Official Transcript of Proceedings

NUCLEAR REGULATORY COMMISSION

Title: Advisory Committee on Reactor Safeguards Plant Operations & Fire Protection Subcommittee

Docket Number: (not applicable)

Location: Rockville, Maryland

Date: Tuesday, October 31, 2006

Work Order No.: NRC-1295 Pages 1-126

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UNITED STATES OF AMERICA

NUCLEAR REGULATORY COMMISSION

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ADVISORY COMMITTEE ON REACTOR SAFEGUARDS (ACRS)

PLANT OPERATIONS AND FIRE PROTECTION SUBCOMMITTEE

MEETING

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TUESDAY,

OCTOBER 31, 2006

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The meeting was convened in Room T-2B3 of Two White Flint North, 11545 Rockville Pike, Rockville, Maryland, at 1:30 p.m., Dr. John Sieber, Chairman, presiding.

MEMBERS PRESENT:

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|---|---|
| JOHN D. SIEBER | Chairman |
| GRAHAM B. WALLIS | Vice Chairman |
| OTTO L. MAYNARD | Member |
| THOMAS S. KRESS | Member |
| WILLIAM J. SHACK | Member |
| SAM ARMIJO | Member |
| SANJOY BANERJEE | ACRS Member |

ACRS STAFF PRESENT:

| | |
|---|---|
| ERIC THORNSBURY | Designated Federal Officer |

NRR STAFF PRESENT:

BOB RADLINSKI

CORNELIUS HOLDEN

SUNIL WEERAKKODY

PHIL QUALLS

DAN FRUMKIN

JOHN RIDGELY

NEI REPRESENTATIVE PRESENT:

JIM RILEY

A-G-E-N-D-A

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

2:00 p.m.

CHAIRMAN SIEBER: The meeting will now come to order.

This is a meeting of the Plant Operations and Fire Protection Subcommittee. I'm John D. Sieber, Chairman of the Plant Operations and Fire Protection Subcommittee.

ACRS members in attendance are: Otto Maynard, Bill Shack, Tom Kress, and myself. And Graham Wallis is also here.

The purpose of this meeting is to discuss draft regulatory Guide DG-1170 Fire Protection for Nuclear Power Plants. We will hear presentations from representatives of the Office of Nuclear Reactor Regulation.

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

The rules for participation in today's meeting were announced as part of the notice of this meeting previously published the *Federal Register*.

We have receive no written comments or requests for time to make oral statements from members

of the public regarding today's meeting.

A transcript of the meeting is being kept and will be made available as stated in the *Federal Register* notice. Therefore, we request that participants in this meeting use the microphones located throughout the meeting room when addressing the Subcommittee. Participants should first identify themselves and speak with sufficient clarity and volume so that they may be readily heard.

Now, we do have a member of the public on the telephone? Okay. Why don't you ask them if they can hear us to make sure the circuit is good.

PARTICIPANT: Can you hear us on the telephone?

PARTICIPANT: Yes, I can.

PARTICIPANT Okay. Thank you.

CHAIRMAN SIEBER: Okay. What I'd like to do is this regulatory guide we all got at least a CD version of it. It's 134 pages in length. And it makes very pleasant reading, if you're into that kind of thing. And it's sort of interesting to note that it contains basically a historical account of the evolution of fire protection from the earliest days of light water reactors until today. And in this version of the regulatory guide it looks forward to the new

reactors.

The stage of approval that this document is in right now is that it is ready to go out for public comments. Is that not correct? And after the public comment period to the extent that there are comments, they will be resolved by the staff. We will then have an opportunity to review it again before it can be issued as final.

This guide is complex in that it has 174 references to other documents. Seventy-two of those references are to codes and standards which are either referenced or endorsed herein. Eleven of them are right out of 10 CFR. And it includes two appendices, Appendix R and references an Appendix A. Eleven regulatory guides in addition to this one, 14 new regs, 4 branch technical positions, 5 SECY papers, 15 Generic Letters, 22 information notices, 4 regulatory issue summaries, 8 memoranda of one sort or another and 8 miscellaneous documents including bulletins, inspection manual chapters and so forth.

So there is a lot of background. And while I did not look up each and every one of the 174 references, I'm familiar with a lot. I did look up quite a few of them to make sure that the guide that they are proposing to issue for comments is consistent

with the references that they cite. And I have found that that in fact the case.

There are 134 pages in this guide, typed pages. And that's in the strikeout markup copy of that. Four of the pages, the equivalent of four pages of text have been deleted. That's about 3 percent of the document. Twenty pages of the text were added, and that's about 13 percent. And if I take the net of that, that's about 16 pages of new text. And there's basically just a couple of new subjects. One of those is the reference to new reactors and the second one is the use of risk information, which is Appendix B of this guide. It's the very last page.

When I was doing my review I went through and identified a number of issues that I think needs some discussion during this meeting. I provided a list of those issues to the Staff and asked them to work them into their presentation. And rather than me read you my list, I'm sure that you'll have questions of your own as we go through. And the Staff has promised one way or another to address my questions.

What I would like to do now is move forward and introduce Cornelius Holden, who is in the third day of his new position with the NRC.

MR. HOLDEN: Actually it's a day and a

half.

CHAIRMAN SIEBER: Day and a half. I always double it, and that gives me insurance that you've met at least the minimum standard.

MR. HOLDEN: Thank you.

CHAIRMAN SIEBER: And, obviously from the Staff we have familiar friends who are associated with fire protection that we see on a regular basis. And therefore, I welcome all of you. And Corny, if you'd like to introduce your folks for me, please.

MR. HOLDEN: Thank you. I think that the ACRS would be better served by hearing from the Staff than from myself. So Sunil is here. He's the branch chief associated with fire protection, along with his staff. So I'll just turn it over to Sunil.

MR. WEERAKKODY: Yes. My name is Sunil Weerakkody. I'm the branch chief fire protection division of risk assessment, NRR.

To the match 1709 reg. guide we have a 28 page presentation for you for this afternoon. Bob Radlinski sitting there with me over the last several months did nothing but, you know, update the reg. guide and the standard review plan new fire protection by compiling all the relevant information.

With that, I'm simply going to turn it

over to Bob because he's going to walk you through, you know, how we updated the reg. guide and what the important points are.

MR. RADLINSKI: Okay. As we've discussed, the objective of the presentation this morning or this afternoon is to describe the changes that have been made to the Reg. Guide 1.189. We're also including a discussion or presentation on the changes to the SRP section, 9.5.1 for fire protection.

You may notice that the title of the reg. guide has changed. We've dropped the word "operating" because now it applies to new reactors.

And as Sunil mentioned to me earlier, another objective of the presentation is to get the Subcommittee acceptance for issuing the reg. guide, anyway at least, for public comment.

Okay. As the Chairman mentioned, he provided us with a list of topics that he wanted us to address today. This outline represents that initial list that he sent us.

The first item is to talk about the applicability of the various documents related to fire protection, Appendix R, the Standard Review Plan and the branch technical positions.

The second bullet is to provide a brief

history of fire protection regulations, if that's possible. The term "brief" and "history" of fire protection don't really go together very well, but I'll do my best on that.

And then the main objective is to describe the significant changes that have been made to the reg. guide. And then, again, the significant changes that are being made to the SRP Section 9.5.1. I'll also talk about whether or not there are any backfit implications and what our basis is for that. I'll also talk about why we don't need to do a backfit analysis or go through CRGR review. I'll talk about the guidance that we've added for the use of risk-informed methods for non-805 plants. And I'll talk about what our compliance expectations are for licensees for the new guidance.

And finally talk about the impact on inspections of the new guidance and the updates.

I'll also mention that for the second list of objectives that you sent us, I do have a set of slides for those. So it's not 28 slides, it's 42 slides. We'll get to those, time permitting, I guess.

CHAIRMAN SIEBER: Okay.

MR. RADLINSKI: Okay. Getting into the details. Appendix R, as I'm sure most of you know,

are a set of fire protection regulatory requirements for plants that were licensed to operate prior to January 1, 1979. The qualifications associated with that regulation are in 10 CFR 50-48(b). 48(b) notes that not everything in Appendix R applies to the pre-'79 plants. There are specific portions of Appendix R that do apply as regulations. I don't know if you want to go into that level of --

CHAIRMAN SIEBER: There are three out of 15 do apply.

MR. RADLINSKI: Right.

CHAIRMAN SIEBER: One is emergency lighting, the other one --

MR. RADLINSKI: Boil containment. And the other one is the post-fire safe shutdown referred to here described in section III.G.

CHAIRMAN SIEBER: And so you don't have to mention this.

MR. RADLINSKI: Okay. Okay. So that Appendix R.

The SRP is for the plants licensed to operate after January 1, 1979. In case anybody's wondering, no plants were licensed on January 1, 1979.

The SRP actually includes the same criteria that are in Appendix R, however they are not

regulatory requirements. They're used as guidance for review of license applications for the post-'79 plants and for subsequent submittals from licensees.

And finally, there have been a series of branch technical positions following the Browns Ferry fire. Up until this latest update of the SRP the branch technical position was included as part of the Standard Review Plan section 9.5.1. We've decided that since the reg. guide has already included most or a lot of the information that's in the branch technical position, that we would just combine the two and remove the branch technical position from the Standard Review Plan and incorporate that into the update of the reg. guide. So now everything that was in the branch technical position is covered in the reg. guide update.

CHAIRMAN SIEBER: Now just so I understand it, the Standard Review Plan is not a regulation.

MR. RADLINSKI: That's correct.

CHAIRMAN SIEBER: And it does not even have the status of a reg. guide. This is for the Staff to use to review the fire protection program for an individual licensee, is that correct?

MR. RADLINSKI: That's correct. It's primarily an internal document. But, of course, the

licensees get it, they see it and hopefully they fall in line with the guidance or whatever.

CHAIRMAN SIEBER: Well, a smart licensee would follow the Standard Review Plan to make the review easy.

MR. RADLINSKI: Right. In addition, part of the Standard Review Plan are the acceptance criteria for ding a review. And one of the acceptance criterion is the Reg. Guide 1.189. So indirectly the guidance in Reg. Guide 1.189 is applied to a licensee.

CHAIRMAN SIEBER: Now Appendix R at its time did represent a backfit, right? You didn't have lube oil protection at the time?

MR. RADLINSKI: Right. Right.

CHAIRMAN SIEBER: On the other hand, the backfit rule wasn't in force then either, right?

MR. RADLINSKI: I don't know.

CHAIRMAN SIEBER: And so once you make a finding that it's in the interest of the public health and safety, then you can impose that by regulation. And so everything that we have today is merely suggesting one way to comply with things that are already on the books with a couple of exceptions?

MR. RADLINSKI: Right.

CHAIRMAN SIEBER: Okay.

MR. RADLINSKI: That we consider to be acceptable.

CHAIRMAN SIEBER: Okay.

MR. RADLINSKI: That was all I was going to say about the applicability of those three different documents. Are there any questions.

MEMBER SHACK: Branch technical position, what is it, it's legal status?

CHAIRMAN SIEBER: Nothing.

MEMBER SHACK: Nothing. It's less than a SRP.

MR. RADLINSKI: Well, it's about the same level of an SRP, I'd say. Maybe we've elevated the status of it by relegating it to the reg. guide. But it's still not a regulation. It's not a requirement.

MEMBER MAYNARD: I think we'll probably get into more discussion on that in a little bit. But by wrapping those into the reg. guide, it is --

CHAIRMAN SIEBER: Well, this is one reason why I went through the litany of what's referenced and what's endorsed. Because by using this reg. guide they have wrapped in a lot of documents that have detailed instructions as to how to do things, including underwriters' laboratory standards, believe it or not.

