. REED: They actually have -- and I may need a little help here. They actually have two risk-informed code cases for pressure boundary first of all.

PRA -- and you guys are much more experienced in PRA than I am, but PRA has a hard time when you fail pressure boundary. Because it fails things in the proximity, not functional path types things, so it's a little bit different approach.

And so the way this is going about is this has got a risk-informed categorization process for

pressure boundary, and then it's got a -- once you determine the safety significance and everything, following through that risk-informed categorization process, it tells you what pieces of the ASME code that you can basically change out and do alternatives for repair and replacement.

So it's being developed with the code and the staff, of course, is working with the code to come with that code case.

Then the way that would work is then right now until that code case is either adopted in the reg guide, which adopts code cases, or it becomes part of the ASME code, and then we adopt it in 50.55a or we just take the code case and put it in 50.55a.

Until that time, the licensee would have the relief requests, even under Option 2. So that's what that means.

But there's still a path that the risk-informed ASME -- you still have the ISI code case, you still have the IST code case and now you'll have repair and replacement code cases. That's what that really means.

The rest of these -- 50.55e. That's really a Part 21 for construction plants. So that's basically the same idea as Part 21.

The maintenance rule, basically, we're lifting off A1, A2 and A3 off RISC-3 and RISC-4 which basically, except for -- the only thing we're not lifting off is A4 and A4 is a risk configuration management. So that stays on.

50.72 and 73 are reporting requirements --

CHAIRMAN APOSTOLAKIS: Is that a special treatment requirement?

MR. REED: Excuse me.

MS. McKENNA: No. It's really trying to carve out that that part of the rule isn't special treatment and we're keeping it -- these other parts --

MR. REED: Yes, it's risk management --

MS. McKENNA: -- which is the monitoring. We did consider --

CHAIRMAN APOSTOLAKIS: Yes.

MS. McKENNA: It's because the rules aren't labelled, as this one's treatment and this one isn't. We have to kind of go in an specify pieces, or the sections, or whatever.

MR. REED: All these are different.

CHAIRMAN APOSTOLAKIS: So you're not removing just special treatment requirements. Is that correct?

MR. REED: What we're trying to do is only

remove special treatment requirements, but it isn't easy. Because every single rule is different. No two rules have the same scope. They never use the same language. They've been developed over so many years and nothing's consistent.

I wish they all just said safety related and non-safety related, but virtually none do. I think the only one that -- I think Appendix B is the only one that I can think of that did that.

50.72 and 73 are reporting, event reporting and LER's. That would be lifted off of RISC-3 and RISC-4, although I'm not sure exactly how that one would ever be utilized, because how many events just involved RISC-3.

But, nonetheless, it's hard to tell right now. And a couple in here are interesting. Appendix B, of course, that's the main one here. It's the biggest special training requirement I think there is really. That's, of course, coming off.

And Appendix J, containment testing requirements, type B and type C, testing requirements for both options A and B.

This is a little more than what I think South Texas got. I know there was some issues in South Texas. I'm not sure exactly how they came up, whether

you got the type B. I know there was a little confusion there.

MS. McKENNA: B, I think.

MR. REED: I forget which one --

CHAIRMAN APOSTOLAKIS: Which one is the integrated test?

MR. REED: That's A.

CHAIRMAN APOSTOLAKIS: A.

MR. REED: One of these is for contained isolation valves and another one's for penetrations. And I think type B's penetrations and type C's contained isolation valves.

CHAIRMAN APOSTOLAKIS: So you're keeping the integrated test.

MR. REED: Integrated stays. These will just be for --

CHAIRMAN APOSTOLAKIS: That can be removed using 11.74 in a different petition --

MS. McKENNA: I think there is an initiative going to change the frequency --

CHAIRMAN APOSTOLAKIS: The frequency.

MR. REED: Exactly.

CHAIRMAN APOSTOLAKIS: But that's a separate --

MR. REED: Exactly. There's actually --

if you see, there's specific criteria in the rule. It tells you, basically, for very small penetration and small containment isolation valves, connections that you'll see in the rule, if you look.

Part 100 is not on the list. I will point this one out. And the justification here is that, basically, Part 100, as it stands today, allows you to have the flexibility of doing either aesthetic, dynamic analysis -- basically, two types of engineering analysis you can do, and if you can't do that, the test.

So the argument here is that it allows you the flexibility to do whatever you can possibly do. So I think this is an issue that I'm pretty certain the stakeholders are going to have some significant comments and concerns about, so I don't think this is closed.

It was, in fact, an exemption that we granted for South Texas.

MEMBER ROSEN: It was granted for South Texas.

MR. REED: So we're not consistent.

MEMBER ROSEN: We felt it was very important.

MR. REED: So I think this one we ought to

continue to look at that. Part 54 is not on the list. And what does that mean?

That means that right now if you want to go to Part 54 license -- let's say you get your license first, and then you want to go to Option 2, you'll have to justify that the 54.21, which is the aging management requirements, unless new rule -- that when you go to Option 2 that you still meet those, or that it's good enough.

In other words, you'll have to do work to show you're -- until it gets on the list --

CHAIRMAN APOSTOLAKIS: A plant of his renewed this license.

MR. REED: Right. Let's start with that one. Most are going to be like that.

CHAIRMAN APOSTOLAKIS: Then what --

MR. REED: They would probably --

CHAIRMAN APOSTOLAKIS: So now they're going to apply Option 2.

MR. REED: And they want to take let's say the RISC-3 out of aging management. That's what they would like to do.

CHAIRMAN APOSTOLAKIS: So you're saying they cannot do that.

MR. REED: They have to justify -- they

have to come back to the staff right now and, basically, argue with our Part 54 staff that what they're doing under Option 2 is good enough for aging management.

CHAIRMAN APOSTOLAKIS: So that then is the result of the fact that 54 is not risk informed.

MR. REED: It's a result of the fact that right now --

CHAIRMAN APOSTOLAKIS: If it were risk informed, and they were using the categorization process, then it would -- 54 would have been risk informed.

MR. REED: That would be valid.

MEMBER ROSEN: Let me -- try to help with this. I really am puzzled by this. You said a plant that approved -- got this approved license -- has had a risk-informed special treatment requirements --

MR. REED: Okay. You want to go Option 2 first. Okay.

MEMBER ROSEN: Yes. That plant now can't get Part 54?

MS. McKENNA: No, we didn't say that.

MR. REED: Well, actually, now in that situation it's a little different. Now your current licensing basis has changed and since -- now you have

to basically show the staff that your current licensing basis can be maintained for the next 20 years.

But in the end, you're going to have to show that your treatment on RISC-3, which would be this programmatic treatment, I guess, if that's what it works out to be, is sufficient for aging management -- it meets the aging management of Part 54.21.

MEMBER ROSEN: But that's what all license renewal applicants have to do. They have to show that their plants meet the --

MR. REED: Exactly. But what I'm saying is right now with it not on the list, each Option 2 licensee and Part 54 licensee, no matter how you have to go, will have to do work there.

If we put it on the list, we'd have to justify generically once and for all, hey, you guys don't have to worry about this. It's another option here. I'm not sure we can do this.

But if we put it there, we can say look, once and for all you don't have to worry about it. When you go, you get your license renewed -- well, 50.69 is good enough for aging management. You won't have to do that piece of justification.

MEMBER ROSEN: Well, I think that's

exactly where you ought to end up.

MR. REED: That's why I'm pointing it out. It's an issue that needs to be --

MEMBER ROSEN: I think this is a very serious issue. It's a regulatory issue. If the licensee jumps through all the appropriate hoops and gets the relief on the 50.69, that should carry right or forward into the license renewal, if license renewal is granted.

It shouldn't be another step you have to deal with for license renewal.

MR. REED: And I want to make sure that people are aware that there's an issue there.

CHAIRMAN APOSTOLAKIS: Let me come back to the earlier discussion. Is it fair to say that the main driver behind the decision what to keep and what -- on the list, is the defense in depth in the traditional sense? Structuralist approach?

MR. REED: Why things are on this list?

CHAIRMAN APOSTOLAKIS: Well, what requirements you're keeping. This is really defense in depth.

MR. SCARBOROUGH: I think we tried to eliminate everything in special treatment that we possibly could. We went through and tried to identify

all special --

CHAIRMAN APOSTOLAKIS: But why did you keep the others.

MR. SCARBOROUGH: I'm sorry?

CHAIRMAN APOSTOLAKIS: How about defense in depth? The ones you kept?

MR. SCARBOROUGH: The ones we kept --

CHAIRMAN APOSTOLAKIS: Defense in depth, not in the sense of barriers, but you know --

MR. SCARBOROUGH: Right. Well, the ones we kept -- because we thought there was a way to address it. Like, for example, EQ for 50.49. We just kept the functional part of it. The programmatic part is gone. The special treatment part is gone. We have to keep the functional part.

CHAIRMAN APOSTOLAKIS: And why is that?

MR. SCARBOROUGH: Because they still have to maintain functionality. But under the sort of reduced program that's described earlier in the rule, they can do a much less detailed evaluation under EQ now.

They can rely more on the vendor than they did before, and they don't have to have their own testing and their own analysis. They can rely more on the vendor.

But we wanted to keep -- we didn't want to throw 54.9 away entirely, because one reason why 54.9 was written in the first place was that how people we addressing the current regulations for EQ wasn't successful.

And so we wanted to emphasize that no, we we're not throwing away the functional part. You still have to be able to survive submergence and radiation, environment. All those sorts of things that make the functional part difficult to meet. They still have to do that.

So we tried to pull out of here the functional parts. For 55A we kept -- because at the workshop we had there was a presentation by ASME in such that there's a process in place for risk informing the current ISI and IST's.

So rather than us trying to reinvent it and write guidance of how reduced monitoring you would do, there's already accepted approaches for doing that.

So let's just rely on that and not try to reinvent the wheel.

CHAIRMAN APOSTOLAKIS: Okay.

MR. SCARBOROUGH: So that's where those came from.

MEMBER KRESS: Because you couldn't throw them out with the PRA.

MR. REED: Are you okay with that, George?

CHAIRMAN APOSTOLAKIS: Okay.

MR. REED: All right. Why don't we go to the remaining portions of the draft rule. Paragraph E is a submittal and approval process, and it's already been discussed a little bit.

Right now it's a -- it requires that you submit a license amendment. You'll get -- in other words, you're going to have to get your -- you're going to make a submittal to basically have a review of the categorization process.

And you'll have to describe the categorization process, describe the most achieve PRA quality and then provide -- right now on this current draft, some scope and schedule information.

CHAIRMAN APOSTOLAKIS: What do you mean description of measures to achieve PRA quality? If they tell you that they did a PRA review according to the industry and came out with grade 3, that's good enough?

MR. CHEOK: In essence, and maybe also submit to us the facts and observations from the peer review finding.

CHAIRMAN APOSTOLAKIS: But you don't mean we hire these important people to do the analysis. We made sure we collect the data -- achieve. The word achieve bothers me. Description of -- I guess what you mean is provide the proof that the PRA had good quality.

MR. CHEOK: Basically, show to us, tell us why you think your PRA is good enough option to --

CHAIRMAN APOSTOLAKIS: Okay. Because to achieve may mean go back and tell us how you did the whole PRA.

MEMBER SHACK: Well, actually, the rule language doesn't use the achieve. It just says assure the quality.

CHAIRMAN APOSTOLAKIS: Where is that?

MEMBER SHACK: Page 5.

CHAIRMAN APOSTOLAKIS: To assure that the quality of the PRA used in the category is --

MEMBER ROSEN: Well, on this one -- the thing he's showing. Where is that?

CHAIRMAN APOSTOLAKIS: You're not showing page 5 the way we have it.

MR. SCARBOROUGH: Our page 6.

CHAIRMAN APOSTOLAKIS: Your page 5 is different from our page 5. But the words are the

same, right?

MS. McKENNA: Yes.

CHAIRMAN APOSTOLAKIS: It's roman three.

MS. McKENNA: Yes.

CHAIRMAN APOSTOLAKIS: Description of the measures taken to assure -- and our page 5 is a little lower on the page.

MR. SCARBOROUGH: Our page 5 --

MEMBER ROSEN: To assure the quality.

CHAIRMAN APOSTOLAKIS: Yes, to assure. That's a key word.

MEMBER ROSEN: Not to achieve.

CHAIRMAN APOSTOLAKIS: Not to achieve.

MS. McKENNA: So our slide was a little off here.

MEMBER ROSEN: Well, George found the point. George found a good point.

CHAIRMAN APOSTOLAKIS: Oh, I thought you said George finally made a point. After two and a half hours, he finally said something. No, I think it's a big difference. I think there's a big difference between achieving --

MEMBER ROSEN: I think that's very true.

CHAIRMAN APOSTOLAKIS: -- and assuring.

MEMBER ROSEN: It should say assure like

the rules.

CHAIRMAN APOSTOLAKIS: It's commensurate with the application. I don't understand that. You mean results in a categorization process that's reasonable, right.

MR. CHEOK: That's basically just saying it's a good enough for Option 2 purposes. I mean, I think it's --

CHAIRMAN APOSTOLAKIS: You can't put good enough on paper. It's not proper english.

MEMBER ROSEN: It's not reg speak. These is regulationese.

MR. KELLY: If you write good enough for government work, they get upset about it.

CHAIRMAN APOSTOLAKIS: Well, it's commensurate with -- I think you need a better word there.

MEMBER KRESS: Well, the PRA quality guide would say this application you can use --

MEMBER SHACK: George, that's your whole point is that you can't judge PRA except in terms of whether its commensurate with the application.

CHAIRMAN APOSTOLAKIS: Right. But that's a separate issue from this. Because that implies that there are many applications of the categorization

process.

MEMBER KRESS: Yes, I see.

CHAIRMAN APOSTOLAKIS: And I'm saying there is only one.

MEMBER KRESS: So, therefore --

CHAIRMAN APOSTOLAKIS: So that's what bothers me with the application.

MEMBER KRESS: Use PRA quality X.

MR. CHEOK: Oh, I see what you're saying. Okay. You can just put a period after the categorization process.

CHAIRMAN APOSTOLAKIS: Uhm?

MR. CHEOK: We can just put a period after categorization process.

CHAIRMAN APOSTOLAKIS: The measures taken to assure that the quality of the PRA -- no, no. You need the verb.

MR. REED: The application for 50.69 or something. I know what you're saying. It's got to be specific to this. We've got to figure it out. Okay.

CHAIRMAN APOSTOLAKIS: To assure that the quality of the PRA is appropriate for categorization process. That's really what you mean. Not with the application. Because then my mind goes to three different applications, and that's not what you mean.

MR. REED: Right.

CHAIRMAN APOSTOLAKIS: Is appropriate for the categorization process. Period.

MR. REED: That's a good comment.

CHAIRMAN APOSTOLAKIS: I get all this praise all of a sudden. Right and left. I don't know.

MEMBER ROSEN: Who would you like us to write the letter to, George?

MR. REED: I might as well keep the rule language up because that's what the slide does anyway.

MEMBER ROSEN: We'll put it in your performance evaluation.

CHAIRMAN APOSTOLAKIS: This Friday.

MR. REED: So, basically, it will be a submittal under 59e that will list that information that the staff will then review, and then we'll approve the categorization process, and that's consistent with back to paragraph C, having an approved categorization process.

In addition to having a submittal on those requirements, then we also have the remaining administrative requirements, if you will, on what kind of program description, documentation and reporting requirements you'll have.

You'll have to have some sort of emphasis

-- say our description describes -- summary description of your 50.69 process. You'll need to document maintain for the duration that the SSC has installed the basis for its categorization and treatment, made pursuant to paragraph C.

Then there's an interesting one here that if there's any event or a condition that could have prevented a -- the satisfaction or RISC-1 or RISC-2 safety significant function, that you would report that, providing it's not already reported un 50.72 and 73.

So that's probably for RISC-2 things, that could be an additional -- a new requirement. In other words, if there's something that RISC-2 thing does and you had a condition or an event that occurred and it prevented a safety significant function that was identified there that it could have been achieved --

MEMBER ROSEN: It says that could have prevented. It doesn't say it prevented. That's a whole very wide net.

MR. REED: That's a good point. I think we've got to be a little careful with the word or "could." That's a good comment. We have to look at that, versus the way our other reporting requirements are. And then, of course, retaining records.

MR. KELLY: I believe the use of could have would allow you to take a look -- you found a piece of equipment that may have been inoperable, but had not been called upon.

And that would allow you to report that -- you know, if it had been called upon, it would have failed. However, if it -- that's the difference, I would say there, in wording.

MR. REED: Okay.

CHAIRMAN APOSTOLAKIS: So are you back to your slides now, or are we continue --

MR. REED: The slides follow exactly through the language. I think it's probably just easier to keep the language.

MEMBER ROSEN: Actually, no. Your slides say report events that prevent safety significant functions.

MR. REED: That's me again.

MEMBER ROSEN: That's how I found the could have.

MR. REED: Okay.

MEMBER ROSEN: It's not the same on the slide as it is on the --

MR. REED: Once again, I'm not consistent. It was writing my own rule when I did these slides.

CHAIRMAN APOSTOLAKIS: Now when was -- somewhere in there you talk about updating the PRA. You've already said that.

MR. REED: That's in paragraph C.

CHAIRMAN APOSTOLAKIS: We've already covered that, right?

MR. REED: Yes.

CHAIRMAN APOSTOLAKIS: Now what if they want to update the categorization?

MS. McKENNA: That's what this --

CHAIRMAN APOSTOLAKIS: Is that part of updating the PRA?

MEMBER ROSEN: That's the next thing. Change control requirements.

MS. McKENNA: Right.

CHAIRMAN APOSTOLAKIS: Where is that?

MS. McKENNA: This next to last.

CHAIRMAN APOSTOLAKIS: Changes --

MEMBER ROSEN: A heavily debated discussion in South Texas.

MS. McKENNA: Yes, yes.

MEMBER ROSEN: Heavily discussed at South Texas, and ultimately came down with the same kind of process that's listed here, which are things that reduce effectiveness must have prior approval.

MR. REED: Yes.

MEMBER ROSEN: Otherwise, you go ahead and change the process.

MR. REED: Yes, these changes -- and we have the expert here. Maybe she should answer that.

MS. McKENNA: I think he's right, that there is the -- embedded in the process, there are the requirements to update based on changes to the plant and data, and whatever that kind of thing.

This is if you wanted -- if they wanted to go in and actually change the process itself, the process that we had already reviewed and approved to begin with, and that's why there was this --

MEMBER ROSEN: Which we actually did midstream in the discussion at South Texas --

MS. McKENNA: Yes.

MEMBER ROSEN: -- because we were evolving. We made a rather substantial change in the process. And that became a subject of a lot of discussion. Actually, we think enhanced the process.

But it was enough different that you would want to have had a discussion with the staff if you were at a license process at the time.

Now under the circumstances at South Texas, and as it finally shook out, it seems to me

that what we did would not have met this test.

That is, it would not -- what we did did not reduce the effectiveness. Quite the contrary. It improved the effectiveness.

And so we would not have had to have had prior staff approval, but we surely would have told you if we had, if we had a regulation that we were operating under, which we weren't. We were a pilot.

MR. REED: Yes, that's basically -- that middle bullet there is -- the last section there is going to -- the first one stating that you don't need to have a 50.59 safety evaluation to support your FSAR changes that resolve implementation of 56.9. So it's giving you relief on that for your initial implementation.

Then the last one's going to change in the treatment procedures and making sure that she just maintain a written basis, so it's a little bit of a less of a standard than to the categorization process.

Again, both those treatment and categorization processes -- 50.59 would be blind to it. It wouldn't trip the criteria.

MEMBER ROSEN: These may seem just like words to a lot of people around the table. To us they were crucial.

Specifically, when you're dealing with this kind of thing, you can't get locked into a process that -- because you're going to find better ways of doing things, and you do not want to get locked into that.

CHAIRMAN APOSTOLAKIS: That has been a concern of the committee for a long time.

MEMBER ROSEN: So this language --

CHAIRMAN APOSTOLAKIS: That was the objection to Appendix T, actually, wasn't it? A major objection to Appendix T, was that --

MEMBER ROSEN: For that reason, it's very important that they not lock in a developing technology to one process now. That shuts off all the way into innovation and you can't do that. So this, I think, is crucial.

MR. REED: All set? Why don't we --

CHAIRMAN APOSTOLAKIS: Now you're getting into the pilots.

MR. REED: Yes. If you want, I can skip to the NEI guidance and go back to pilots so we can keep going in the same order, George. We can do it either way.

CHAIRMAN APOSTOLAKIS: Skip what?

MR. REED: I can go to the NEI guidance

document first and go to the pilots --

CHAIRMAN APOSTOLAKIS: Where is that?

MR. REED: That would be slide 16, I believe.

CHAIRMAN APOSTOLAKIS: Do the members want to have a short break?

MR. REED: We can do it whatever order you want.

CHAIRMAN APOSTOLAKIS: Okay. We'll keep going.

MR. REED: The same order? Okay. Well, as you're aware, one of they key tasks that are supporting Option 2 is the pilot activity.

And it's objective is to acquire information to enable the development of the regulatory framework.

And also, by the way, a piece of that information is cost benefit, which is important to both industry and the staff. We'd like to have that as part of the regulatory analysis.

Of course, the industry would like to know if this thing is cost beneficial, whether they want to pursue it. So that's the objectives.

And what we're actually testing, I think as the committee's also well aware is the NEI document

implementation guidance.

In fact, right now we're currently testing draft revision B, and the goal there, of course, is to use that in the pilot, identify the weaknesses and then use that to improve the guidance and also use that information to improve the framework.

We're being supported by three out of the four underscripts. So we're getting excellent industry support here from BWR, Westinghouse. They're all supporting us.

And the pilots there are Quad Cities, for the BWR group, Wolf Creek and Surry for Westinghouse and Palo Verde for the CE.

And to date we've observed major interaction of the pilots. It's been at the -- observing the IDP because, in fact, the IDP is the culmination of this entire process. So it makes sense to interact at the IDP.

And we've observed the Quad Cities IDP. In fact, I was on that with Mike Cheok back in August and more recently, in Wolf Creek -- and also Glen was at that one.

And in Wolf Creek, Glen and Eileen were at Wolf Creek observing that in October.

Surry and Palo Verde, the last time I

heard, were going to happen in January, I believe, of 2002. So I believe that's January or February. January?

MR. HEYMER: It's January, February time.