MR. RADLINSKI:

MEMBER MAYNARD: Now I'll attempt a brief history of fire protection regulatory.

In the beginning there was GDC 3 in Appendix A of 10 CFR 50. It's very high level requirements, regulatory requirements for a nuclear plant fire protection program. It said that structure, systems and components important to safety must be designed and located to minimize the probability and effects of fire explosions. It also said that noncombustible and heat resistent materials shall be used wherever practical. And that fire detection and suppression systems shall be provided to minimize the adverse effects of fires for structures, systems and components important to safety.

VICE CHAIRMAN WALLIS: When you do these slides in the future, would you not have this shadowy bluey NRC thing in the background? It's distracting.

MR. RADLINSKI: Oh, the watermark you mean?

VICE CHAIRMAN WALLIS: Yes.

MR. RADLINSKI: Every time we do these presentations we use a different format, so it'll probably not be there next time anyway.

VICE CHAIRMAN WALLIS: Okay.

MR. RADLINSKI: All right. And important to safety, by the way, is one of the issues on your second list, Dr. Sieber. So we'll be talking about that later.

Also for the last bullet when GDC 3 was issued there were no instructions or detailed implementation guidance provided with that.

Then in 1075 with the Browns Ferry fire everything changed, of course. That fire demonstrated that there was a need for more specific fire protection requirements and guidance from the Staff, as well as a need for a detailed reassessment of every plant's fire protection program.

In May of 1976 as a result of the Browns Ferry fire NRC issued the first branch technical position. It was Conversion System Branch, 9.5.1. And that provided technical guidance for plant's fire protection programs and also requested plants to perform a fire hazards analysis and post-fire safe shutdown analysis.

That particular branch position was applied to plants that were issued a construction permit after July 1, 1976.

And then in 1980 the NRC issued the fire protection rule, 10 CFR 50.48 for the first time as

well as Appendix R, which was 48(b), as I mentioned before. And that was to address a number of contentious issues related to fire protection that had been identified up to that point.

Now the fire protection rule applies to all plants. But as I noted previously, Appendix R only applied to plants with construction licenses prior to January 1, '79, and then only three of the 15 major items that were in Appendix R were requirements for those pre-'79 plants. And we've identified those three.

So next slide.

Then in April of 1986 the Staff issued Generic Letter 86-10 which provided Staff positions for compliance with Appendix R. It's kind of an interpretation of what we really meant by Appendix R.

Also 86.10 introduced a new concept of standard license condition for fire protection. And what the standard license condition did for any plant that chose to adopt it, is give them the flexibility to self-approve changes to their fire protection programs based on an acceptance criteria of no adverse effect on safe shutdown.

Moving along to the late '90s, the Staff began to see a lot of LERs associated with circuit

issues, post-fire and safe shutdown circuits. They became a focal point and was an issue and around 1997. And as a result of discussions with the industry and a recognition that there was not a clear understanding of what the requirements were and there appeared to be a lot of different approaches used by different plants, the Staff or the NRC decided to implement enforcement discretion. And then ultimately they suspended inspections, fire protection inspections of circuit related issues.

MEMBER MAYNARD: One thing I think needs to be clarified a little bit. You talk about a number of LERs being submitted. As I recall, most of those LERs were submitted after some generic letters and other communications came out about what the NRC's expectations were that required some reviews and licensees, a number of them reported things to make sure they didn't get put into a position where they may have a failure to report on something.

I don't think they necessarily found or identified new things, but a lot of that resulted from reviews related to generic communications coming out from the NRC.

So, it's just a little perspective on why the LERs came out.

MR. RADLINSKI: Okay. Based on discussions that the Staff had with the industry, the industry agreed to work with the NRC to try to resolve these issues and come to some sort of agreement on how the plant should proceed. As part of that program, the industry decided to perform live cable fire tests to determine the likelihood or probability of hot shorts causing multiple spurious actuations.

Up until that point before they performed these tests, the industry had the belief that these were basically incredible events. That multiple spurious actuations probably had such a low probability that they didn't need to be considered for safety. However, the tests which the report came in 2001 showed it just the opposite. There actually is under certain circumstances certain types of materials of cable jacketing and cable insulation, multiple spurious actuations could in fact occur. They could occur in high probability and also more importantly, they could occur in rapid succession. Okay. It was not the long period of such a time in between actuations.

So as a result of those tests and as a result of the plan to restart circuit analysis, the Staff issued a number generic communications to

reflect both the test results and also to clarify what our expectations were with respect to post-fire safe shutdown circuit analyses.

CHAIRMAN SIEBER:

MEMBER MAYNARD: When I read the draft reg. guide, I got the impression that the rules as they evolved in the guidance documents and so forth really came about because of three factors. One of them a few events, a few fire events, Browns Ferry the most significant of those. And secondly the tests. And there's a wide variety of tests like thermal=lag, there's a variety of barrier tests where barriers were found to not perform as advertized. And also the circuit testing that actually just finished last year, to my knowledge, right?

MR. RADLINSKI: Which they're probably doing additional cable fire testing --

CHAIRMAN SIEBER: Yes, right. Well, you'll never be done testing, as I see it.

MR. RADLINSKI: Right.

CHAIRMAN SIEBER: Everything that fails there comes a new substitute and then you test that, and some of those pass, some fail. And we'll be doing this for the rest of our lives.

And I guess the third factor that

influenced where the regulations went were analysis that were done. There's been a lot of improvement in analytical capability, fire modeling, that didn't exist 20 years ago. And because of that we know more about the conditions inside fire zones and fire areas than we ever did before. And that shapes some of the rules.

So that's really what the background of all of this seems to me to be, that's where it came from.

MR. RADLINSKI: Yes.

CHAIRMAN SIEBER: And every time you would come out with an unexpected result, here comes another LER, right? And so that's basically how the process worked. And unfortunately what happens is that you make the rule before you experience the phenomenon and then the phenomenon doesn't trip the rule, you got to change the rule and come up with new guidance.

MR. WEERAKKODY: Just because it's an important point, let me clarify it a little bit.

When the rule is written we don't know all the physical phonomania and details, but if you look at the rules who is good enough to cover all that? In fact, if you look at the rule it says the licensee should consider open circuits, hot shorts, you know

things that aren't even in critical.

CHAIRMAN SIEBER: Right.

MR. WEERAKKODY: So it does give us the envelop. So the question was, you know, how important some of these things are. And that's what the 2001 tests revealed.

I don't want to come across as if we are the changing rule with new information. The rule is there, the rule is steady. But our focus of inspections, that type of thing, does change.

CHAIRMAN SIEBER: Okay. And I do have a specific question that I would like to ask. In the guide we all know that mitigating systems are classed as category 1A in the QA program and they keep all kind of documents, you're required to perform tests, you're required to surveil it, it has to meet certain standards. And the regulatory guide and the rule calls out instances where safety regs systems structures and components are involved. But also in the guide you use the term "important to safety." Both safety related and important to safety are defined in the glossary. But if you would read the definition of what important to safety is, it's something related to the protection of the health and safety of the public, which I don't recall in any plant that I've been in

where you had a QA category of important to safety.

And so how do you pick out what's important to safety? Is that just in the eye of the inspector or the eye of the licensee? It's not in any list. The first time it was used was by Harold Denton back right after TMI.

MR. WEERAKKODY: I want if Phil Qualls of the Fire Protection Staff, he's one person who has been with the agency for 30 years, most of his time on fire protection as an inspector. So he kind of lived through this history. So let me ask Phil to answer that question.

CHAIRMAN SIEBER: Okay.

MR. QUALLS: Yes, I went through a lot of this history.

Can you hear me?

CHAIRMAN SIEBER: Yes.

MR. QUALLS: Okay. The terms important to safety, safety related. If you start with the regulation, Regulation 50-48(a) requires plants to have a program that satisfies criterion 3 of Appendix A.

CHAIRMAN SIEBER: Right.

MR. QUALLS: Of GDC 3. GDC 3 is an effect to minimize the effects of fires and explosions on

systems structure and components important to safety.

CHAIRMAN SIEBER: Right.

MR. QUALLS: So the next layer, 10 CFR 50.48(b) defines Appendix R as one such program to satisfy GDC 3.

CHAIRMAN SIEBER: Right.

MR. QUALLS: But if you go to Appendix R it discusses safety related and important to safety and it defines them as used in Appendix R as applying to all safety functions. And then it refers to safe shutdown applies to hot shutdown and cold shutdown functions.

CHAIRMAN SIEBER: Yes.

MR. QUALLS: So it applies to all safety functions, not limited to safe shutdown function per Appendix R, but to let's say radioactive release or containment functions would be other safety functions. And that's why when you look at the way an Appendix A -- an Appendix R program combined the old program or the Standard Review Plan, what you'll find is a program that satisfies. Does more than just protect your capability to achieve shutdown. You'll see protection for diesels. You might see sprinkler system in a rad waste building, which has no effect on safe shutdown. Because they're important to safety in that

they're protecting other safety functions.

CHAIRMAN SIEBER: Well, but that to me seems pretty loose.

MR. QUALLS: It is pretty loose.

CHAIRMAN SIEBER: Yes. And for example, if you go to look at most plants program, they do have a safety related list, a Q list that says special treatment requirements apply to each and every component in that test.

In addition to that, every plant that I've been at had a Category F list which was fire protection related equipment; stand pipes, division valves, hoses and nozzles and diesel fire pump, and you know --

MR. QUALLS: That's very true. Because Category --

CHAIRMAN SIEBER: But neither one of those is important to safety. Important to safety is another category that I don't recall being on any list anyplace, nor having any special treatment requirements.

MR. QUALLS: I have to agree with you. The only place I know of a definition actually is in the Appendix R verbiage, which says it applies to all safety functions. But that's a general and loose use

of a term.

CHAIRMAN SIEBER: Well, the difficulty is you now have regulatory guidance that says you got to do things for components, structure systems and components that are important to safety and you don't know what they are. Or the plant doesn't know what they are.

MEMBER MAYNARD: I think there's a comment behind you there.

MR. RILEY: Jim Riley from NEI.

Just a quick statement regarding this fire, this cable fire testing.

The industry would like to request that we use some caution when we use the results of those tests to come up with conclusions. It's our position that that test was conducted specifically to look for spurious actuations, and therefore may not really represent actual plant conditions.

We raised this a letter we sent regarding potential generic letter on circuit analysis. And I don't want to go into details right now on the thing, but just since the point came up, I think it's worth mentioning that there are some question about how you might want to use the results of that test come up with conclusions in this regard.

And we'd like to point to what we heard you guys say regarding, I believe it's called the cable fire tests -- CARROLL fire test, excuse me, that will be going into some evaluations of what happens to cables in fire conditions. And we ought to make sure we know exactly what we're dealing with from a realistic point of view before we make any strong conclusions.

MR. RADLINSKI: Okay. Thank you.

CHAIRMAN SIEBER: Okay. Thank you. Your point is duly noted.

MR. WEERAKKODY: And I think the Subcommittee has, we got at a later time give you the factual information about whether the tests were representative or not. So I suggest we move.

CHAIRMAN SIEBER: Well, in any event getting back to the importance of safety you can see why I have a concern, you know.

MR. QUALLS: It's not well defined.

CHAIRMAN SIEBER: Yes, it's not well defined. And so what is and what isn't important to safety is sort of in the eye of the beholder. You know, it's like Reg. Guide 1.197 if it's in your SAMGs, then it's part of the system.