MR. REED: Okay. January, February timeframe is when those IDP's will be held and we will also observe those.

CHAIRMAN APOSTOLAKIS: Now, the IDP, the way I see in the NEI guidance is much less structured than the South Texas project. Is there any reason for that?

MR. REED: Yes, there's certainly a reason.

CHAIRMAN APOSTOLAKIS: What is the reason?

MR. REED: Actually, the South Texas approach -- and I'll stop here in a second if I start to go to far array -- was a very structured approach.

It tried to assign a numerics to some of this qualitative stuff, which is an interesting way of trying to do it.

The NEI approach doesn't try to assign numerics in that same fashion. It really is -- I think it's more of a pure -- just an expert panel. I think it's fair to say it's more aligned -- consistent with what's being done on the --

CHAIRMAN APOSTOLAKIS: But as I remember, it doesn't even ask the five questions the South Texas --

MEMBER ROSEN: No, those questions are not asked.

MS. McKENNA: That's correct.

MR. REED: That's correct.

CHAIRMAN APOSTOLAKIS: What?

MEMBER ROSEN: The questions are not asked.

CHAIRMAN APOSTOLAKIS: That's what I'm saying. They're not asking the questions. So it's not just a matter of numerics.

MR. REED: Yes, there's certainly -- there's differences.

CHAIRMAN APOSTOLAKIS: The structure is not just numbers.

MR. REED: Yes, that's true.

CHAIRMAN APOSTOLAKIS: And I was wondering why that's the case? I mean, they felt that it was expensive, or a waste of time, or what?

MR. CHEOK: I think this is a question better asked of Adrien, and I think he would probably answer the question when it comes up later.

At this point, if you're just looking at

the proposals from the NEI documents --

CHAIRMAN APOSTOLAKIS: I would expect after the South Texas experience that we would go beyond what South Texas did and actually try to improve on the process, not go back.

MR. HEYMER: Adrien Heymer, NEI. We started off going down that approach, and there was significant debate on the five or so questions that South Texas had. So at that point in time we decided to pause for thought.

And I think it's worthwhile saying that I think some of the experiences from certainly the two pilots that we've looked at to date indicate that perhaps we should have some additional guidance as we regards to the IDP, especially as it relates to items that perhaps aren't in the envelope by the PRA or in the PRA.

And so that's where we are in that context. I think you're going to see some material added to it. One of the reasons why we didn't go down the five questions approach is there seemed to be significant debate at the time when we were drafting that document, as regards to whether or not they were the right questions, the wrong questions.

So we thought it far better to get into

some practical work and then sort of back out -- what are the check boxes that we need to think about.

MEMBER ROSEN: You recognize, Adrien, that those questions are not new. Those are the maintenance rule questions.

CHAIRMAN APOSTOLAKIS: I'm not arguing that those five questions should be used. All I'm saying is that maybe a number of questions, perhaps a variation of these five questions would help structure the deliberations. That's really the important thing.

MEMBER ROSEN: And my point, George, was that the questions were -- had some foundation in past practice.

CHAIRMAN APOSTOLAKIS: And that's fine.

MEMBER ROSEN: We used -- that South Texas used.

MR. REED: That brings us to the next slide actually; a pretty good segue, of what the observations -- these are very boiled down lists on all of the observations. But a more condensed list of the observations to date that we've seen of the two IDP's.

Certainly, our experience has been that the IDP's have been very knowledgeable, capable panels.

CHAIRMAN APOSTOLAKIS: Speaking of knowledgeable --

MR. REED: Excellent interaction, in fact.

CHAIRMAN APOSTOLAKIS: Let me ask what knowledgeable means. Should these people understand the categorization process and it's limitations? Do they understand, for example, what risk achievement work is? Should they?

I mean, would it really hurt their feelings if they had a training session for a couple of hours.

MR. KELLY: It's my understanding that the panels did go through a training session to prepare them for being part of the panel. But I don't -- that was not something that we had input to where we said here's how the panel should be trained.

MR. REED: Certainly, somebody on the panel should understand that, or there should be somebody there to support them, I agree.

MR. KELLY: Part of the -- our review of the two pilots that have been performed so far, we put out trip reports on those and then those trip reports we made a number of observations about things, areas that we felt could use some enhancement.

And some of those included things that I

think, again, if they'd had a little bit more training or understanding, it would have been helpful.

MEMBER ROSEN: One of the thing you commented on was that the panel members did not have access to any information before the meeting. They came into the meeting and were faced with a discussion.

MS. McKENNA: I think in some cases that was a function of it being a pilot and what level of resources and time commitment people would put into it.

But whereas, I think for an application, if you will, I think they agreed there's an efficiency to having reviewed the material and be familiar with what the preliminary findings or judgements --

MEMBER ROSEN: It's more than efficiency. It goes very much to effectiveness. You're really going into a meeting on a system where you're going to be asked to make -- draw judgements that will last for the life of the plant over hundreds, maybe thousands of components.

And to not prepare a dossier for the expert panel members several weeks in advance, during which time they can spend whatever kind of quality time they need in their offices thinking about and

talking to each other and maybe to the system engineers about what's in that document, belies the importance of the process.

And so I was disturbed by hearing that there was so little preliminary work and pre work by the panel members.

I was also a little bit -- I was very concerned about the lack of training in PRA, as has already been mentioned, but also more especially in expert panel techniques because this is difficult, at best, and needs to be done with some sophistication.

CHAIRMAN APOSTOLAKIS: And there is -- I mean, these things are not new. There are other people in other fields of science who have thought about these things. And there is a general reluctance to bring them in.

But let me give you another example. There is a lot of discussion on sensitivity studies. Now, I can see a guy who really doesn't -- has never been exposed to PRA and what these things mean and so on.

And this person is told that the failure rates were increased to the 95th percentile. And we got a number that is very reasonable.

So that person might say well, gee, this

is really great. It's robust. They went to 95 percentile and so on. And that person may not know that these distributions themselves may be questionable.

It's these kinds of limitations, this kind of training, this kind of discussion that I think is required, leave alone that some of us, at least me, would argue that these sensitivity studies are not very meaningful, and you can take them to the extreme, as Steve mentioned earlier today, that they're completely meaningless.

So it's this kind of thing that disturbs me, that the panel doesn't seem to be sensitive to these things and there is no attempt to -- I mean, we are providing them, according to the NEI document, with the results, but we're not really telling them what the results mean. And that disturbs me.

MR. REED: Yes, I'd reiterate what Eileen's already said. I do believe this is sort of an artifact of the pilot process right now. Not to defend the industry, but these guys have real jobs, pretty important jobs.

The people on the expert panel are very important people at the plant and they're doing their job and then somebody says oh, could you please do our

expert panel for this pilot activity and they're willing to do that.

And they did get some training, but certainly not the kind of training, I don't believe, that you would get if the plant was really implementing this thing.

And I don't think they would dedicate anywhere near the time they would if it was a real --

CHAIRMAN APOSTOLAKIS: I have a general impression from reading the whole thing that this is a watered down version of what South Texas did. And I'm trying to figure out why?

Did you think that they went overboard and they overdid it? Or -- I don't understand that. I mean, in some cases we seem to be going backwards. It was too good. We don't need this kind of quality to make these decisions.

For example, they had a very good PRA with uncertainty -- the way I understand it, they used the mean values to find the important measures, and all of sudden I have a document that says values. Point estimate. Oh, my God. Point estimates. We're going back now. 1989 and writing, and then do sensitivity studies.

I couldn't find the word uncertainty

anywhere. Why? There are computer programs that do it very routinely. In fact, I think the sensitivity studies probably will be more difficult to do than the uncertainty analysis.

Plus, there is evidence that if you don't do it with the mean values, you may not get the right results. Then, of course, the answer will be the panel will take care of that, right?

MEMBER ROSEN: The panel won't take care of it if they're prepared the way these panels were. But I accept the point that these are pilots. It took South Texas quite a long time to realize just exactly what kind of level of devotion and prework and training was going to be needed.

MS. McKENNA: I think even with the -- if you will, the reduced level, I think that with both of these they said they took more than they thought going in, which I think is also what you're confirming.

CHAIRMAN APOSTOLAKIS: Does a grade 3 in the peer review process include a good uncertainty analysis? I don't remember.

MR. CHEOK: No, it doesn't.

CHAIRMAN APOSTOLAKIS: Wooo. What can I say? I mean we can go to the paper by Cheok, Perry and Sherry. We can go to the paper by Agarwal and

Modarres. We can go to a lot of papers that have been out there that show that with the mean values, you get decent results. But the uncertainties are pretty large.

If you don't -- if you use arbitrary point estimates, I don't know what you get. See, the importance measures themselves are uncertain, because they depend on failure rates, for which we have uncertain distributions, right?

So an approximate method of finding the importance measure is to use as input to these parameters their mean values. I think that would be okay. It's approximate, but it's okay.

Now the rigorous way is to do a Monte Carlo analysis simulation and find the distribution of the measure itself, which is pretty large.

And there is a paper out there by Cheok, Perry and Sherry for three years that shows bands and they're pretty large for fossil vesseling. Okay?

And then the way that's unacceptable to me is to just plug in so-called point estimates, in which case you don't know what you're getting out.

So that's what bothers me. I mean, what we're doing here seems to be divorced from what people are publishing and talking about.

So, you know, the fact that certain things were approved for South Texas on its surface doesn't mean anything, because there was a show infrastructure there, with PRA, reviewed, uncertainties and all that. Point values -- I'm lost. That's why I'm saying we're going back.

And I remember the IPEEE studies, the -- the comparative studies. You remember that human error probability that was out of the scale way down. That's a point estimate.

MEMBER ROSEN: One of the things that you're talking about that troubles me about where the NEI document is also, is it never establishes the preeminence of the PRA numbers.

CHAIRMAN APOSTOLAKIS: No, it puts it down every chance it gets.

MEMBER ROSEN: At South Texas, what we said was the best work we've done around here, the most thoughtful work, the best supported work is in the PRA.

So if we come in here with a conclusion, this IDP tries to take a position that says -- the PRA says it's high safety significance, but we're going to make it low, or medium, that's based on our intuition. That's clearly not going to be allowed.

We're going to say if the PRA numbers are higher -- requires a higher categorization than the IDP thinks, then the IDP people need to go back to the PRA group and get them to change the PRA, and we'll understand why the PRA is coming out with what it's coming out. Not the other way around. And I don't see any of that here.

CHAIRMAN APOSTOLAKIS: That's what I mean by going back.

MEMBER SHACK: George, I guess --

CHAIRMAN APOSTOLAKIS: Now, the reason why I say that, because a letter by a law firm to the staff says why do you do this since you approved it for STP?

Well, I'm sorry. The basis for approving it for STP was different. You can't use that argument. There was a whole infrastructure, as I said, that came along with that.

And we said, okay. Certain things we don't like, but overall it's reasonable. Now we're going back to point estimates. It's a mystery to me why.

Because there are computer programs. It's easy to do now. Uncertainty analysis is nothing. I mean people do it. It's not that I'm asking you to develop new programs.

I understand that finding importance measures they way they should be done is not easy, because the codes have to be modified.

But to do an uncertainty analysis on the baseline PRA; my goodness.

MEMBER SHACK: But, again, George, you were the man that says why worry about it? It's the Delta CDF that counts.

CHAIRMAN APOSTOLAKIS: And you shut me down when I said that. So now we're taking opposite sides.

MEMBER SHACK: No, I'm just saying that there's much in the categorization process that can't be rigorously defended. It's the overall process you have to look at.

CHAIRMAN APOSTOLAKIS: But I don't know how good that is, Bill. I mean, I can understand using raw. Okay. We know it's extreme and so on. But point estimates; look at the IPE's. The point estimates that some licensees used were ridiculous.

So what are you going do to now? Go back to the IEP's, review them again, and all of that -- anyway, keep going.

MR. CHEOK: I think one of the requirements is that licensees are supposed to assure

us that their point estimates are equivalent to the means.

CHAIRMAN APOSTOLAKIS: No, the document never says that, Mike.

MR. CHEOK: I understand the document doesn't say that.

CHAIRMAN APOSTOLAKIS: Aah. Okay.

MR. CHEOK: The review guidance basically says they need to show us that point estimates are equivalent to the means, and that they somehow have taken care of the -- the knowledge correlation somehow and that becomes important in things like the IS LOCA sequences.

MEMBER KRESS: How do you show point estimate is equivalent to the the mean?

MR. CHEOK: You basically -- I think you have to go to certain groups of important components and generate your distributions and show that your means are somewhat equal to the point estimates that you're using.

CHAIRMAN APOSTOLAKIS: Or you go to somebody else's PRA, I suppose. But you demanded a plant-specific PRA, right?

MR. CHEOK: That's correct.

CHAIRMAN APOSTOLAKIS: So you can't really

use generic point estimates, because it's supposed to be plant specific. And we have well established methods for making sure these distributions have become plant specific. So that's --

My constant struggle with this is how much should I push an argument without coming against the wall that says the panel will take care of it? That's really the constant struggle here.

MEMBER ROSEN: The panel works well if the PRA's a firm floor. If the panel listens to the argument of the PRA and says you know, the PRA only has that as a medium, but there are defense in-depth considerations here which would lead us to the conclusion that we should not do anything different than what we're doing with this because we should leave it high.

And that to me works. That's the right way things should proceed. The panel uses its judgement to bring in things that maybe are not modeled in the PRA. And they, in fact, raise the level of categorization. But to do it the other way around risks chaos.

CHAIRMAN APOSTOLAKIS: And the least you can do is educate the panel about these things, right? You can't expect a panel to take care of weaknesses that the panel is not aware of.

But you guys have -- I have not seen a review of the NEI document from you yet, right?

MS. McKENNA: Well, as I said earlier, we had gone through some earlier rounds most recently. We sent --

CHAIRMAN APOSTOLAKIS: But we have not seen anything.

MS. McKENNA: Yes, you may not have gotten it, because it was kind of in an early stage and it was still evolving. I think we didn't feel that we were ripe to come to the committee, and I think we're still not there --

CHAIRMAN APOSTOLAKIS: I'm not complaining, I'm just --

MS. McKENNA: -- on the guidance, which was -- that point was made earlier.

CHAIRMAN APOSTOLAKIS: -- stating the fact.

MS. McKENNA: Yes. Correct.

MR. REED: Yes, that's pretty much -- that's what this slide's basically telling where we stand on NEI-00-04. And that's what we keep going to. We're on draft revision B is what we're currently working on and developing comments on.

And those -- I mean, just the last several

months, the priority on Option 2 went to putting out draft rule language and this sort of got shelved. That's why we've worked to develop draft rule language, get it out on the web and have a workshop so that -- this is basically where we stand right now.

We have some issues in the categorization process still. One that I think you're familiar with, long-term containment integrity issue that's been raised before, I'd just mention. There are others.

But in treatment area, there's a significant disconnect because if you look at the draft rule language and you look at NEI-00-04, there would certainly need to be some alignment there one way or the other. Either you align the document to the draft rule or we could develop a reg guide with exceptions.

But I think it's probably preferable to line the document to draft rule language, assuming that we reach some sort of agreement on roughly what the rule language should be.

So this is basically where we stand on developing that guidance, or developing the comments on the NEI guidance and hopefully getting it to the point where we can endorse it.

And I think it's pretty obvious that we

probably need to come back to this committee when we get to a good point and discuss this, because you have a lot of issues, specifically in the categorization area.

I'm sure there are probably issues in other areas too that we need to discuss with this committee.

CHAIRMAN APOSTOLAKIS: Now, your next slide is on the NEI document, right?

MR. REED: Yes, that's what I was --

CHAIRMAN APOSTOLAKIS: I think we should take a break now. I'm not even asking the members. Mr. Chairman, do you want a break? Yes, I do.

(Whereupon, the meeting went off the record at 4:00 p.m. and went back on the record at 4:13 p.m.)

CHAIRMAN APOSTOLAKIS: Okay. We're back.

MR. REED: Okay. I just have two more slides that I'll go through real quickly and we can get to the next portion of this meeting.

These just discuss where we go from here, our next steps. We're going to continue to review the draft -- obviously, the draft NEI implementation guidance and get the next round of comments to NEI.

By the way, we're going to have to come

back and meet with this committee probably perhaps in the February timeframe or March timeframe.

We're going to have to kick that around too, when the best time to do that, because it's pretty clear from the discussions today you have some serious concerns about the guidance and we need to factor that into what we're doing.

We're also reviewing NEI-00-02. That's the peer review guidance. In fact, research is reviewing that in support of us.

CHAIRMAN APOSTOLAKIS: We haven't reviewed that before? I thought we did.

MR. CHEOK: You did.

CHAIRMAN APOSTOLAKIS: Yes.

MR. CHEOK: You have looked at it, yes.

CHAIRMAN APOSTOLAKIS: And the staff has.

MR. CHEOK: The staff has looked at it. We have decided that since there's a lot of people in the industry already that have done these peer reviews and perhaps did not want to re-peer review the PRA's, and since we did have some gaps between what we thought the staff expectations were compared to what was in NEI-000-02, we would write some staff review guidance as to -- to bridge the gap, so to speak.

And what Tim was talking about, research

looking at -- NRR has written the staff review guidance. We have provided it to research for their comments.

MEMBER SHACK: I thought research had a task to actually evaluate whether the peer review three would be good enough for Option 2.

MR. CHEOK: Yes, they did, and I guess part of the review of the NRR document was to determine if grade 3 was good enough for Option 2 and the NRR's peer review guidance -- staff review guidance actually also accounts for guidance in NEI-000-04, the Option 2 process.

In other words, if there were weaknesses in NEI-000-02 we try to look to see if these weaknesses were compensated for in NEI-000-04.

And so we tried to review these two documents in concern and research's job was to make sure we did it correctly.

CHAIRMAN APOSTOLAKIS: When will they issue their final opinion?

MR. CHEOK: We actually have a report now that's quite final. We're just trying to get it concurred upon and out to everybody.

MR. REED: As Mike already mentioned, the way that works into this is there's a submittal and

review guidance on what that -- reviewing that submittal and that's how NEI-00-02 works itself into our process.

We're going to continue work on serving the pilots, as I already mentioned. We have two pilots that will be in the January/February timeframe and we'll be observing -- staff will.

Additionally, we've already put out one version of draft rule language, which the committee's aware of and we expect that there could be additional revisions and we can put those up -- we'll put those up on the website as those become available.

We've yet to begin the reg analysis. We've just -- the first time we've had draft rule language is about a week ago.

And so it's the first time we've actually had a target of something to do a reg analysis on. So we have to begin a reg analysis in the near term.

We're already developing the proposed rule package. We're starting to work on the statement of considerations, in fact, developing a detailed outline right now and then, basically, filling in the outline and the different pieces of the proposed rule packages is the next step.

And as I think you're aware, this is

basically just stating the obvious. And then once you get that package together you run into the concurrence chain, and that's just a very simplified concurrence chain. Of course, the ACRS is in there.

We'll have to meet with the ACRS before we accept the proposed rule package. So we need to meet in different pieces as we go along.

So that proposed rule package is going to be out in time -- a good ways. That's all these slides are saying.

CHAIRMAN APOSTOLAKIS: Any questions from the members before we move onto the NEI presentation?

Well, ladies and gentlemen. Thank you very much. This was very informative and now we go to Mr. Pietrangelo and Mr. Heymer.

MR. PIETRANGELO: Good afternoon. Thanks for the opportunity to address the subcommittee on PRA.

Adrien's going to go through a series of slides here in a moment that are going to talk about -- a little bit about where we've been on this, what some of the principles have been, and then share with you a presentation we also did at the workshop that the NRC had on November 15th on Option 2.

At that time, there were three

alternatives for the treatment of RISC-3 SSC's or low safety significant SSC's that are safety related.

And now the staff has narrowed the alternatives down to one, which is principally the alterative two that was in the previous package.

We're going to have a lot of comments on the draft rule that was released earlier that's in front of you now.

We just finished today a risked-informed regulation working group meeting. That's our policy committee that deals with this issue and we also just met with the NRC's PRA steering committee, and let me share with you very briefly what we said with them, because that's principally going to be our message to you today, also.

And that is it's very difficult when you're at the high level of rule making language to have a good common understanding of what this all really means.

We've put forward in our guidance document, NEI-000-04, what we think a treatment program looks like for low risk significant SSC's.

Most of our guidance deals with the categorization process. I think there's over 70 pages of guidance on how to do categorization.

We feel very good about that aspect of the guidance that's been out for industry review. We've had several interactions with the staff. The feedback we've gotten is that there's no showstoppers in that guidance.

We feel it's pretty comprehensive and will result in a robust categorization.

There's less guidance in NEI-000-04 on treatment. That's because for the RISC-1 SSC's the treatment, essentially, doesn't change very much. We're already applying our safety-related processes to those SSC's.

The real difference is in the RISC-3 SSC's. Those are the ones that are safety related that are now low safety significant.

I think as a general principlw it's been broadly accepted that NRC can accept less assurance of the functionality for the safety-related, low-safety significant SSC's than what's provided for the RISC-1 safety significant, safety-related SSC's.

I think the devil in the details now is how much assurance is enough and where should that regulatory assurance be provided.

Does it have to be prescribed in the rule? Does part of it go into the licensing basis that a

licensee maintains through either updates to the FSAR? Is it through a commitment to our guideline that specifies the treatment, and that reg guide hopefully would be endorsed by the staff.

That's some of the things we've been thinking about in terms of a framework for implementing 50.69.

So Adrien's going to go through that for you and I encourage you to ask questions about it. Again, we did provide this to the staff at the November 15th workshop.

I think due to the fact that the staff was under some scheduled constraints to release the next version of the draft language by the end of November, there were very few changes besides taking the more extreme alternatives off the plate.

So the distractions have been removed. Now we're focusing on the real thing here.

Again, we still have -- I think the commission's intent with regard to releasing this draft language has been met thus far.

We're having a lot of dialogue with the staff and any other stakeholder who wants to play in this area. And that dialogue needs to continue.

I think at this point, our view of the

draft language that was just released, if that becomes the proposed rule, we would still have significant comments on it.

And that -- I think we're trying to get to a point where the proposed rule's issued so that we don't have to have significant comments on it.

That would be less work for us and less work for the staff to respond to ultimately.

And I think from -- my main point to you now though is that this is a good time for you to weigh in. Don't wait for the proposed rule.

I think there's some issues on the table now that are quite important with regard to how to treat SSC's commensurate with their safety significance.