MR. QUALLS: Excuse me. Those were the

words we were kind of stuck with in criterion 3.

CHAIRMAN SIEBER: I know, and that's unfortunate because that's not the only thing that's like that in this fire protection business.

MR. QUALLS: Well most of the people I work with have been reluctant to establish new definitions for terms like that. So it's still relatively undefined. But what we did and actually what does exhibit is a program where we might not define equipment important to safety, we have defined a program to protect the fire areas for things like diesels, you know, what the program requirements for fire barriers, for fire doors. And, you know, we have defined fire areas and a program to protect such equipment while we may not know what that equipment is.

CHAIRMAN SIEBER: Yes. But I keep thinking in terms of the inspector who has the regulation and who is looking at the plant and its records trying to reconcile does this plant meet the regulations, and it's not clear.

MR. QUALLS: What I can speak clearly from is an inspection standpoint, because I did that for a lot of years.

CHAIRMAN SIEBER: Yes.

MR. QUALLS: What an inspector will do is look at the approved program. What all licensees have is a licensed condition that says you shall implement and maintain the approve fire protection program, and then it references the letters and such that constitute that approved program.

And what an inspector will do will look at the approved program and compare it to what he sees in the plant. And if what he sees in the plant does not meet the approved program, that's where we start getting into violations and the like.

CHAIRMAN SIEBER: Right.

MR. QUALLS: But he looks at the program, not necessarily at the equipment in the field.

CHAIRMAN SIEBER: I'm pretty well convinced we aren't going to solve this problem here.

MR. FRUMKIN: Well, this is Dan Frumkin of the Staff.

I think in Appendix R 3(f) is a discretion of detection. And in that section it says -- it doesn't use the words important to safety. IT says safety related equipment, which is well defined, and fire safe shutdown equipment, which is also well defined.

CHAIRMAN SIEBER: Right.

MR. FRUMKIN: And I think if you take those two pieces of safety shutdown and safety related, at least for practical purposes that is a good bounding of what is important to safety.

CHAIRMAN SIEBER: I would tend to agree with you, but it's not written down anyplace, right? And that's the issue.

On the hand, we're not going to solve this today. I just wanted to let you know that it's an area of confusion for me. Next time you go and revise this you may want to think a little bit more about it and make a change. But I don't see it as holding us up from getting public comments, if that's the only issue.

So thank you. And go ahead with your presentation.

MR. RADLINSKI: Okay. In addition to the circuit issues that were being addressed, in the late '90s the Staff or the Commission actually encouraged the Staff to start looking risk-informed approached to fire protection.

In March of '98 the NRC proposed to the Commission that the Staff would work with NFPA and the industry in general to develop to a performance-based risk-informed consensus standard for fire protection

for nuclear plants. And if that worked out and the standard acceptable, then we would write a rule to endorse it.

So that work. And the NRC published 50-48(c) in 2004 which endorsed NFPA 805, which allowed licensees to voluntarily adopt the risk-informed performance-based fire protection program.

In addition, following that we issued Reg. Guide 1.205 which essentially endorsed the industry guidance document for transitioning to 805 and maintaining an 705 type program in the IO 402. And the reg. guide, as I mentioned, the reg. guide endorse that with some qualifiers.

And I think that's it. Yes. Next slide.

Okay. So that was the history, brief as I could make it. Any questions about any other aspects of the history of fire protection? Anything that I missed that someone wants to talk about. Okay.

Again, as you mentioned, there's a very detailed history in the reg. guide. It's still there. It's been brought up to date. So you like that sort of thing, it's good reading.

CHAIRMAN SIEBER: Yes. Good reading, actually.

It's actually as part of the reg. guide as

well.

MR. RADLINSKI: Yes. Okay.

So now let's get into talking about the changes that are being made to the reg. guide for this latest revision. I'm going to summarize the changes in this list and then I'll go into more detail of each of the bullet items in subsequent slides.

First of all, we've had a guidance, an acceptance criteria for new reactor fire protection programs. We've added new guidance based on recently issue generic communications. Two in particular are two RISs, one having to do with a safe shutdown circuit issues and the other having to do with operator manual actions.

In addition to that, we've added new guidance on post- fire safe shutdown circuit analysis and multiple spurious actuations. And this bullet refers to the generic letter that has not been issued yet. It's with the Commission right now for a notation vote. But in the meantime, the guidance that's included in that generic letter is in this revised draft of the reg. guide.

We also replaced 86.10. We're proposing to replace 86.10 evaluation for new reactors with reverting back to density 50.59 as the appropriate

process for licensees to evaluate changes to their programs and to determine whether they can be self-approved or not.

We've added guidance on the use of fire PRA and fire modeling. This pretty much follows the same guidance that's in Reg. Guide 1.205 for 805 plants.

And finally, we've added and clarified and reclarified some of the fire protection terms, term definitions in the glossary to the reg. guide.

MEMBER MAYNARD: Could we go about the third from the last bullet there.

MR. RADLINSKI: I'm going to go into all these in more detail if you want to wait. But that's --

MEMBER MAYNARD: Okay. I just want to bring out significant changes for new reactors versus the operating reactors. Are you going to get into that?

MR. RADLINSKI: Yes.

MEMBER MAYNARD: Okay.

MR. RADLINSKI: Okay. The guidance that we added for new reactors: fire protection programs included enhanced fire protection criteria approved by the Commission. There are like three SECYs, I

believe, that describe what they refer to as enhanced fire protection that they expect all the new reactors to comply with.

Two major components of that. One is that they must postulate a fire that wipes out an entire redundant train in a given fire area, assuming no access to the area during or after the fire and then being able to demonstrate that the plant can be safety shutdown as a result of that fire.

The other is to look at the potential for smoke and heat migration from one fire area to another and the potential impacts on the redundant train. And prevent any adverse effects on safe shutdown.

We also added a discussion on the applicability of industry codes. There area number of NFPA codes out there right now, some of which are issued, some not. There's an NFPA 804 which is a deterministic-based fire protection program code. And it has been issued. It has been referred to as a basis for design for ES BWR and possibly AP 1000. I'm not sure.

But NFPA 806 is in preparation, it hasn't been issued yet. We've seen it and made comments on it. But it's not final. And that is going to be applied to a risk-informed performance-based fire

protection program for new reactors.

We've also included a discussion for new reactors passive plant shutdown definition. Okay. And I'll talk about that in more detail in a later slide.

Fire protection program implementation as well, just basically the schedule for a new reactor as it goes through construction and start-up, at what point we would anticipate or expect the programmatic aspects of the fire protection program to be implemented.

Okay. In the update to the reg. guide we make some recommendations for new reactors since the new reactors are being designed from scratch. It's not the same situation we had back in '75/'76 after the Browns Ferry fire where lots of the plants were already well under construction, had been designed, some were operating. This is a case where we're starting with a clean slate. The industry knows what are expectations are for fire protection. So in that vein we make recommendations that alternative/dedicated shutdown systems should not be used to any great degree. Obviously for a control room fire you'd have to have some provisions for that. But outside of the control fire, we would not expect to see the use of that 3G3 type approach for new

reactors.

Another feature of current plant fire protection programs, operator manual actions. We would expect that there would be a minimal reliance on the use of operator manual actions both during and after a fire.

And finally, what we call local raceway fire barrier systems, fire wraps for a cable tray in a fire area to claim that it's separated from its redundant train.

What we've seen so far in the design certifications are complete separation by a 3 hour firewall, so we really don't expect to see much of this. There may be situations where they just can't provide a complete separation.

CHAIRMAN SIEBER: Yes. I think there's a point that should be noted at this time. We're now in the process of issuing this regulatory guide and probably in a few months it will be in effect. On the other hand, we've certified a couple of reactor designs already. And basically what you're saying is rather than rely on fire barriers for a cable raceway systems, you want architectural provisions. In other words, stationary walls and things like that that are permanent, but the designs for the AP 1000 and the AP

600 certified designed, ES BWR, all the architectural drawings are done. And this seems to be to me like a number of things. You know, you had trouble with Appendix R because the plant was built before the rules were made. And had problems with the various technical position the same way. And now we're starting it again. They're designing plants. The plants are designed, they're certified, you can't change them. And now we're writing the rules for them. And to me we got it backwards.

MR. RADLINSKI: Well, I guess, now I don't see that as a particular problem.

What I've seen, I reviewed the ES BWR. I didn't review AP 1000. And they're committed to having their four trains and are committed to separating those four trains by hour fire barrier walls.

CHAIRMAN SIEBER: Okay.

MR. RADLINSKI: The use of fire -- a wrap around a cable tray is more an issue of how you route your raceway.

CHAIRMAN SIEBER: Yes.

MR. RADLINSKI: Okay? And I don't think anybody has routed raceway to that detail yet. So I don't think that's going to be a backfit. I mean --

CHAIRMAN SIEBER: That's probably true,

but it's not guaranteed, you know. We don't know where they are in the state of the design really, unless you work for that organization.

MR. RADLINSKI: Right.

CHAIRMAN SIEBER: And it seemed to me that's how things got messed up, you know, 30 years ago.

MR. RADLINSKI: Right.

CHAIRMAN SIEBER: The same kinds of issue.

MR. RADLINSKI: Okay. I worked with Bechtel for 35 years and based on my experience they haven't routed the cable yet.

CHAIRMAN SIEBER: Yes. Let's hope it's not tripping the field.

MR. WEERAKKODY: One of the things I wanted these, even though we're updating the reg. guide now on this scale, several years ago, I think about 4 or 5 years ago, we did an update to the Standard Review Plan to basically incorporate the in-house guidance that the Commission SECYs basically came out and said they should be more separated. So really even AP 1000 I don't know if there's anybody in the Staff who has reviewed the AP 1000, I think they meet all these separation requirements that we are talking about today.

MEMBER ARMIJO: Yes. What about the ABWR? That was certified many, many years ago.

MR. WEERAKKODY: I don't know. Does anybody here -- Dan, do you happen to know anything on BWR?

MR. FRUMKIN: Yes, this is Dan Frumkin again.

What we're doing with this update to the reg. guide and the SRP is basically documenting the SECYs that were published in the early '90s. So the first SECY was SECY-90-016 and approved the ABWR, I believe, in 1994. So this high level guidance was in place and those separation of trains without raceway barriers and so forth was basically how it was being designed. To use the words of the SECY it had to be designed in accordance with III.G.1, which is separate trains and separate areas.

I'll give you the CE-80+, the ABWR and I think 600, AP 600 will all quote this SECY. They all include that statement about III.G.1. So this architectural separation was included in all of those designs.

CHAIRMAN SIEBER: Well, I guess at this date there isn't anything we can do about it, other than I'm motivated to keep this moving forward because

I think that the time is either close or past when it should have been on the street.

MR. RADLINSKI: And they'll have an opportunity when they apply for their COL, if they don't comply with this, to comply through mediation.

CHAIRMAN SIEBER: Yes. The later you wait, you know, you can say well after they start up and run a couple of years, then we'll sock it to them. I don't think that works well either.

MEMBER MAYNARD: Well, you could run into some issues with a certified design that that comes in at the COL and now you expect something different. I think that's analogous, yes.

CHAIRMAN SIEBER: You can't do that. Because even the licensee isn't allowed to change anything or the certification's null and void and you start all over again.

MEMBER MAYNARD: Right. But raceway routing is not part of the certified design. That's not --

CHAIRMAN SIEBER: Well, in the AP 1000 they haven't decided where the pipes were going to go yet, and that usually gets firmed up before the routers get firmed up.