The ACRS, and in particular this subcommittee, has been the champions of the use of PRA in the regulatory process. So you've got a stake in this and you're a key stakeholder in this process.

So I think the issues are out there and I think they're pretty well defined. We'll go through them and encourage you all to weigh in in the near term and not wait for the proposed rule.

With that, let me turn it over to Adrien.

MR. HEYMER: This morning one of the

things that we found out is that it's worthwhile sometimes to go back and remind ourselves of some of the principles that we started off when we went down this path.

And it was an enlightenment to us, and I think to some people on our working group, to be reinformed of those principles.

And as Tony said, the principles really are that we have -- and I'll move straight to slide 3 in the interest of time -- is that we have a set of equipment at the moment that we call safety related and non-safety related.

And we know through past experience that -- and past risk-informed applications, that some of that equipment that we call safety related is, in fact, not as important as we first thought and that, in fact, some of the non-safety related equipment is important.

And what happens is that when you go through that process, you end up with a safety significant and a low safety significant set of SSC's and they're a mixture of the previous classifications.

And we call those RISC-1, 2, 3 and 4. That wasn't where we started off, but because we had a ground rule that said that we will preserve the

design basis, this is how we've ended up from a licensing perspective.

And what we're trying to do is apply NRC to special treatment requirements consistent with the safety significance of the equipment. The design basis have not changed.

And for the low safety significant SSC's, the special treatment requirements can be replaced by licensee controls that when coupled with a monitoring program provide a degree of assurance that the design basis will be satisfied.

It doesn't necessarily have to be the same degree of assurance as for RISC-1 because these are of low safety significance.

What we see today as we look at the draft rule and focusing on the draft rule that the main issue is really treatment.

And it's the treatment of the low safety significant SSC's. And when we look at the draft rule we see a statement right up front that appears to imply that the -- an alternative regulatory framework with respect to treatment requirements currently imposed beyond practices for commercial grade equipment to add assurance of capability.

CHAIRMAN APOSTOLAKIS: Where are you now?

MR. HEYMER: I'm on the first paragraph of the draft rule language. That's the introductory paragraph half way down, about the third full sentence.

And when you read that statement, along with some of the other statements in the draft rule, it appears that we're looking at something called Appendix B prime.

MEMBER ROSEN: I guess I'm still having trouble finding what your reference is to --

MR. HEYMER: It's in the draft language of the rule. It's on page 2. It's in the introduction. It's on the --

MS. McKENNA: This is Eileen McKenna. Let me clarify one thing. We were a little bit caught by the need to try to provide the information to the Committee by a certain schedule when we were putting forth the announcement.

So that paragraph that he's referring to is what actually in the Federal Register announcement. It's not actually part of the rule language itself.

MEMBER ROSEN: So we don't have that here.

MS. McKENNA: So it didn't appear in there. That's the point I'm trying to make. I think if I understand where you're going though what it was

trying to be was a representation that our current process embodied certain requirements beyond just saying go get good equipment to deal with -- for the safety-related things, that that was kind our concept of what special treatment meant in the first place, was trying to lay the framework.

We weren't trying to say that's where we're going. We were trying to say that's where we're coming from. And if that didn't come across, then something -- you know, obviously maybe our language wasn't as clear as was intended.

But that was what we were trying to represent, is where we were.

CHAIRMAN APOSTOLAKIS: We can get the copy of the Federal Register.

MEMBER ROSEN: I'm having trouble following you because you're quoting from something we don't have in front of us.

MR. HEYMER: I thought you had the Federal --

CHAIRMAN APOSTOLAKIS: No, we don't.

MR. HEYMER: Sorry. Anyway -- and I think that's -- what Eileen just described is one of the advantages of this process, is that we get something out, we read it, we read it one way, other people read

it another and then we can sit down, provide comments, have a meeting.

And what we come up with at the end of the day is something we can all live with and, hopefully, all understand.

And so from the -- from just reading what we've just discussed, it appeared that the staff was saying that we're going to have a new program that was beyond the balance applied to commercial industrial requirements, and it was our position, our thought that what we provide is what we call nuclear industrial BOP, which is the balance of plant controls, plus the monitoring.

And I think you can't sell the monitoring aspects short because it's more of a -- it really brings in the performance-based aspect.

And where monitoring's impractical, then we apply some form of condition monitoring just as we have in the maintenance rule. But it's a more simplified version.

CHAIRMAN APOSTOLAKIS: So, Adrien, you were here during the staff's presentation. There was a long list, A, B, C, D, E and so on regarding tests and procurement and all that.

And you're saying that it is the

industry's position that these are not needed. Is that what you're saying?

MR. HEYMER: No. We're quite willing to go along with the fact that yes, you do need design control, you do need procurement and to actually list these elements.

But in the rule, and this is the purpose of the presentation -- in the rule it's not necessary to provide a summary description of that for low safety significant SSC's.

It's sufficient to just state what they are. Then in the summary description in the SAR, you can go into some more detail and then even more detail is provided in the licensee's procedures.

CHAIRMAN APOSTOLAKIS: So if I go to pages 2 and 3 of what we have, they would remove the paragraphs. You would just keep the headings.

Design control process, procurement process, installation process, maintenance process and then the regulatory guide would say do this and that to meet these --

MR. PIETRANGELO: There's a subsequent slide that lays out what we think ought to be in the rule, what should be in the FSAR, what should be in the licensee commitment that makes up the whole

licensing basis for implementation of 50.69.

I think one our reactions to the draft rule language was a lot of what's captured in the draft rule language, and main rationale for saying -- kind of our perspective is that's the same level of detail that's in Appendix B right now for safety-related SSC's.

And if these are low safety significant SSC's, why do you need the same level of detail on the rule? That doesn't make sense to us.

MEMBER BONACA: The question I have is you still have procurement. You will not put procurement in the rule; you will put it somewhere else. But still you have procurement of component.

CHAIRMAN APOSTOLAKIS: In the rule.

MEMBER BONACA: No, I'm saying --

CHAIRMAN APOSTOLAKIS: In the rule it would say procurement, right?

MEMBER BONACA: Oh, yes. They would say procurement. But --

MR. PIETRANGELO: Without a description of what it is.

MEMBER BONACA: But the question I have is do you have a disagreement on the substance of what they're asking to do versus what you would like to do?

MR. PIETRANGELO: Well, that's why I think that you can't just have a discussion of the rule language.

It has to also include the guideline that we've submitted.

MEMBER BONACA: The details.

MR. PIETRANGELO: Because we do have a lot of discussion on the guidelines over what procurement entails, along with specific example of how it would be done.

MEMBER BONACA: Okay.

MR. PIETRANGELO: So you can't divorce one from other or else you may miss each other in the night.

MEMBER BONACA: Because I didn't see a lot of discrepancy between what they're proposing and what you really are proposing in your document.

I mean, there are similarities --

MR. PIETRANGELO: There are.

MEMBER ROSEN: Unfortunately, I agree with you, Tony. There's no way to resolve this without getting into the detail.

CHAIRMAN APOSTOLAKIS: I guess it's not very clear to me. What if the rule is high level guidance and then you go to the regulatory guides --

MEMBER ROSEN: That's only a question of when we get into the detail. Our high-level guidance can be in the rule, but then if there's a reg guide that endorses something, then we have to get into the detail.

When we're talking about industrial -- nuclear industrial controls -- that used to be called commercial treatment, as to its adequacy in the regulatory process, you're going to have to get into the detail of what the licensees will actually do when they procure a replacement component that's in RISC-3, and whether the staff will find that acceptable.

And we need to weigh in, at that point. Otherwise, we're just working around the edges of the problem.

MEMBER BONACA: For example, the rule and have a high level requirement, just as an example, that a seismic component still has to be able to perform in a seismic environment, and that leaves it to --

Now, I don't see a problem in a high-level requirement. Now, how you do that should be -- it's important to --

MEMBER ROSEN: I'm agreeing with you. That the rule can have high-level requirements. But

ultimately, if the ACRS wants to have any impact on the ongoing discussion between the industry and the staff, we're going to have to get into the detail at some point.

MEMBER BONACA: I understand that. I'm just trying to understand if there is a philosophical difference so much that in the substantive requirements -- I mean, what needs be done to qualify a component. That's what I'm trying to understand.

MR. PIETRANGELO: And I don't know the answer to that right now either, but we do have a rationale for at least what should go where and why.

MR. HEYMER: As we've moved through this process, the question has come up; what are industrial controls? And we attempted to come up with a definition.

I don't want to linger on this slide because we went through and improved it at the workshop somewhat and this slide reflects some of those suggestions, both from the industry and the staff, on the so-called definition of nuclear industrial treatment.

But we are trying to define it here, and I think that we would agree that when you look at this and then look at some of the language that's in the

draft rule, perhaps there isn't that much difference.

But then when you go down a step and look at specific phrases, it's those phrases coupled with one or two other statements that we just wonder where we're going.

MEMBER ROSEN: I wonder if that's a Freudian slip that you have the word guidelines twice in the next -- the fourth line from the bottom. Because there are lots and lots of guidelines. That's for sure.

MR. PIETRANGELO: Guidelines on how to do guidelines.

MR. HEYMER: We maintain that industrial treatment is sufficient and is basically what we've got in place today.

And there's three areas that we're basing that on. These areas must be taken not as individual, but as a complete package.

You just can't say, well, just not change in functional requirements or maintain the functional requirements.

I think you've got to look at each of these. You've got to look at the corrective action, along with historical performance and what you're putting in place to maintain those functional

requirements.

And as regards to functional requirements we agree, again, that 50.69 does not change the design basis. And if it doesn't change the design basis, that's a tenet and if we want to put that in the rule, that's fine.

But then when you get down to the level of not changing design inputs, I think we become a little bewildered, because we can change the design today and we're still struggling with why people see it's necessary to say you're not going to change the design inputs related to design basis.

Well, you're not going to change the design basis and that should be sufficient, certainly for a rule, and give us the flexibility to adjust the design, providing that we satisfy the design basis.

And as you've spoken here, and I think as the staff recognize, even on the balance of plant side, we have engineering, we have design control.

If you're going to implement a modification, there's a set of procedures that you go through even on the balance of plant side.

Just as a simple reference, one of the pilots provided a design change package for a condenser tube cleaning modification, and this is --

that's on the non-safety related side of the house. And this is the package.

It covers procurement, specifications, it covers engineering, it covers drawings, configuration control. So that process is there and it's in place today and we say that we can continue to use that.

The design control process is the same. Is if there's something on the balance of plant side that has to operate at 180 degrees and it's in 90 percent humidity, then the design reflects that.

The design introduces engineering specifications, which then in turn result in procurement specifications, and then you make a determination, having got some feedback from a supplier, on whether that equipment will satisfy that function in a balance of plant sense.

So we're going through, if you like, the same steps, the same process that we would on the safety-related side. It was just that we might ask for more bells and whistles on the safety-related side.

And so we think that when you drop down into the low safety significant and apply these industrial controls, they will preserve the design basis because the design is place, the testing is in place.

We will monitor this equipment and we think that's an essential part. And if you're going to agree to a monitoring program, I think there's got to be some balance on the level of detail in addition to that. And that's really what we see on a performance-based approach.

You saw that in the maintenance rule, where it wasn't very prescriptive, but it did say you had to implement the monitoring program.

And so we, therefore, believe that alternative designs, different designs can still satisfy the design basis and preserve functionality.

Historical performance data. And I think here there's been a lot of discussion about well, that's true on the balance of plant side because that is a continually operating set of equipment.

There is financial interest from the licensee to make sure that equipment works, and it has worked very well.

Through August to date we've had a 94 percent capacity factor and that's not just due to the safety-related side. It's also due to the reliability of the balance of plant side, on the industrial side.

There is industrial supply test data. They do tests to assure the robustness of their equipment,

outside of what's required for EQ and 50.49.

Does that mean it's more severe than 50.49? No. But they do tests in the commercial world, as well as in the nuclear world.

And if you look at the reliability between safety-related and non-safety-related equipment, there doesn't appear to be too much difference. They are comparable.

And, in fact, South Texas did a quick study where it looked at a whole range of components, put them into 33 categories and the result -- and they looked at something like 70 billion operating hours, as regards to the equipment and there was no significant difference in the reliability between safety-related and non-safety-related equipment.

CHAIRMAN APOSTOLAKIS: Wasn't the argument made earlier that -- or not really comparing them under accident conditions.

MR. HEYMER: Well, you're not comparing them under accident conditions, but you are comparing them under their design basis conditions.

In the balance of plant side, we have design basis requirements on that equipment, the feed water pumps, the feed water pump motors, the transducers, the transmitters and valves.

And it may not be in such a harsh environment, but you're still doing the design to -- whether it's to pump 400 degree water or whether it's to operate in 180 degree environment.

And that's just not true in the nuclear industry. If you go into the chemical industry, they have equipment that works in toxic environments and toxic gas.

So there is that corollary that we are talking about. This is the design and its reliability, and it meets its design function.

Now, when you step up, the more harsh the conditions, the more careful and clear you've got to be in the specification on how that equipment is going to perform and operate.

So I think it's not a design basis question. It's the harshness in the environment that it's operating. But we still look at the environmental aspects.

MEMBER BONACA: Regarding this comparison, I mean, some of the safety-related equipment is on a standby mode. I mean, it doesn't run.

So how is this comparison performed?

MR. HEYMER: Well, I think also you've got to take into account you don't get to a 95 percent

capacity factor by just trying to draw a line in the sand and say well, we don't really care about this equipment. It's taken a while for industry to get there.

And through encouragement by the NRC staff and also even more encouragement by IMPO to achieve excellence, we've eventually got there.

And we've got there, and it's really a mindset, a questioning mindset in the plant that says that equipment's not working properly. I'm going to fix it.

And if you don't go out there, and if it's standby equipment you don't go out there and lubricate the stems and do the correct maintenance on a piece of equipment that's standby, non-safety related, the chances are that you're going to start slipping on the real important stuff, because that mindset permeates.

Well, it's not that important. I don't really need it today. I'm not in an allowed out -- allow outage time issue. I'm not approaching a tech spec so, therefore, I won't fix it.

And if that mindset begins to creep into your operating philosophy, you begin to slip quite dramatically and you can see it in the condition of the plant, the condition of the equipment.

And if you just look at the plants that have done well, they've all developed this mindset that we are going to fix stuff as and when we find it and we're not going to take sort of second rate maintenance on equipment that is -- that's in the standby mode.

We want all our equipment to work, otherwise we are going to declare and abandon it in place.

Now if you say we're going to abandon this equipment in place, I think that that's a different issue. But here we're not talking about abandoning that equipment in place.

MEMBER ROSEN: I want to make a comment about standby equipment or experience not being real valuable. To the contrary.

I think standby equipment is typically tested with an automatic start signal. It's asked to start from cold iron, to run and then to load, for example, for a diesel. And then to run until it's temperatures equilibrate.

And a lot of data is taken these days; very sophisticated methods to take data on all the cylinders, for instance, on a diesel, so that we know very precisely at a very gut level how it's running.

And so standby equipment is tested thoroughly. And data about the successes of standby equipment operation, I think, are valuable and valid for -- to draw conclusions from.

MEMBER BONACA: Under the current regime they're tested. I don't know yet under the future regime where they're not any more safety related or safety significant they're going to be tested. So we haven't heard about that. That's what I'm saying.

MR. HEYMER: I think that's why --

MEMBER BONACA: We cannot take credit for performance of equipment which has been routinely tested under accident conditions because it was classified as safety related.

So there is a change being taken. That's why I'm asking that question.

MR. PIETRANGELO: This is historical performance data though.

MEMBER BONACA: I understand that. Well, historical performance is because this equipment was, in fact -- had imposed on it Appendix B requirement was being tested.

And I'm not saying you won't do it. I want to hear about what you'll do. I think you have another slide next in which you're talking about monitoring

and testing.

MR. PIETRANGELO: We do. But the point is is when it was tested.

MEMBER BONACA: Yes.

MR. PIETRANGELO: And when the safety -- when the non-safety related similar SSC's were run and tested that the reliability data's quite comparable.

Now that does not address -- and I think the staff raised this in the STP exemption request -- it's not done under design basis conditions. It might be on the BOP, as Adrien's pointed out, that that is the design basis condition.

But at least on this -- these safety related SSC's, rarely, if at all, it's tested under design basis conditions.

So you can't just say historical performance data demonstrates that it will be adequate for the longer term. But nevertheless, it's still an important data point.

And we're not trying to oversell it. We're just simply suggesting that that is a piece of the argument that is the basis for the industrial treatment.

MEMBER ROSEN: Notwithstanding your point that this standby equipment is not tested at design

basis conditions. There are exceptions to that.

For example, motor operated valves are, in fact, tested at dynamic conditions that are intended to envelope their design basis as part of the 89.10 program.

So event there we actually do test important valves under their functional requirements for the design basis.

Now we don't envelope them in a cloud of steam when we're doing that or high risk -- ten to the sixth rads, but -- so there are limits. But there is testing.

MR. HEYMER: In response to your questions of what are going to do --

MEMBER BONACA: That is the heart of my question. Are we going to test them again?

MR. HEYMER: We are going to have a monitoring program, and that is going to involve some testing. Is it going to be the same severe testing as we've done before? Possibly not, because we don't need the same degree of assurance.

The frequency may be different. There may be some changes in the conditions in which you do the test. But essentially, we are going to move those valves and check that they can satisfy their function.

Otherwise, what are you monitoring? You've got to monitor something.

CHAIRMAN APOSTOLAKIS: I'm confused now. If I read the language of the rule, it's not inconsistent with what you're saying.

All they're saying is data or information must be obtained to support the determination that these SSC's will remain capable of performing safety-related functions under design basis conditions.

You're saying the same thing. They're not telling you how often to do it.

MR. PIETRANGELO: No. There's no disagreement there.

CHAIRMAN APOSTOLAKIS: Oh, okay.

MR. PIETRANGELO: I think what we stumbled into at the workshop, this monitoring and corrective action is not equivalent to what we're doing under the maintenance rule right now for monitoring the reliability and availability of safety significant SSC's.

This is more of a condition monitoring regime, where you're looking at pump flows, you're looking at the electrical data, starting current, running current voltage, all that other stuff.

It's not failures over demands and

unavailable hours and all that stuff. Because part of the special treatment is the maintenance rule monitoring, which the lows are excluded from.

MEMBER BONACA: Actually, Steve brought us a good example. I'd like to ask a question. If you have an MOV that right now has been tested under 89.10 requirements and now it becomes part of RISC-3 --

MR. PIETRANGELO: Right.

MEMBER BONACA: Would it be also tested under 89.10 requirements or would it not?

MR. PIETRANGELO: No, it would be excluded from the 89 --

MEMBER BONACA: Excluded. So now you see -- because we have to understand the details. So typically you test them under design basis conditions to the most -- that they would work. Now they won't be tested anymore.

So I'm saying we've got to understand to what degree --

MR. PIETRANGELO: Yes. In lieu of that, you'd look at vendor recommendations, you'd look at your own experience with those valves. You don't forget all that stuff now that you've reclassified it.

And you put a program together that's the adequate confidence.

MEMBER ROSEN: That's because you've concluded that the failure of that value will have limited -- it's low safety significance.

MR. PIETRANGELO: It should not get the same level of testing that the high -- I mean, that is kind of the whole --

MEMBER BONACA: Oh, I understand.

MR. PIETRANGELO: It doesn't warrant it because of the safety significance.

CHAIRMAN APOSTOLAKIS: I'm utterly confused, I must say. What do you guys disagree with this stuff? I read this language and I don't think that it's any different.

MEMBER ROSEN: I don't hear a lot of disagreement either.

MR. PIETRANGELO: We'll get to that, George.

MR. PIETRANGELO: There's more slides.

CHAIRMAN APOSTOLAKIS: This is a good thing, George, not a bad thing, if they happen to agree with the staff. Once in a while, this will happen.

MEMBER SHACK: It's a random event.

CHAIRMAN APOSTOLAKIS: Now, you used some words earlier, Adrien, that maybe for us academic

types needs some explanation.

You said the licensing basis is preserved by the licensing inputs or can be -- I'm sorry. The design basis. The design inputs should not be specified. What --

MR. HEYMER: The staff state that basically, you're not going to change the design inputs related to the design basis.

CHAIRMAN APOSTOLAKIS: Explain to me with an example what you mean.

MEMBER ROSEN: Let me try.

CHAIRMAN APOSTOLAKIS: Okay.

MEMBER ROSEN: A design input is a flow and a pressure, for example, for a pump.

CHAIRMAN APOSTOLAKIS: Okay.

MEMBER ROSEN: But the design criteria is the pump must deliver adequate -- must cool a certain thing within a certain time.

CHAIRMAN APOSTOLAKIS: Right.

MEMBER ROSEN: And what you find out is that you can achieve the design input in an entirely different way. You don't have to --

CHAIRMAN APOSTOLAKIS: Design input or design basis?

MEMBER ROSEN: You can achieve the design

basis in an entirely different way by running at a lower flow and a high pressure.

CHAIRMAN APOSTOLAKIS: Okay. And that's not allowed now?

MEMBER ROSEN: That would not be allowed under the staff's words, which says you have to preserve the design basis and the design input.

CHAIRMAN APOSTOLAKIS: That makes sense.

MEMBER ROSEN: And I think what NEI is arguing that the real issue is the basis, not the input.

MR. HEYMER: And what we maintain is that we believe we have that flexibility in the RISC-1 area. And so we're a little confused at why it's -- sort of additional requirements have been -- appear to be imposed in the RISC-3 area.

MR. FAIRWEATHER: This is John Fairweather with the staff and that was not the intent of the words.

The intent of the words were that design inputs related to maintaining design basis meant things like your environmental qualification envelope, which is part of the design basis, or your seismic inputs, which are part of the design basis, don't get changed by this -- it's not intended to have -- to get

down to design inputs that are not necessary to meet your design basis.

MR. PIETRANGELO: Why don't we just say design basis?

MR. HEYMER: Yes. Just why don't we say we are going to maintain the design basis and then we know what that is and we can't change that, and we're always going to meet -- was it .2g ground motion or whatever is in the seismic.

MR. FAIRWEATHER: Well, I give you an example of where we have a little bit of a problem with that, and that's in the NEI guidance for seismic, which you've referenced the international building code criteria.

And you have a proposal that's kind of a hybrid between maintaining current design basis and using the international building code.

The hybrid is that you take the existing design input loads that you would use on a normal safety-related structure; and the international building code has factors in which you can reduce those loads for ductility.