MEMBER MAYNARD: That's right. Exactly.

Yes. Yes.

CHAIRMAN SIEBER: Well, something to think about.

MEMBER MAYNARD: Well, there's other thing in this reg. guide, though, that go beyond just architectural separation type issues, too.

CHAIRMAN SIEBER: Yes.

MEMBER MAYNARD: So we're talking about that, but there's other things that might have an impact.

CHAIRMAN SIEBER: Okay.

MR. RADLINSKI: Okay. Another methodology that's used by current plants, some current plants to avoid the possible problems with hot shorts and spurious actuations is to go to a self-induced station blackout.

CHAIRMAN SIEBER: Yes.

MR. RADLINSKI: So that your possibility of hot shorts is minimized or reduced dramatically. Again, that's something we're recommending in the --

CHAIRMAN SIEBER: You'd like not to do that?

MR. RADLINSKI: Not to do it, right. We wouldn't expect a new reactor to need to do that.

CHAIRMAN SIEBER: It's like a passive

plant; how do you get gravity to be the strongest force?

MR. RADLINSKI: Right.

CHAIRMAN SIEBER: You blow down everything else, right?

MR. RADLINSKI: And also we address fire protection for nonpower operations, which has not been a big issue for existing plants. But during plant outage, maintenance. This is mainly fire prevention. Okay.

And as I mentioned before, we're incorporating the guidance that's already been issued under generic communications. The first one is RIS 2005-30, which clarified some circuit issues, terminologies, any and all it refers to and what's associated circuits that terminology, how that should be used. So that guidance just taken right out of the RIS and rolled into the reg. guide.

Another one of the generic communications that we're incorporating in the reg. guide update is 2006-10. Again, as I mentioned before, that's operator manual actions. That was issued recently. It basically says that you can't credit operator manual action as a substitute for III.G.2 protection where you have redundant trains in the same fire area

without an exemption, obviously.

CHAIRMAN SIEBER: Now, you had an operator manual action rulemaking in progress. That's been withdrawn, right?

MR. RADLINSKI: That's correct. Right. The RIS was a response to the elimination of the rulemaking or the cancellation of the rulemaking.

CHAIRMAN SIEBER: All right.

MR. RADLINSKI: All right. As I mentioned before, the generic letter on multiple spurious actuations is with the Commission for a notation vote. And it was reviewed by the ACRS. It was reviewed by CRGR. They agreed that it was not a new staff position. Therefore, we felt it was appropriate to include the guidance from that generic letter in the reg. guide update whether or not the generic letter is issued ultimately.

MEMBER MAYNARD: A clarification. CRGR. The ACRS did not address the backfit issue. The ACRS said that since it had been reviewed by CRGR that the ACRS didn't review it?

MR. WEERAKKODY: That's correct. Yes.

MEMBER MAYNARD: Okay.

MR. RADLINSKI: Okay. This next issue is probably the only thing that I can consider to be

somewhat controversial or that will be of real interest to the Committee. But 50.59. As I mentioned before, or as you all know, it's the regulation that applies to plant changes and --

CHAIRMAN SIEBER: Changes and experiments.

MR. RADLINSKI: -- whether or not you self-approve a change. 86.10, as I mentioned before, introduces concept of an acceptance criteria of no adverse effect on safe shutdown. Okay. But initially when 86.10 was published it also said that it has to be in accordance with 50.59 as well.

CHAIRMAN SIEBER: Yes.

MR. RADLINSKI: Okay. So you have this new acceptance criteria plus 50.59. Well, the industry wasn't real happy with that and they were successful in persuading the NRC to exclude fire protection from the 50.59 rule in 2000. So as we go into the new phase, the new reactors the Staff believes that we should go back to 50.59. We think it's appropriate. We always thought it was appropriate that the fire protection branch was not in favor of separating from fire protection from 50.59 when it was done originally in 2000.

This would apply to new reactors only. We're not trying to backfit this to existing reactors.

I guess you call it a new staff position in one sense, but since there's no backfit implication, no one's licensed a plant yet, no one, obviously, has a plant change process on the books. So it's-

DR. BANERJEE: So what does this imply, 50.-59 conforming? What would it do?

MR. RADLINSKI: Well, first of all, it benefits. It brings the fire station back in line with everything else. Okay. There now is no special category, separate category that applies just to fire protection.

DR. BANERJEE: But why did the industry object at that time to it?

MR. WEERAKKODY: Let me.

MR. RADLINSKI: If someone else wants to comment on that, though.

MR. WEERAKKODY: If you look at the fire protection the license condition 86-10, it basically tells the licensee that they could make changes to their program as long as they show that that particular change does not pose an adverse effect. Okay. And when you look at the 50.59 language it's somewhat similar. You know, you basically say you could make changes to your plant procedures designs as long as the-- you know, I can't remember the rest of

the terms.

So there was apparent redundancy in the two things. So I would say NRC was easily persuaded to drop the application of 50.59 because we have this other oversight capability through the license commission.

Now the reason we are proposing this, you know, to put this in context, you know, we've been managing fire protection changes with the license conditions when the rest of the program are managing 50.59. So we are kind of going forward treating the license condition for 50.59. So it's not like we are saying for the new reactors you got to have the license condition with the word adverse effect and 50.59.

What the Commission said was when the Commission came back and said recently that if the license condition is important to you guys, put it into the rule, qualify it. And we're going back to the Commission and saying, you know, as opposed to putting the new license condition for fire protection, we would much rather be treated like any other program under 50.59.

DR. BANERJEE: Well, I don't still understand why NEI objected to it at that time.

MR. WEERAKKODY: They objected because NEI--

DR. BANERJEE: Just for redundancy?

MR. WEERAKKODY: Yes. Redundancy.

MEMBER MAYNARD: You know, why do two? Why do two evaluations of two different programs for the same thing.

MR. WEERAKKODY: You know there are reasons--

DR. BANERJEE: So they eliminated the other one, right?

MR. RADLINSKI: Well, they felt that the new adverse effect was much more flexible and give them much more flexibility for self-approving. That's my own personal opinion. 50.59 is much more specific.

CHAIRMAN SIEBER: Yes.

MR. RADLINSKI: You have a whole list of criteria and it replaces a new -- not greater than minimal impact whereas new adverse effect on safe shutdown has never really been clearly defined, okay. So the industry has the flexibility to come up with their own definition of that and apply it to each license as they determine security. It's more flexibility.

MR. WEERAKKODY: Yes. And I would

slightly couch it differently. The word "adverse effect," it's not also, just like "important to safety," is defining regulation. So on one hand it gives flexibility, on the other hand it creates uncertainty.

MEMBER MAYNARD: Actually it gives flexibility to both the regulator and the licensee and in the end the regulator wins out on that flexibility.

MR. WEERAKKODY: True.

CHAIRMAN SIEBER: Let me ask a question. Now for new reactors you're going to revert to 50.59. Does that mean that you will not use the Generic Letter 86.10 for new reactors?

MR. RADLINSKI: That's correct.

CHAIRMAN SIEBER: Okay.

MEMBER MAYNARD: They would not to the standard license condition aspect of it.

MR. RADLINSKI: Right.

MR. WEERAKKODY: Yes, we would not -- we are proposing to get rid of the license condition, yes.

CHAIRMAN SIEBER: Well, 50.59 asks three basic questions. It's more complicated now than it used to be. But, you know, as you create a new accident there's a probability of an accident

increase, you know those kinds of questions. And they really don't match fire very well, in my view. I mean, you have to be creative in order to put a fire issue into 50.59. You can do it, but there is an advantage of using just one system for changes to the plant, you know. Because you already have an organizational structure to do it, you have people assigned that know how to write these things and how to do the analysis. And I guess it really doesn't make a lot of difference what system you use. But two is clearly not good. Two systems.

MR. RADLINSKI: And for what it's worth, this is going out for public comment. Depending upon the comments we get, we may change our position.

MR. WEERAKKODY: Yes. We are very open to constructive dialogue on this with the industry.

CHAIRMAN SIEBER: Yes. Well, okay. Moving on.

MR. RADLINSKI: All right. Okay.

Use of fire PRA and fire modeling. There was quite a bit of guidance in Reg. Guide 1.205 for plants that are adopting an 805 license. There's no reason why that same guidance shouldn't apply to plants that are not about doing 805, but want to use the methodologies that we've allowed as part of 1.205.

DR. BANERJEE: Is that reg. guide issued at the moment?

MR. RADLINSKI: 1.205?

DR. BANERJEE: Yes.

MR. RADLINSKI: Yes, that's been issued.

DR. BANERJEE: There are approvement methodologies?

MR. RADLINSKI: Yes. I'm sorry two methodologies?

DR. BANERJEE: Approved methodologies.

MR. RADLINSKI: Approved. Yes. Right.

Well, I should qualify that. We've identified a list of fire models, okay, that we consider to be acceptable.

DR. BANERJEE: Yes. I was at this meeting which I heard them -- I thought we hadn't approved that yet.

MR. RADLINSKI: Well, but for the fire PRA we are saying that we want to see what your fire PRA methodology is. The NRC wants to be able to review that. Okay.

We're also saying it should go through a peer review, okay, based on the current level and different standards that the industry has in place for peer reviews. And if those standards aren't adequate

and the NRC has the option of doing the peer review itself.

So that's the type of guidance that, again, there's no reason why it shouldn't apply to a license who hasn't adopted 805 but yet wants to use the same methodologies.

DR. BANERJEE: These are for the environmental effects of fire, it's not for the propagation of the fire, right?

MR. RADLINSKI: Well, the fire modeling would be for both. But --

DR. BANERJEE: Well, if I understood it the propagation was based on an experimental database because it couldn't be predicted by models. And only the affect of the fire on concentration fields, temperatures and so on were predicted by the models. So the actual propagation, say the panel fire, whatever it is, came out of just an experimental database at some point.

If I'm wrong --

MR. WEERAKKODY: No.

CHAIRMAN SIEBER: No. The fire PRA does different things.

DR. BANERJEE: Yes.

CHAIRMAN SIEBER: Actually fire modeling

presumes you already have an ignition source --

DR. BANERJEE: Right.

CHAIRMAN SIEBER: -- and combustible material and you have a defined space with a certain ventilation factor.

DR. BANERJEE: It has a heat related--

CHAIRMAN SIEBER: And that tells you how hot it's going to get, how fast it's going to spread, what happens to the oxygen level, you know, we'll say megawatt hour energy generation rate. Whereas as the fire PRA says what's the chance of me even getting an ignition source? What's the chance of having a transient combustible here? You know, and looks at all these things as probabilities without necessarily -- or what's the probability that my sprinkler system is going to work, or the detectors will respond in time. That's something you can calculate. But those are the kinds of things you're modeling in a fire PRA. And that tells you where you ought to put your attention.

MR. RADLINSKI: And also if you remember the discussions we had before. The first modeling is more of an input to the PRA, the risk analysis. And fire modeling by itself is not an acceptable method of demonstrating that everything is okay.

Yes, you can use it, but you still could do a risk analysis on top of it.

MEMBER SHACK: But there were two parts of the fire model. And most of the things we were discussing before assumes you had source term.

MR. RADLINSKI: Yes.

MEMBER SHACK: Which I think is what Professor Banerjee was referring to. The source term was a given and then you did the rest of the fire model after that. But in the real world you have to come up with the source term, too.

MR. RADLINSKI: Right.

MEMBER SHACK: And so there's errors in both of those. You know, we've done a god job now with the errors given the source term, but you still have your other problem of the source term.