And that was the intent of the language in the rule was that you can't do that kind of thing. That design inputs related to maintaining design basis

are maintained.

MEMBER ROSEN: In principle, you're trying make sure that the structure doesn't fail, am I correct?

MR. HEYMER: That's correct.

MR. FAIRWEATHER: That's in theory, and part of the Option 2 is, as we understand it, is you're maintaining the design as it is right now. You're not changing the design, only the treatment.

MR. HEYMER: We can change the design today.

MR. PIETRANGELO: We can change the design today. And you can even change the design basis in certain circumstances.

MR. FAIRWEATHER: The intent is not under 50.69. You can change the design of the current regulations and you certainly still have that option.

But 50.69's intent is not to change the design.

MR. PIETRANGELO: No, it's not to change the design basis. That is not the intent of 50.69, not to change the design. We can change the design.

MR. HEYMER: People change the design today.

MEMBER BONACA: I don't think you'll have

a disagreement. When you're talking about a --

CHAIRMAN APOSTOLAKIS: Anyway, my question was answered. Thank you very much.

MR. HEYMER: Okay. Where were we? Forge ahead. Yes.

Okay. We've said, and I think we understood, the rule shouldn't necessarily describe the attributes, it should just list them.

And that the summary description, as we normally see in the QA topical, ought to be referenced or placed in the FSAR, which would describe those attributes.

And then as a further level of detail below that, there would be licensee's procedures that will be consistent with those statements in the FSAR.

The means of controlling changes to that program, we propose what's in place today, which is 50.54a, and as regards to licensee commitments, to implement it in accordance with the NEI guideline, you would make a commitment and changes to the commitments are governed by NEI 99 -- the commitment management guidance, which is NEI 99-04.

MR. PIETRANGELO: Let me back up for a second and explain this in a different way.

If a licensee choose to implement 50.69,

what really changes at their plant? What's fundamentally going to change is the treatment of what were safety-related SSC's still are that are not low safety significant.

That's reflected in your QA program descriptions, where you describe what you're going to do for the 16 criterion and Appendix B.

You've got a number of safety-related SSC's that are now going to get this other treatment and you have to reflect that in that program description, in that topical.

And that's what that does. That's the part that's going to change. There are no requirements in the current regulatory framework to put any of this other stuff into the FSAR or anywhere else. That would be the part that would be reflected.

Further, the categorization -- and this as opposed to what's discussed in the draft rule and what South Texas did, where there's a fairly lengthy description of the categorization process, as well as some new change control mechanisms for how you control these different things in the FSAR.

Our premise was let's use the current regulatory framework and the rules that have been established to try to implement 50.69. And that's

what these bottom two bullets do.

If it's a change to the assurance practices, that should be reflected in the QA topical that's referenced in the FSAR, controlled by the current mechanism that controls that information.

The other part of the licensing basis is this commitment to our guideline, which will hopefully be endorsed in the reg guide.

That has a 70-page description of the categorization process. That has an additional 30 pages on how to do treatment and guidance, as well as specific examples on how to do it, and we look forward to the discussion with the staff to get agreement on that.

But that -- the licensee would make a commitment to that, a commitment as part of your current licensing basis. That's controlled through a commitment management guideline that's been endorsed by the staff.

So we think the advantage of this approach is one, they're in the right places per the safety significant and two, you don't have to invent anything new in terms of change control, define -- we would need a whole new guidance document on how to define what decreased effectiveness means for what's in the

current language in the rule.

And our premise -- unless there's a compelling reason that our current mechanisms won't work, we should try to use those. So that's where we're starting from.

MEMBER ROSEN: Tony, as distinct from the STP example, the only thing difference I see here is that in STP we put a new 13 -- Section 13.7 in the FSAR.

And you're suggesting here that we shouldn't do that.

MR. PIETRANGELO: There's no requirement for you to do that.

MEMBER ROSEN: Well, there was at STP.

MR. PIETRANGELO: Well, that's because you were an exemption request. This wasn't a rulemaking. So that was a special circumstance.

And when we had discussions in support of STP's application with some members of the staff, it was made clear to us that there's a difference between an exemption request and a generic rulemaking.

We're in rulemaking now. There's no requirement to put that stuff that you put in your SAR or that STP did in the current requirements.

MEMBER ROSEN: So presumably, if this rule

came out the way you've got it now, we could take that material out of our SAR.

MR. PIETRANGELO: You would. You could.

MEMBER ROSEN: Because we also had to do the QA topical. Because that was the implementing document at the plant.

MR. PIETRANGELO: Right.

MEMBER ROSEN: And we ended up revising our operations quality assurance program.

MR. PIETRANGELO: I think one of the things we learned -- I mean, we spent four years redoing 50.59, redoing FSAR updates guidance, developing the commitment management guidelines, developing the design basis guidelines. We want to use all that stuff.

I mean, the ink's not even dry on most of that stuff yet. We shouldn't be inventing through this process new control mechanisms and new ways to go implement things in the current regulatory framework, unless there's a compelling reason to do so. We haven't found it yet.

MEMBER BONACA: Just help me to understand one of the issues that the staff is stressing is they want to maintain functionality. You don't disagree with that.

MR. PIETRANGELO: No.

MEMBER BONACA: And we had an example on the table of the motor operated valves. 89.10 came about because valves were being tested not at design basis conditions.

So, for example, you have a valve in a steam line and you take credit for it to isolate under streamline break, for example.

Now one of the reasons why there was a big concern is when they began testing, in fact, many of them did not work under design basis conditions.

MR. PIETRANGELO: Right.

MEMBER BONACA: So that is why you still have 89/10 and you have retesting with some frequency or some requirements and so on and so forth to make it -- where would I get my confidence in functionality if I maintain those valves but I never test them now in the future, from here to end of the license term and those conditions?

I mean, what will provide me with this confidence on functionality that the staff and you seem to agree on?

MR. PIETRANGELO: I think one of the things that came up with 89.10 is that the actuators were undersized.

MEMBER BONACA: That's right.

MR. PIETRANGELO: And, hopefully, most of the ones that were were replaced. I believe they probably have been by now.

Now you're into a maintenance and testing regime on these valves.

MEMBER BONACA: I agree.

MR. PIETRANGELO: You should have found all the ones that had undersized actuators associated with them.

There is data you get from static tests. There's other data you get from dynamic tests. I mean, this is where I think we do need more --

MEMBER BONACA: Okay. I can buy that. Now, let me ask you a question. Now you get an insight from some of the valves you still test that there are some concerns about some new effects and you have to retest all your valves. I hope that you don't have to, because it's a nightmare. But assume that.

MR. PIETRANGELO: Right.

MEMBER BONACA: Would you then go back and do the same thing on this, or is it left to the licensee to decide well, there's no safety significance so I'm not going to do it?

MR. HEYMER: Everybody has an operating

experience program where if you have identified a problem in one area of the plant, or even in another plant --

MEMBER BONACA: I understand.

MR. HEYMER: -- that you have to go back and evaluate it. And I think depending upon the severity and the significance you would go back and may you have to say well, will these valves function?

And if your engineering determination says we have doubt that these valves would function, then you have to take action.

Now that may be as far as having to retest them.

MEMBER BONACA: So the utilities will maintain their commitment to functionality anyway.

MR. HEYMER: Yes. I mean, I think you've got to take -- there is a program in place today that feeds back that operating experience.

We're smarter now than we were ten years ago. We know more about valves than we did ten years ago. That stuff doesn't go away. And, in fact, the guideline has a statement in that regard.

MEMBER BONACA: I'm trying to test every once in a while this presumption of functionality that --

MEMBER ROSEN: The industry operator -- I think it's an excellent example. The industry operating experience program Adrien referred to is part of the corrective action program.

MEMBER BONACA: Sure.

MEMBER ROSEN: And that is still required, regardless. So the sequence of events you went through is exactly what would happen.

MEMBER BONACA: Okay. Thank you.

CHAIRMAN APOSTOLAKIS: What's 99.04? Is that 00-04?

MR. HEYMER: No. 99.04 is the commitment management guideline, which is a process we use for changing commitments that's been endorsed by the staff.

So I guess in conclusion, we believe that industrial controls, as we see it, do provide -- whether it's adequate confidence, sufficient confidence. I don't know. But the design basis will be maintained.

And not only on top of that is the monitoring element. But I think there's also an element associated with 50.65a4 in the risk management.

We've heard that that is not exempt. RISC-

3 is still subject to those. So if that equipment is out of service, then we have to assess the risk on that and that's another input into the decisionmaking process that the plant management will go through about adjusting this -- or maintaining the equipment.

Very quickly now, just a run through as we see it as regards to the proposals that have been made, we note that there are high-level requirements and that Appendix T appears to have gone away, and we think that's a move in the right direction.

We do have concerns about having to implement this by the license amendment. We don't understand the rationale for that.

If you look at the other risk-informed applications that we've done in the past, it hasn't required a license amendment.

All we're doing is changing treatment. Treatment can be changed under 50.54a and if we have to go to the staff because it's a reduction in commitment, we make that submittal in accordance in 50.4.

So I'm not quite sure why a license amendment is necessary, and we're struggling with that aspect.

So I don't know if there was light shed on

that upstairs, Tony.

MR. PIETRANGELO: There was not.

MR. HEYMER: Okay. I think an item that was discussed in this subcommittee, the statement that appears -- it's on my page 4.

It's under -- for RISC-1 and RISC-2 SSC's, that licensees shall insure that the assumptions in the categorization and treatment begin applied to these SSC's are consistent.

We didn't really understand what that means and needs some clarification, and I think we can work with the staff to get that.

We're not talking about treatment as in the RISC-3 treatment. We're more talking about how the PRA is affected and how do you insure that the assumptions made in the PRA are correctly reflected and applied, or the other way around.

So I think that's the genesis, but we can have some discussions about that.

We've spoken about the -- as we saw it, the need to develop ann additional program for RISC-3 and RISC-4 and were a bit bewildered by that, and perhaps some of the clarifications that are going to be made will help us through that item.

We noted that part 21 would not be

applied. On Appendix B that's not applied, but there's some statements on the corrective action that -- the way it's worded appears to us to be a little bit more stringent than what's required by the current Appendix B.

The preclude repetition is normally only associated with significant conditions of adverse quality and this says that if I had a defect and I fixed it, and everything was good and three years later it occurred -- it happened again, then that would be a violation.

And I think if we just finished it -- correct it in a timely manner and we got the monitor process to determine has that been sufficient -- and there's some guidelines in the maintenance rule in that regard, I think that should be sufficient.

One item that's not on here, we talk about an oversight process and I'm not quite sure what we're trying to get at there.

I don't know if we mean the reactor oversight process, or the management oversight process, or what is in G is a substitute for audits, which we proposed in our guideline to be assessments.

So, I mean, that's something that we need to discuss with the staff.

We've spoken about 50.65. Environmental qualification and EQ -- I think what's put in the language says that you're exempt from environmental qualification requirements.

We agree that you're still going to have to assure that the equipment's going to operate in its environment.

But then we go on to say "but must satisfy 50.49 (e)(1) through (e)(7)." And that seems to be -- we're not quite sure what we're getting with the exemption, if we've got to satisfy 50.49 (e)(1) through (e)(7), especially when you read some of the language in that specific regulation.

On ASME, I guess is it the glass half full or half empty? The staff say that 50.55a will continue to be applied in total and we will be allowed to use the code cases.