CHAIRMAN SIEBER: Yes. In fire modeling you're really to calculate things like do the wires fail or do the sprinklers go off or does the heat detector work; that kind of stuff.

DR. BANERJEE: Now what isn't there, at least from what I saw, was the interaction between various things and as we call up the source term, because that's in some way fixed. And it's emulated by, say, setting fires in validation. I mean, people

have used fuel, for example, of some sort, burn something and got the source term. But it's not really, say, a cable fire that's providing the source. You know, that's not the sort of experiment that's been done.

That's been done quite separately. So there are no interactions like with the ventilation, sprinkler or whatever.

Did you understand --

MR. WEERAKKODY: I understand, Professor Banerjee. I feel like I don't want to relive the presentation on NUREG- 18.24.

DR. BANERJEE: Yes. I don't want to get into the--

MR. WEERAKKODY: Yes, because it's going to exceed my technical capabilities.

DR. BANERJEE: This seems sort of a sideline too.

MR. WEERAKKODY: Yes. But I think we rely on the

Office of Research to deal with those tools. And they keep improving them. And the question is at any given time are we comfortable enough with the knowledge of uncertainties to go forward.

And I know I was here for the 18.24 and

what I said at that time was that yes, these have uncertainties. There's a number of unknowns, questions. But we can manage to make reasonable decisions.

DR. BANERJEE: Yes. I think that's a true statement.

MR. WEERAKKODY: Yes. Okay.

MR. RADLINSKI: All right. I think we've covered all the bullets on this except perhaps the last one. And we did add a reference to NUREG/CR-6850 and also to the draft ANS standard on fire PRA as being acceptable for PRA methodologies.

CHAIRMAN SIEBER: I had a question about fire models. We had a presentation where we went through a bunch of fire models. It was a new reg and it was a V&V program.

MR. WEERAKKODY: Yes. Yes.

CHAIRMAN SIEBER: This standard says you can use those within it's prescribed ranges and applicability and claim credit for the V&V that the agency and its partner, EPRI, has done or you can do your own. You can have your own model.

What will the agency do to validate any attempt by a licensee or a group of licensees or anybody to validate and verify new modeling techniques

that aren't in that group of five that the agency has already done? What will you do?

MR. WEERAKKODY: I don't --

CHAIRMAN SIEBER: You say that it's permissible provided you meet all these constraints. I wondered how you could do it?

MR. WEERAKKODY: I got to start by saying it's highly unlikely that when we have five V&V modeled out there, the industry is going to the sixth one. But let me answer the question.

If they do, the regulations tell us that it may not be acceptable to us and we may not accept it.

I can talk in general. The typical process we do to approving methods is using the topical courses, okay. They could submit the method, pay us to review it and get it reviewed and accepted.

So that's why I said why would anybody want to go that expensive uncertain route when there's five certain routes.

CHAIRMAN SIEBER: Well, maybe they don't like the answer they got out of the five models they have.

MR. WEERAKKODY: Well --

CHAIRMAN SIEBER: That's why you go to the

sixth.

MR. WEERAKKODY: Well, I think in fire protection if you have to, at least from a regulatory, NRR's perspective, if you're at a point where you have sharpened your pencil with five models and you need a sixth model, we would take the position that we don't have reasonable assurance that you are better of being a -- I mean, we see -- I mean what we do on the NRR is we have in the fire protection program a couple of fire modeling experts. So when the inspectors have issues like this and they are in that challenging border they come to us, and we give them guidance on a case specific basis.

CHAIRMAN SIEBER: But I could see why somebody would want to come up with a model of their own. You know, if you had a room full of thermal plastic cable insulation, for example, and your fire model said the temperature got too high and this stuff comes to mush and you get all kinds of shorts and grounds, you would like to have either not have the fire or have a model that says temperature never gets that high.

MR. WEERAKKODY: It could be an expensive, risky proposition for the licensee to go that route.

CHAIRMAN SIEBER: Yes.

MR. WEERAKKODY: But they might in fact based on the popular experiences. Those are the circumstances where they would basically withdraw their request and do a MOD.

DR. BANERJEE: In any case I suppose you could turn to NIST who seems to be supplying you with a lot of the expertise in this area.

CHAIRMAN SIEBER: Yes, that's one of the model sets.

MR. WEERAKKODY: We would go to the Office of Research, who might in turn go to NIST, yes.

DR. BANERJEE: Yes.

MR. WEERAKKODY: Yes, we wouldn't on complex issues like that, NRR will basically ask Office of Research to support us.

CHAIRMAN SIEBER: All right. Any other questions on this? If not, why don't we move on.

MR. RADLINSKI: Okay. And then the last significant change we made to the reg. guide was to add some additional definitions and clarify some of the existing definitions for clarification terms that we consider not to be well defined currently. Those definitions are based on regulatory requirements, staff positions and common usage.

Now, I say "common usage," they also have

to be in accordance with regulatory requirements. Something that's just in common usage by the industry that the NRC doesn't agree with would not become a definition that we would include in the reg. guide.

Some of the newly defined or clarified terms include any and all that related to circuit analyses, emergency control stations, fire protection system, mitigate, one at a time, operation manual action, post-fire safe shutdown circuits, redundant train system and success path.

CHAIRMAN SIEBER: When you talk about mitigate in terms of fire protection you're really talking about putting the fire out?

MR. RADLINSKI: No. Actually it's more of looking at spurious actuations that cause some function to occur that you don't want to occur.

CHAIRMAN SIEBER: Yes.

MR. RADLINSKI: So that you have to go out and mitigate the possible consequences of that.

CHAIRMAN SIEBER: Like cut off the power supply?

MR. RADLINSKI: Right.

CHAIRMAN SIEBER: Okay.

MR. RADLINSKI: Yes.

CHAIRMAN SIEBER: Yes. I wondered a little

bit about that because, you know, when you look through all these fire models there isn't any model that I know of anyplace that tells you how many sprinklers will put the fire out.

MR. RADLINSKI: Yes.

MEMBER MAYNARD: Mitigation is aimed more at protecting the plant transient from getting out of hand.

MR. RADLINSKI: Right. Mitigate the bad things that happen in the event of the fire so that you can safely shut the plant down.

CHAIRMAN SIEBER: Okay.

MR. RADLINSKI: Okay. Now let's move on to the Standard Review Plan. As I mentioned earlier, we took the branch technical position detailed guidance out of the SRP and put it into Reg. Guide 1.189.

We expanded the review guidance for new reactors.

We had reference to there's going to a new SRP section for 805 plants that's in preparation right now. The review guidance for 805 plants is not currently in this update that we've been discussing today, the SRP section.

We provided very similar guidance to what's in the reg. guide for fire modeling and PRA

methodologies.

We expanded review guidance for license renewal applications. There was already some guidance in the SRP. We've just added onto that. And also added, brought up to the date the reference section to include any new references that were included in the last version.

MEMBER MAYNARD: A quick question. I need to go back. Reg. Guide 1.189, if and when it gets issued, does that become a requirement for existing plants?

MR. RADLINSKI: No.

MEMBER MAYNARD: The leading branch technical position and incorporating it into 1.189, where does that leave some of the current plants that would not have --

MR. RADLINSKI: Well their standard, their fire protection license basis could include compliance with that branch technical position or a commitment --

MEMBER MAYNARD: I guess it's more of a legal questions than anything else.

MR. RADLINSKI: Right.

MEMBER MAYNARD: If you delete a branch technical position --

MR. RADLINSKI: We're not deleting it from

the plant license basis.

MEMBER MAYNARD: Okay.

MR. RADLINSKI: It's still there.

MEMBER MAYNARD: Okay.

MR. RADLINSKI: And they still have to comply with it.

MEMBER MAYNARD: So you're not deleting it as much as no longer apply --

MR. RADLINSKI: Moving it from one place to another and it still applies.

MEMBER MAYNARD: Okay

MR. RADLINSKI: We wouldn't be that nice.

What to say about this? I've already said. We deleted the branch technical position. A lot of the guidance that was in the branch technical position was overlapping with what was in the Reg. Guide 1.189. So we just made it simpler so that everything is one place. And most of the other SRPs don't have branch technical positions with them. So it's bringing the fire protection SRP more in line with the others.

New review guidance for new reactors. We provide risk insights for new reactor fire protection programs. There's a section on a bulletized list of features of new reactors that make them a lot less

risky from the standpoint of fire and how the fire contributes to the overall plant safety then existing plants. So we added that to the SRP, which is for reviewer guidance so that the reviewer can keep that in mind as they do their reviews.

We also added additional guidance for review of ITAAC, the combined license applications and the programmatic features of the fire protection program.

We added review interfaces within NRC between the fire protection branch and other related branches.

We referenced the current draft guide, the 1145 which is for COL applications as applicable.

And we expanded the guidance for reporting evaluation findings, which is the standard section in the SRP sections. We just elaborate on what's required in those sections.

We also added the new references that are now applicable to new reactors that weren't included in the last version of the review plan. We added guidance for fire protection systems that provide backup to safety related systems. Okay. These are just like any SPWR where the fire protection is relied upon to provide a backup source of make up water to

the shutdown cooling systems. Okay. It's fairly high level guidance, but we identified the potential there and provide some guidance.

We've identified alternative designs that have been accepted by the Staff. AP 1000, NES PWR both took some exception to the guidance or the criteria in Reg. Guide 1.189. For example, for the fire protection provided in the main control room. 1.189 says you should provide fire suppression protection underneath the raised floor of the control room. Both of these standard designs took exception to that and the Staff accepted that exception with the proviso that it be based ont he fire hazard analysis. meaning that if it turns out that there a lot of combustibles under that floor, then they've got to reconsider that exception. But based on what we know of new reactors versus current reactors, we don't anticipate a lot of cabling underneath the control room floor. So we felt that suppression systems were not all that important.

CHAIRMAN SIEBER: It would be a gaseous suppression system?

MR. RADLINSKI: Well the licensees are reluctant to use that where you have an occupied area. It's --

CHAIRMAN SIEBER: I don't understand that. You got to ring the bell.

MR. RADLINSKI: I would think they would use a mist system, which would probably be better.

CHAIRMAN SIEBER: Maybe it's in the control room.

DR. BANERJEE: Mist or halon, or what would they --

MR. RADLINSKI: No, water mist.

DR. BANERJEE: Water mist.

MR. RADLINSKI: A very fine high pressure--

CHAIRMAN SIEBER: Wear your boots.

VICE CHAIRMAN WALLIS: They have shorter raincoats everywhere.

CHAIRMAN SIEBER: Right.

MR. RADLINSKI: It shouldn't be any terminations there, it should just be cable.

And provide guidance review of fire protection systems protecting areas that do not contain safety related structure systems and components. ES PWR, the diesel generators they say they're not safety related, they're not required for safe shutdown. Okay. But yet they're a significant fire hazard. So we felt it was appropriate to have

some sort of guidance for the reviewer to look at what level of fire protection is provided in those areas.

CHAIRMAN SIEBER: Well, generally nonsafety related areas of the plant you end up with fire protection features in those areas anyway because the insurance company makes you put them in.

MR. RADLINSKI: Right. Right.

CHAIRMAN SIEBER: And they have their own inspector.

MR. RADLINSKI: Right.

CHAIRMAN SIEBER: And their inspector is just as tough as your inspector.

MR. RADLINSKI: True.

CHAIRMAN SIEBER: Yes, because they do work together.

MR. RADLINSKI: Right. But we didn't want to rely on that, assume that that was necessarily the case.

CHAIRMAN SIEBER: Yes. But you should not care if somebody's warehouse burns down. Insurance companies should care and the licensee should care.