What we were thinking more along the terms -- along the lines that we would be exempt from 50.55a, except that you would have to apply to code cases.

And if you like used EQ as the model, that you're exempt from EQ except you'd be exempt from 50.55a, except that you would have to implement the code cases.

I think that would be cleaner, from our perspective and perhaps we can have some discussions with the staff.

On seismic, we thought there might be a possibility of making that consistent with the approach for 50.55a, and we would like to have some further discussions with the staff on seismic to make sure that we have a good understanding of what the design basis is, and in that regard, what's in 97.04 -- we're using that as what is the design basis.

The specific example in there, that's the design basis guideline document. And perhaps we can use in some way, shape or form a national consensus standard.

And area that does give us cause for concern is that part 54 is not included within the scope of 50.69 specifically.

And I think that appears to us that you're going to a risk-informed approach, and that's the path that we appear to be on in improving the regulations, but then we got license renewal and we're not going to apply a risk-informed approach.

And I struggle with the rationale behind that. If there's no change in Part 54 and aging mechanism, why doesn't it apply n Part 54 if it

applies in 50.69?

If it applies in Part 50 space, would shouldn't it apply in Part 54? So I think there's a degree of inconsistency there.

I don't know whether we need to establish or reestablish an understanding. Perhaps we need to just sit down at the table and talk with an open mind, as opposed to from our pillbox. And that goes for both sides of the equation, the industry and the NRC.

But I think, as Tony said, if we can get a better understanding to a certain extent on the rule and have that amplified in the guidance and then look at what we're doing in the pilots, incorporate the lessons learned and then adjust the guidance to incorporate the lessons learned from the pilots, and what we earn up with in the rule so that it's all consistent, we can get there.

We still have a fair way to go and I think, as we said before, we're talking months, not weeks.

CHAIRMAN APOSTOLAKIS: Any further questions or comments from the members?

MEMBER ROSEN: I just hope your final bullet on that slide means incorporating lessons from South Texas as well.

MR. PIETRANGELO: Absolutely.

CHAIRMAN APOSTOLAKIS: So why don't you change the incorporating pilot and pioneering lessons?

MR. PIETRANGELO: We'll add pioneering.

MEMBER ROSEN: It would make me feel better.

MR. HEYMER: Mr. Chairman, you mentioned during the staff's presentation about coming back and talking about the guidance document and the categorization --

CHAIRMAN APOSTOLAKIS: Yes.

MR. HEYMER: -- and the specifics. And we would be willing to do that.

CHAIRMAN APOSTOLAKIS: It looks like it will be -- the earliest will be the February timeframe. So you will have plenty of advanced notice.

I would like to have a fairly technical discussion, so maybe you can --

MR. HEYMER: We'll make sure that the right people are here from the categorization and the PRA --

CHAIRMAN APOSTOLAKIS: Wonderful. That would be wonderful.

MR. PIETRANGELO: It's really an important piece of this whole --

MEMBER ROSEN: Would you think that that plan is an adequate response to your request for us to weigh in?

CHAIRMAN APOSTOLAKIS: What? Oh, you mean having a subcommittee meeting?

MEMBER ROSEN: Yes. In February.

CHAIRMAN APOSTOLAKIS: That's not what you meant.

MEMBER ROSEN: Or did you envision more than that from the ACRS subcommittee and perhaps the full committee --

CHAIRMAN APOSTOLAKIS: Well, I mean a letter that says we agree with NEI would be really nice.

(Laughter.)

MEMBER ROSEN: At this stage it might have some substantial additional comments from other members.

CHAIRMAN APOSTOLAKIS: Well, that's what he wants. We'll certainly do that Adrien.

MR. HEYMER: And the other issue, we've got other commitments tomorrow. I'm out of town and we've got a senior executive meeting so we can't be at the meeting tomorrow.

CHAIRMAN APOSTOLAKIS: That's unfortunate,

because it's always useful to hear the so-called other side.

Let's talk about the meeting tomorrow. How much time do we have tomorrow? It's not tomorrow? Thursday, isn't it?

MR. MARKLEY: It's tomorrow.

MEMBER BONACA: Tomorrow morning.

CHAIRMAN APOSTOLAKIS: Morning?

MR. MARKLEY: At 4 o'clock, after the Commission briefing.

CHAIRMAN APOSTOLAKIS: At 4:00 a.m.?

MR. MARKLEY: 4:00 p.m., George.

CHAIRMAN APOSTOLAKIS: After the Commission meeting.

MR. MARKLEY: Unless the Commission moves it forward or back. Right now it's still at 4 o'clock tomorrow.

CHAIRMAN APOSTOLAKIS: So we have an hour.

MR. MARKLEY: And a half.

CHAIRMAN APOSTOLAKIS: An hour and a half. What should we cover, Cynthia? Tim, come to the microphone. And that's the first question. The second is how to make sure that the full committee learns about the NEI position?

MR. PIETRANGELO: We left you the slides.

And I hope we were able to answer your questions sufficiently so that you could convey that to the other members. I don't think we have another option at this point.

CHAIRMAN APOSTOLAKIS: Tim, what do you think we should do tomorrow?

MR. REED: Well, we can't even begin to go through the slides the way we did today. That's for sure. So we have to do something a lot shorter.

CHAIRMAN APOSTOLAKIS: Well, you can't prepare new slides, I imagine.

MR. REED: Well, that's why I have tomorrow --

CHAIRMAN APOSTOLAKIS: You can just delete some of the ones --

MR. REED: Yes.

CHAIRMAN APOSTOLAKIS: Yes.

MR. REED: I think we could try to focus on the highlights of the slides and --

CHAIRMAN APOSTOLAKIS: Tim, can you also maybe have one or two view graphs, given the presentation today by NEI and your past interactions with them, identifying in bullets the main disagreements or is that too much to ask?

MR. REED: I can try. I mean, I think it

can be -- I try to be objective and fair --

CHAIRMAN APOSTOLAKIS: No, you don't have to argue one way or another. You say on this point there is disagreement.

MR. REED: Well, there's areas we haven't reached closure, that's for sure.

CHAIRMAN APOSTOLAKIS: Yes. Open items or something.

MEMBER ROSEN: I think it would be helpful also to have a slide or some bullets of what has been discussed today about some of the committee's comments on NEI's -- some of the areas where we feel --

CHAIRMAN APOSTOLAKIS: Well, remember now, it's only a few hours. I don't know --

MEMBER ROSEN: But we don't want to characterize it for the rest of the committee that all is -- let me try it the other way. We need to characterize it with the committee that there are some issues.

And those issues were not just about the regulation, they were about NEI-00-04.

CHAIRMAN APOSTOLAKIS: Oh, don't worry about that, Steve. The committee will be informed.

MEMBER BONACA: Well, one thing that I want to mention is in the material we received before

the meeting there was a discussion of boundary conditions.

CHAIRMAN APOSTOLAKIS: Yes, and there was nothing today.

MEMBER BONACA: And then there was a discussion of three approaches that could be used and then I heard here that essentially one has been selected as -- the one in the middle.

I would like to hear about -- if there was a way, even just an overhead to discuss the three boundary conditions. They're important. They're three criteria that you're using.

And also, which option has been chosen in the proposed rule.

MR. REED: It's actually pretty simple. The three alternatives. One was basically a purely commercial approach for both RISC-3 and RISC-4.

Alternative 2 was basically pretty much what you had seen in draft rule -- I think it's a fair statement. It's not to far off of alterative 2, which is a high level, programmatic requirements that you see for RISC-3.

And then the alternative three was perhaps the most onerous or most detailed in the rule, if you will. It's basically taking what was the FSAR for

South Texas and putting it in the rule.

And we got, we think a little bit better in alternative 2, but I think NEI's saying -- I think it's pretty fair, pretty close to alternative 2.

MEMBER BONACA: You may want to mention it without having to generate a slide and just say that also the other members have received this material, and you're left a question and you're likely to get a question regarding that.

MR. REED: How much do you want to go through this draft rule language again? I mean, it's really bogged us down today.

MEMBER KRESS: I think you need to go over slide 6, 7 and 8.

MR. REED: We're getting past -- categorization. Is that -- okay.

MS. McKENNA: That's what we figured.

MR. REED: We can focus on categorization and we can focus on RISC-3, if you like. I mean, I think that's the two areas that --

MS. McKENNA: The treatment on RISC-3, because that is an area of disagreement.

MR. REED: To me, they jump out.

MEMBER BONACA: The other thing that is very important, in a long meeting like this, we

discussed maybe for three minutes or two minutes some examples.

Like, to me, the MOV discussion was illustrative. It was -- because, well, I can get some confidence that although we will test these valves, since we now have learned a lot about the others and we are monitoring the others, we are correcting -- there is an understanding how you get confidence about functionality without testing, and that's a hard point.

And you may want to provide a couple of examples of that, even verbal. You don't have to, again, but --

CHAIRMAN APOSTOLAKIS: If I were you, I wouldn't bring up the example of the common cause failure across systems. This is a structuralist defense, in-depth approach if I ever saw one.

I want to have confidence. Don't ask me why.

MEMBER KRESS: I think we could put off the pilot activity until later.

MR. REED: Yes, I think we're going avoid the pilot activity. Basically, we'll avoid all of the other slides there. I'm trying to get this down to maybe at the most --

CHAIRMAN APOSTOLAKIS: If there is time, we can talk about things.

MEMBER BONACA: When I asked you if you would fly that plane, you said I wouldn't.

CHAIRMAN APOSTOLAKIS: Okay. Anything else? Any other comments from the members?

MEMBER SHACK: One thing I would find helpful, you know. You seem to talk past each other. You have these high-level requirements. And I think you're right.

You know, you really won't know what's going on here until you get down to more detailed guidance.

But some of the guidance in your document -- and it says to me a licensee's industrial balance of plant control program are sufficient. I see that assertion in your guidance. I see it in the lawyer's statement, but nobody ever tells me just what the attributes of that program are.

MR. PIETRANGELO: That's how we had it in that definition.

MEMBER SHACK: And I think -- well, I think even that you need to fill out a little bit --

MR. PIETRANGELO: Well, this is what -- we didn't show you the whole licensing basis piece, but

I'd say the rule had those elements in it.

We would expect a summary description of those elements to go in your QA topical that's referenced in the UFSAR to describe what those elements do.

Then in a commitment to our guideline, there's an additional 30 pages of guidelines.

MEMBER SHACK: But who's going to supply that language?

MR. PIETRANGELO: They have to endorse our guidance and our reg guides.

MR. HEYMER: And we're working on, as you see in the guidance -- an appendix there that begins to describe -- now, we've got to change one or two or the words like typical, of what a program would look like.

And they would -- those words were taken from people's current balance of plant programs.

MR. PIETRANGELO: So we're not saying the discussion's over on what the elements should be. We're going to have that discussion. But is that rule language, or is that the summary description that you put in the FSAR?

CHAIRMAN APOSTOLAKIS: Anything else? No. Thank you very much, gentlemen. And this meeting is

adjourned.

(Whereupon, the meeting was adjourned at 5:21 p.m.)

CERTIFICATE

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

Name of Proceeding: ACRS Reliability and Probabilistic Risk Assessment Subcommittee

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.

Pippa Antonio

Pippa Antonio
Official Reporter
Neal R. Gross & Co., Inc.