MR. RADLINSKI: Right. But we only care if that fire could cause an exposure fire that could affect adjacent and make shutdown.

CHAIRMAN SIEBER: Right.

MR. RADLINSKI: I mean that's basically what the guide does. That's all.

There was an Appendix A that addressed supplemental fire protection review criteria for shutdown, decommissioned reactors. We took that out because it's covered in Reg. Guide 1.191. There's no reason to have it in both places. So that was eliminated.

CHAIRMAN SIEBER: Yes, but you have a section in here that talks about shutdown and decommissioning?

MR. RADLINSKI: Yes, we do. There's a whole--

CHAIRMAN SIEBER: But it's woven into the text.

MR. RADLINSKI: Yes. But there was a whole appendix that just basically repeated everything that was in the reg. guide. So we took that out.

Again, updated the guidance on the use of fire modeling and probabilistic methodologies for non-NFPA 805 plants. It's a lot of repetition. It's in both places, really, the reg. guide and the SRP because we felt it's quite important. You know, an important feature to --

CHAIRMAN SIEBER: You're going to deal

with that appendix on PRA, fire PRAs later?

MR. RADLINSKI: Yes.

CHAIRMAN SIEBER: Go into detail and talk about it?

MR. RADLINSKI: I'll talk about that later.

And in reference to the new SRP section that I mentioned before, that's going to be for 805 plants and we expanded a review guidance for license renewal applications. There was already an appendix for that, we just added some additional guidance based on what we've learned from the last time we issued the SRP.

CHAIRMAN SIEBER: Okay.

MR. RADLINSKI: Okay. That ends the discussion on the changes, identifying the changes to both the reg. guide and the SRP. Back to the list of issues that Dr. Sieber wanted to talk about. Wanted to talk about, the first one being backfit implications. Okay.

From our perspective there are no new staff positions applicable to existing reactors included in the update of either the SRP or the reg. guide. Okay.

I,mentioned adding the clarifications, the

regulatory clarifications for circuit issues and things like that. Those have all been issued before. They've all gone through the CRGR. So we're not adding anything that would be a backfit, would have backfit implications to an existing plant or a new staff position.

CHAIRMAN SIEBER: Let me ask a question in general. I agree with you that I really didn't see any backfits in there. But if you write a regulation that's very general in nature, sort of a generic regulation, then you write some kind of a regulatory guide or other guidance document that says here's the way you should interpret this regulation and here's the kind of things you should do. And then after you issue that, comes an event. And the event looks like it's covered by the regulation, but it's different than what you described in the last regulatory guidance that you issued.

If you revise the regulatory guidance to include issues that arose in the new event and therefore result in a broader interpretation of the regulation, is that a backfit or not?

MR. WEERAKKODY: It is.

MR. RADLINSKI: Yes. Yes, it is.

MR. WEERAKKODY: If a plant has committed

to comply with the regulation using a particular reg. guide, and if in that reg. guide a particular term is defined such-and-such, and then you change it to give a different meaning, it is a backfit. But there's another case.

Sometimes the regulations are kept very general and some issues are not specifically designed in the reg. guide. Okay. Now some new information comes in and the Staff goes out and say, you know, clarifies something that has not been committed to by a licensee. Then it doesn't necessarily considered a backfit.

CHAIRMAN SIEBER: Well, let me give you an example just to make sure I got it right.

MR. WEERAKKODY: Yes.

CHAIRMAN SIEBER: Let's say that you have a regulation that says you have to consider hot shorts and grounds and open circuits. But you haven't really done any testing yet and you have a fire someplace that you got a couple of spurious actuations, you know, one here and then 10 minutes later another one over here. And so you wrote regulatory guidance that says you got to analyze this and have a way to mitigate it.

And then you go and do some cable testing.

And you find out the whole cable tray goes bad on you, it cracks, the insulation melts, you got hot shorts, grounds, open circuits coming out your ears all at the same time. And you say I got a change to the regulations, I got to change the way of analysis, I got to change the way to interpret this in order to have it match the situation that evolved when I was testing it. Is that a backfit?

MR. RADLINSKI: But you're not changing the regulation. You're adding more --

CHAIRMAN SIEBER: No, you aren't.

MR. RADLINSKI: -- detail to it and you're adding another level of detail to the regulation.

CHAIRMAN SIEBER: So that's not a backfit?

MR. WEERAKKODY: No.

MR. RADLINSKI: You haven't changed the regulation.

MEMBER MAYNARD: I would disagree with that. And it really depends on some of the specific examples. That most of the regulations are not as clear. I mean, there's a little bit of bigger picture in the regulations.

CHAIRMAN SIEBER: Yes.epoxy

MEMBER MAYNARD: The bottom line if you take a look at the history on the backfit, take a look

at the justification for it and take a look at the rule itself, it says that basically even though it's something that is covered by the regulations, that if later you find out that something had previously been considered less than credible is now credible, you still have to go through the backfit analysis.

CHAIRMAN SIEBER: You do?

MEMBER MAYNARD: Yes.

MR. WEERAKKODY: I -- let me --

CHAIRMAN SIEBER: Well, the Staff says you're done.

MR. WEERAKKODY: No. I gave you a kind of -- let me stay away from -- because if there is an issue, that's under Commission deliberation right now. And I could repeat some of the stuff we said at the CRGR meeting if you want us to. But--

CHAIRMAN SIEBER: No. All I want to do is to have you answer the question. Would you go do a backfit analysis or not based on those circumstances as I told you and you know?

MR. WEERAKKODY: The specific circumstances you described first, under those constraints, yes it is a backfit. And I want to make it clear. The rule there. There is a reg. guide and it defines particular terms.

CHAIRMAN SIEBER: Yes.

MR. WEERAKKODY: And a licensee says I plan to meet your rule using this reg. guide.

CHAIRMAN SIEBER: Yes, operator manual actions he's going to --

MR. WEERAKKODY: Now if we go and redefine, it's a clear backfit. And I could go into this discussion because I've been following issue and listen to presentations by Vincent & Straun.

Really, you know, you get into the legal question now what is a Staff position. Okay. And that's not defined.

CHAIRMAN SIEBER: Yes. Yes. That's right.

MR. WEERAKKODY: Because no regulation defines what a Staff position is. And even if you speak to a lawyer from the industry, they would say that, yes, that's an issue. You know, the fact that it's not will define it's an issue. But because the Staff has the oversight responsibility, eventually when there are questions on that, the Staff can basically say, you know, make some judgments on that. And then that's in general where things are.

But, again, I would much rather, you know, because really we are waiting for some feedback from the Commission. So I would rather not, you know.

MEMBER MAYNARD: And I think, you know, there will be debates over what is and what's not a backfit for some. But I think the Staff is too reluctant to do a backfit analysis. Rather than argument about it, I think it would be better to do one. Because if you can't pass the criteria for it, if it's really not of significant benefit to justify doing the change and stuff, you probably shouldn't be doing it.

CHAIRMAN SIEBER: Well, the backfit rules to me is pretty clear as to the burden the Staff has to meet. In order to impose a backfit where the cost benefit doesn't show it effective, cost effective.

MR. WEERAKKODY: Again, the OGC lawyer is not here. But if you look at the compliance exemption of the backfit rule, if a particular issue needs to be applied to comply with the regulation, then that should be proceeded. Because while the final -- that legal folks tell us is if you have regulatory requirements you can't say well it's a regulatory requirement but the licensee doesn't have to meet it because it doesn't add value to safety. Okay.

Now, there are judgments made in terms of how you want to -- what we going to pursue, what we want to enforce. But there is no lawyer who tells me

hey open circuits don't happen, so therefore you don't have to consider it because that's spelled out in the regulation.

It's a dilemma, but I don't think they are-- you say that at every instance that the Staff has to go and do core damage frequency calculation and show a great than 10 to the minus 5 benefit, that would not be a correct interpretation of the -- I'll just leave it at that. This is not area expertise. I've been learning it from the lawyers.

CHAIRMAN SIEBER: Generally speaking we do not spend a lot of our time doing backfit analysis or checking on the Staff's backfit analysis. On the other hand, occasionally there comes an issue where it becomes of interest to us because it determines whether you issue a rule or a reg. guide or something like that or not.

MEMBER MAYNARD: Agreed. Well, it also impacts where both the Staff --

CHAIRMAN SIEBER: I would like something more clear cut than the issues that seem to be coming up --

MEMBER MAYNARD: It also depends on where the staff and the licensee end up spending their management and money and stuff. A lot of times there

are better things from a safety standpoint to be done. So I think the backfit process is important.

I think NEI I think has probably a comment behind you.

MR. RILEY: Thank you. Jim Riley again. And I'll keep this short, too.

Let's just suffice it to say the industry does not agree with the Staff's position on whether this is a backfit or not. And we're looking forward to a chance to comment on this reg. guide and engage the Staff on a relative position on whether this is or isn't.

But you're right. This isn't the venue to discuss it right now, but we would really like an opportunity to do so in the future.

CHAIRMAN SIEBER: Yes. Actually, I wanted to discuss it to the extent that I understand what's happening. And I think we've done that in this area. And that gives us plenty of motivation to put the rule out for comment.

MR. RIDGELY: John Ridgely, from the Office of Research.

I'd like to go back to basics.

CHAIRMAN SIEBER: Okay.

MR. RIDGELY: The basics is licensees have

to meet the regulation. A regulatory guide is one means that have been found acceptable by the Staff to meet those regulations. If a reg. guide now is found at some future date to be inappropriate, for whatever reason, and a now licensee has relied upon that reg. guide to meet the regulation, then the general practice is to go back to the license and say well, you know, this regulation is no longer an acceptable way of meeting -- I mean, this reg. guide is no long an acceptable way of meeting the regulation. So how do you meet the regulation if you are not going to rely on that reg. guide?

CHAIRMAN SIEBER: Go withdraw the reg. guide.

MR. RIDGELY: Well, that would be the precursor to withdrawing the reg. guide, for example. But if something were to be changed and you needed added to it because of new information, then you could follow the same process again. So the reg. guide would then would not necessarily be a backfit or changing it because it's just one acceptable means of meeting the regulation.

CHAIRMAN SIEBER: Okay. Thank you.

Moving on.

MR. RADLINSKI: Okay. The third bullet

we're still in backfit implication. The third bullet area, as I've said before, that existing plants do not need to comply with the updated reg. guide. It would be strictly voluntary.

The imposition of 50.59 on new reactors, even though you might consider it a new Staff position, it's not a backfit as we've said since no licenses have been issued as yet.

Okay. Backfit analysis and CRGR review. Let's see, we probably covered all this. No backfit analysis has been performed.

The original Reg. Guide 1.189 took the similar approach, again, since it was a voluntary implementation. Licensees had the option of voluntarily implementing it or complying with it. It wasn't considered appropriate or necessary to have a backfit analysis.

And then I've just quoted what statements were made in the original reg. guide with respect to the backfit analysis.

CHAIRMAN SIEBER: Okay. I think this is would be a, since we're changing subjects right here, this would be a time to take a short break. I think 15 minutes would be good. If we can come back at 10 minutes until 4:00 and we'll start right here on page

25.

And we're more than halfway done.

(Whereupon, at 3:38 p.m. off the record until 3:54 p.m.)

CHAIRMAN SIEBER: I think we'll all now come to order.

MR. RADLINSKI: All right. The next topic is use of risk-informed methods for non-805 plants. Remember that the SRP updates that we're talking about today and the reg. guide both refer to non-805 plants only. Okay. There's a separate reg. guide for 805 plants, there will be a separate SRP section for 805 plants.

Other that, these three bullets that we've already talked about that made the reference to reg. guide 1.174 we identify the acceptance criteria and the guidance that plants should use, should follow in the event that they want to use risk-informed methods for an exemption request or whatever.

Was there something additional that you wanted to talk about?

CHAIRMAN SIEBER: I think you ought to go through things like qualifying the -- you don't have to full fire PRA in order to use risk information to support specific applications under this regulatory

guide.

MR. RADLINSKI: That's true.

CHAIRMAN SIEBER: On the other hand, you have to have pieces of the fire PRA in order to take advantage of this and those pieces require some qualifications of your method. I think you could discuss what those qualifications of methods are.

MR. RADLINSKI: Okay. And I do that in one of my later slides.

CHAIRMAN SIEBER: All right.

MR. RADLINSKI: All right. Next slide.

Okay. Compliance expectations. I think we've talked about most of these. Again, it's a voluntary acceptance for the guidance. For an existing plants there's no requirement that they comply.

MEMBER MAYNARD: Real quick on that. Were plants going for extended power or not extended power but for --

CHAIRMAN SIEBER: License renewal.

MEMBER MAYNARD: -- license renewal

MR. RADLINSKI: Yes.

MEMBER MAYNARD: How does this impact those going for license renewal?

MR. RADLINSKI: It will be used as a basis for the review, okay. We can't impose it. We can't

say it's a requirement that you must meet. But we can question why they are not meeting the guidance, the acceptance criteria in these documents.

CHAIRMAN SIEBER: I guess the most important thing in the section that you wrote is the fact that you have to include items structure systems and components that are not active as part of the scoping for the license renewal process.

MR. RADLINSKI: Right. Subject to the aging management program.

CHAIRMAN SIEBER: Yes. And to me that's probably the key issue is to make sure that the reg things are in scope and the draft regulatory guide does address that. It addresses the need to do it. It doesn't tell you how to do it.

MR. WEERAKKODY: I do agree with you said they were. What they're doing, the license renewal space is when you do an application, we go print out the licensing basis of the plant. And that's a compilation of their safety evaluation we proposing fire protection. That's our guide. Not the reg. guide.

MEMBER MAYNARD: And one other thing in reading this clearly for the existing plants it talked about I think plants prior to '79 had to get an exemption --

MR. RADLINSKI: For the three aspects of Appendix R that they're required --

MEMBER MAYNARD: And with this they would still be required to get an exemption. I'm just not real clear on that.

MR. WEERAKKODY: That's correct. Because they still be subject to the rule III.G for Appendix R. They were backfits to those. That doesn't change the reg. guide either.

MEMBER MAYNARD: Okay. But it's only if they decide to adopt this Reg. Guide 1.189 that they would have to ask another exemption or --

MR. WEERAKKODY: I don't see why anybody would, okay.

MEMBER MAYNARD: All right.

MR. WEERAKKODY: In fact, you know, Phil, you will correct me if I'm wrong, even become Reg. Guide 1.189 I don't know of any plans we have committed. So, and that's been in place in for several years. But if -- a higher answer is if they're changing their program and if they're effecting III.G, then they need to come for an extension.

MEMBER MAYNARD: Okay. would you expect any of the current plants now to commit to the Reg. Guide 1.189?

MR. WEERAKKODY: I don't.

MEMBER MAYNARD: Or this version of it?

MR. WEERAKKODY: I don't know.

MEMBER MAYNARD: Well, basically this is just being done for the new plants?

MR. RADLINSKI: Going forward an exemption request is sent in, a license amendment request, the reviewer will use this guidance if it applies for that particular exemption or license amendment as just a baseline for comparison, just to evaluate whether the Staff believes what they're proposing is acceptable.

MR. WEERAKKODY: Yes. It's more like raises a flag. If I'm an inspector, if I'm a reviewer and if I find that a particular plant doesn't meet a particular criteria, that's kind of like raising a flag, you know, I should look at this a little bit further. But they should not be making a final determination on the compliance without looking at that plant's licensing basis, which is the compilation of their Safety Evaluation Reports.

Is that correct, Phil? Okay. Yes, Phil Qualls is basically my consultant. He's been here for like 25 years or so.

MR. RADLINSKI: And the last bullet with respect to new reactor, we do expect them to comply

with the updated versions of the SPR and the reg. guide. But, again, it's not a regulation. It's just one acceptable approach. But it'll be used as our basis for whether or not we consider their program acceptable.

CHAIRMAN SIEBER: One of the areas that I suspect that you might discuss when we talk about your compliance expectations is the area of exemptions. For example, when you initiated the operator manual action rulemaking, the idea there was to provide a codified rule that would allow one to judge when, where and to what extent operator manual actions would be allowed, thus avoiding the requirement to seek exemptions.

MR. WEERAKKODY: That's correct.

CHAIRMAN SIEBER: Now the rule is withdrawn and so exemptions are required.

MR. WEERAKKODY: That's correct.

CHAIRMAN SIEBER: And then there's statements in this regulatory guide to the effect that if you have a fire protection program that has been reviewed by the Staff and the Staff wrote an SER. And in the FPP licensee or an applicant identified areas where an exemption from a rule is required and the Staff in their SER agrees with it, that's not good

enough to be considered the exemption. They have to turn around again and apply for the exemption, but can state that the SER says it's okay as their basis that it is okay. And could you tell us a little bit more about that process? Because my impression during the operator manual action exercise is that we had was that you were anticipating literally hundreds of requests for exemption, and that's why you wanted to put in the rule. And so now the rule's withdrawn and you're not again anticipating lots of exemption requests?

MR. WEERAKKODY: Yes. Anticipating I have one in-house, okay. And, you know, we might get more but --

CHAIRMAN SIEBER: Well, when the inspectors get out there and start tramping things down, you'd be surprised how many you might get.

MR. WEERAKKODY: Actually, you know, we basically said to the licensee this, I think 2½ years or so to sort of get well, so to speak.

CHAIRMAN SIEBER: Right.

MR. WEERAKKODY: So they are in the stage of, you know, planning their corrective action. So we would get some exemptions.

MR. RADLINSKI: But just clarification on

operator manual action that's mentioned in an SER requiring exemption did not come from the fire protection branch. This came up in a public meeting back in March.

CHAIRMAN SIEBER: Okay.

MR. RADLINSKI: An OE stood up and OGC concurred and said if it's not in compliance, it doesn't matter what it says in your SER, it has to go through the exemption process. Submitting an SER or an SAR and writing an SER is not the same process. It's not to the same level as the exemption process, therefore it doesn't count. But --

CHAIRMAN SIEBER: So it's filed in a different place. So if you want to know what the basis, the licensing basis is, usually you don't go to the SERs, you go to all the applications and exemption requests and things like that.

So I sort of figured out what was going on there. On the other hand, the licensee gets to do everything twice.

MR. RADLINSKI: Well, we did say in the RIS that we wrote for operator manual actions that it would probably be like a pass-through. If you had to --

CHAIRMAN SIEBER: Yes, I gathered that.

That's the way it's written up.

MR. RADLINSKI: If you have an SER that says your operator manual operations are okay, all we have to do is refer to that that SER --

CHAIRMAN SIEBER: Right.

MR. RADLINSKI: -- and typically, you know, the Staff is more like --

CHAIRMAN SIEBER: Yes. The basis?

MR. RADLINSKI: Right.

CHAIRMAN SIEBER: Just for the basis part of it?

MR. WEERAKKODY: Yes.

MR. RADLINSKI: Right. They still have to go through --

CHAIRMAN SIEBER: Okay. That's basically what I wanted to get on the record with regard to that. Okay. Thank you.

MR. WEERAKKODY: May I go to the next one?

MR. RADLINSKI: Yes, the next one.

Not much to say about the inspection plan. These updates are not going to change the inspection interval. They're going to have time, resources spent on fire protection inspections. The current inspection plans are adequate. They'll cover the updates as well as the current versions.

So was there something in particular you wanted to ask about the inspection?

CHAIRMAN SIEBER: No.

MR. RADLINSKI: Other than that, okay.

And that brings us to the conclusion of the first set of bullets. So basically the updates provide guidance for new reactor fire protection programs. We feel none of the changes have backfit implications. Risk=informed methods can be used for both existing and new reactors. Compliance is expected for the new reactors. Updates provide guidance for inspectors and Staff reviews for future submittals. And there's no change to current inspection plans.

CHAIRMAN SIEBER: All right.

MR. RADLINSKI: I'd also like to point out that as part of the process of getting the documents prepared, at least the reg. guide prepared for public comments, they've gone through OGC. Both of them, the SRP and the reg. guide have now been reviewed by OGC. And we got a whole raft of comments, but they're all editorial, except for one. And that one has to do with the use of the term "must/shall" versus "should." Okay.

It's generally understand in a reg. guide

you don't say somebody shall do something or they must do something, it's one acceptable approach they say should.

We used must and shall in two different cases. In some cases we used it because it was a paraphrase of a regulatory requirement. And OGC agreed, yes, that's okay. Okay.

The other case we used it is the approach that we used in Reg. Guide 1.205 for 805 plants. And it had to do with our review of PRA methodologies and use of acceptable or NRC accepted fire models. We say you must use an NRC accepted fire model or if you don't, you need to submit it. You must submit a PRA and it must be submitted to a PRA review. Okay?

OGC feels that we don't have a regulatory basis or a legal basis for using must and should in those cases.

CHAIRMAN SIEBER: Okay.

MR. RADLINSKI: It's still under discussion.

CHAIRMAN SIEBER: Okay.

MR. RADLINSKI: But other than that, it was all editorial from OGC.

Okay.

CHAIRMAN SIEBER: Well, the old saying is

that lawyers are the ones who know how to spell and engineers are the ones who know how to add and subtract.

MR. RADLINSKI: The first bullet item on your second list was safety related versus important to safety. I think Phil covered pretty much what Appendix R says. IT says important to safety and safety related apply to all safety functions. Okay. So either one apply to all the safety functions including radiological safety, safe shutdown. Okay.

Appendix R also says the phrase "safe shutdown" applies to both hot and cold shutdown functions. In this case it would be post-fire shutdown.

In the context of fire protection shutdown, safe shutdown applies to functions that are required to be performed during and after postulated fires to achieve and maintain safe shutdown.

And finally, the systems required for mitigation of consequences following a design basis accident that are not required for post-fire safe shutdown need not be protected from exposure fire damage. That's in Appendix R.

CHAIRMAN SIEBER: In other words, you don't have to assume that you had a design basis

accident and a fire at the same time.

MR. RADLINSKI: Right. Correct.

CHAIRMAN SIEBER: Okay.

MR. RADLINSKI: And protect against both.

CHAIRMAN SIEBER: Now this is a pretty good slide, but when I look at your glossary in the reg. guide and the definition that's there, I think it would help if that definition referred to Appendix R where there's additional detail as to what important to safety really means. Because I'm not aware of a list of equipment where you can say these are important to safety in the context of fire protection.

MR. RADLINSKI: I think we agree there isn't one.

CHAIRMAN SIEBER: There is not one?

MR. RADLINSKI: Yes.

CHAIRMAN SIEBER: Okay. And so to me that's an area of confusion. I think that you either should define it better or refer to a place in the regulations where it is defined so that everybody ends up knowing what SCCs you're talking about and everybody comes up with the same list.

MEMBER MAYNARD: Well it's better to define it and get that resolved up front. Because it is going to be an issue in a front end getting

resolved after the fact and probably in a less controlled manner.

CHAIRMAN SIEBER: Well, you're going to resolve it at every licensee.

MEMBER MAYNARD: That's right. And it may not be consistent either.

CHAIRMAN SIEBER: That's right. And that would be a recommendation.

MR. WEERAKKODY: Yes. I think going forward like especially in applications with new reactors, I do agree. I think we have to careful is if something has not been defined clearly up to date, now if you try to define it, you know, that correct some implications of, you know, backfit. But going forward, yes.

DR. BANERJEE: But these would be different for different reactor concepts, right?

CHAIRMAN SIEBER: It depends on the definition.

DR. BANERJEE: Yes. ES BWR or EPR or AP 1000, they'd be different.

MR. WEERAKKODY: That's correct. But, again, I think that is a good idea and I don't know, Bob, since we are putting this reg. guide for public comment, you know, for new reactors if you can make

more specific and get public feedback? Have you defined --

MR. RADLINSKI: To identify a list of them --

MR. WEERAKKODY: Not to sort -- that would be trying to be too specific. But I think we ought to take back as an action.

CHAIRMAN SIEBER: I would suggest that the alternatives that I have is to write you a letter and say don't issue this for public comment until you fix that.

The other thing we could do is you could take it as an action item and consider along with public comments and then when you incorporate all this stuff, all the public comments and --

MR. WEERAKKODY: And come back to you. Yes, we would much highly appreciate it because --

CHAIRMAN SIEBER: Well, I see some sense of urgency, at least in my own mind as to why you want to get this work done.

MR. WEERAKKODY: Yes.

CHAIRMAN SIEBER: And to add a couple of months of playing around to me is not accomplishing that goal. On the other hand, I think it's something that needs to be resolved. And a convenient way to do

it is treat it when you're treating the public comments. And when you come back --

MR. WEERAKKODY: That's right.

CHAIRMAN SIEBER: -- we can look at what it is you've done, see if it satisfies our concerns and provided the rest of us have a concern.

MR. RADLINSKI: Okay.

CHAIRMAN SIEBER: And do it that way.

MR. WEERAKKODY: Yes.

CHAIRMAN SIEBER: That's most efficient, least amount of paper and at the same time likely to get a good result.

DR. BANERJEE: I guess it's going to be important to define the boundaries of what you mean by important to safety and safety related. So first thing needs to be to say how do you set these boundaries as to what you consider important to safety and what you don't. Because no explicit definition needed in that.

MR. WEERAKKODY: Okay.

DR. BANERJEE: Because it's so vague right now.

MR. WEERAKKODY: Okay. We will.

MR. RILEY: Just a word on this important to safety issue. I think there's a lot of us in here

with gray hair that probably remember going through this issue, what, 20 years ago, I think. And I guess my mind's failing me and I don't remember where we ended up on it. But I would suggest we go back and look at where we ended up on it and not try and recreate the wheel here. Because, boy, this one a lot of angst was spread out on this issue before. And we ought to start off where we ended up there. And I wish I could remember where, but I'm going to be looking for.

CHAIRMAN SIEBER: It's at least 25 years ago.

MEMBER MAYNARD: Yes. Early mid-'80s I know for sure it was.

CHAIRMAN SIEBER: IT was before TMI. But I think the first mention before TMI.

MR. WEERAKKODY: Okay.

CHAIRMAN SIEBER: Thank you.

And as part of your fire protection program each licensee has a description of how they plan to do the safe shutdown, what equipment they're going to use, what systems.

MR. WEERAKKODY: Right.

CHAIRMAN SIEBER: And that's part of the plan because if you don't have that, you don't know

what to protect, how to deal with it. So that gives you a start as to what important to safety is. But the definition right now and its use in this reg. guide doesn't take you by the hand to that point, and it should.

Okay. What's the next one besides important to safety?

MR. RADLINSKI: Alternative shutdown.

CHAIRMAN SIEBER: Okay.

MR. RADLINSKI: I've just repeated the definition that's in the reg. guide update here. Basically what it's saying is if it's not feasible to provide the separation required by III.G.2 in Appendix R, then you go to III.G.3.

CHAIRMAN SIEBER: Right.

MR. RADLINSKI: And you go on alternate shutdown.

CHAIRMAN SIEBER: Okay.

MR. RADLINSKI: Dedicated shutdown is the subtle difference. That's a system that you actually install separate from your normal plant systems. That's dedicated to providing that train-- fire damage, again, where you don't comply with III.G.2 or can't comply with III.G.2.

CHAIRMAN SIEBER: Yes. I think an example

of that is the installation of yet another train of auxiliary feedwater for PWRs.

MR. RADLINSKI: Right.

CHAIRMAN SIEBER: Which in some plants is known as your Appendix R pump.

MR. RADLINSKI: And in general, the regulatory requirements and the guidance for both alternative and dedicated shutdown are the same.

CHAIRMAN SIEBER: But they're two different concepts, alternative and dedicated are two different things.

MR. RADLINSKI: They are. But -- well, I can describe the system here. Once you install the system, then it's become a permanent part of the plant, you know, you can still dedicate it.

CHAIRMAN SIEBER: Yes, right.

MR. RADLINSKI: I have no trouble with it.

CHAIRMAN SIEBER: Yes, you can use it for something else.

MR. RADLINSKI: I think, Phil, do you want to--

MR. QUALLS: Well, I'm not sure. This is Phil Qualls.

I'm not sure I understand if there's a question or what --

CHAIRMAN SIEBER: No. I don't think there's anything that we need to redefine here. It's just that there is a subtle difference between the two concepts.

MR. RADLINSKI: Right. And I'm not sure it makes a difference. Like you say, it --

CHAIRMAN SIEBER: It doesn't in --

MR. RADLINSKI: The regulations and the guidance apply to both --

CHAIRMAN SIEBER: As far as treatment is concerned, it makes no difference.

MR. RADLINSKI: Right. Right.

MR. QUALLS: Right. It's just the regulation defines them a little bit. You know, there is a definition in Appendix R that discusses alternative and dedicated shutdown.

CHAIRMAN SIEBER: Yes. And I don't think that we need to put additional words here in order to clarify that, because it won't change the way it's treated. Okay.

MR. RADLINSKI: Okay. The next slide, electrical circuit failure analysis. The fundamental requirement for safe shutdown as a result of a fire is that any electrical circuit whose fire induced failure to prevent safe shutdown you could directly or

indirectly, for example by spurious actuation, should be addressed in the post-fire safe shutdown circuit analyses to be protected if it needs to be protected or not. Okay.

Protection should be provided in accordance with the regulatory requirements to provide reasonable assurance and safe shutdown, i.e, III.G.2, III.G.3.

I did want to point out that there is an industry guidance document, NEI 0001 which is a very extensive description or set of guidance criteria for doing a post-fire shutdown analysis. The Staff has reviewed the document. We've accepted it as appropriate for doing a safe shutdown analyses for both deterministic licenses and risk-informed licenses.

Was there anything else on that issue?

Success path. We have a definition for that. The minimum set of structures, systems including power, instrument and control circuit and instrument sensing lines and components that must remain free of fire damage and were to achieve and maintain safe shutdown in the event of a fire. It's synonymous with the post-fire safe shutdown train free of fire damage. It includes electrical circuits, again

whose fire induced failure could prevent safe shutdown, either directly or indirectly.

Okay. Spurious actuations. If we define spurious operation as the undesired operation of equipment resulting from a fire that could effect the capability to achieve and maintain safe shutdown. This is the original definition that's in Reg. Guide 1.189 right now. We haven't changed that. It be provided additional guidance based on a generic communications that any and all must be considered to occur and they may occur in rapid succession.

The assumption that there will be sufficient time to mitigate individual spurious actuations before another occurs does not meet regulatory requirements. It is in the generic letter, and must be demonstrated by a licensee who claims that this is the case.

So if your analysis is based on the assumption that one happens at a time, I'm going to go out and fix it, I'm going to mitigate the consequences of that spurious actuation before I need to look at the next one, that does not meet regulatory requirements. It's not supported by the cable fire testing that was done by the industry.

CHAIRMAN SIEBER: One of the things that's

important in this regard which the reg. guide does cover is the proper coordination of breakers and fuses. You have fire damage to cables, you would prefer that the coordinating scheme be such that you trip off that cable as opposed to tripping off a whole division of equipment.

MR. RADLINSKI: Right.

CHAIRMAN SIEBER: And that's adequately covered in here, but it's an important aspect of this analysis to me.

MR. RADLINSKI: Okay. Operator manual actions. Actions performed by operators to manipulate components and equipment from outside the main control room to achieve and maintain post-fire safe shutdown and hot shutdown not including repairs. We've added the clarifier than manual operation of valves, switches, circuit breakers is allowed to operate equipment and isolate systems as an operator manual action.

CHAIRMAN SIEBER: Yes. There is additional requirements in the rules about the operator's ability to get there and to see something after he gets there. In other words, that's where Appendix R's reference to emergency lighting really has an important piece to it.

MR. RADLINSKI: Right.

CHAIRMAN SIEBER: And if the fire is blocking access to the equipment you have to operate, then that equipment is not operable, can't be used as part of the safe shutdown path.

MR. RADLINSKI: Right.

Next slide is also an operator manual actions. It's repeating what's in the RIS on operator manual actions, accrediting operator manual actions with III.G.2 protection, must be approved via an exemption process. It's not acceptable unless it's approved.

You mentioned detection suppression. Use of operator manual actions does not necessarily obviate detection and suppression. Okay. I don't think there's any question among the Staff or the industry that protection is essential.

CHAIRMAN SIEBER: Yes. Otherwise you don't know which is going to work.

MR. RADLINSKI: And you got to know you got a fire. Okay.

CHAIRMAN SIEBER: Yes. You don't know it's not going to work.

MR. RADLINSKI: Suppression detection is a no= brainier.

Suppression has been highly contested. The Staff considers that to be part of the defense-in-depth. Okay. Even though you've got an operator manual action, even though we might accept it as an exemption -- if it's appropriate. I mean, if you have the amount of combustibles that would justify having a suppression system, it's part of your defense-in-depth and therefore it should be there.

CHAIRMAN SIEBER: Okay.

MR. RADLINSKI: Okay. Well, let's see, fire protection for license renewal. We talked a little bit about this. The ones I've seen, most of them with everything in the fire protection system has been identified as being in scope, but yet you're only looking at the passive components, the long-lived components that aren't typically part of your maintenance program. Examples of a fire protection components which are passive and long-lived include fire barrier assemblies, sprinkler heads, fire suppression system piping and valve bodies, fire protection tanks, pump casings and fire hydrant casings.

Just one point of clarification. The smoke and heat detector would not be considered -- they are considered action components and therefore they're not

considered a part of the AMR.

CHAIRMAN SIEBER: You discuss the use of elevated tanks as a means of providing fire water. It seemed to me that it said that you had to have two sources, two tanks, is that correct?

MR. RADLINSKI: If you have tanks, you need to -- right.

CHAIRMAN SIEBER: And at a half million gallons each?

MR. RADLINSKI: Two 100 percent, right.

CHAIRMAN SIEBER: That's why people buy pumps instead? It's a lot of money to spend on tanks.

MR. RADLINSKI: Whether they're elevated or not, you would still need two.

CHAIRMAN SIEBER: Yes, I know.

MR. RADLINSKI: Yes, it's a lot of water.

CHAIRMAN SIEBER: They're big tanks, yes.

MR. RADLINSKI: The passive shutdown plants are using that water for other purposes, though.

CHAIRMAN SIEBER: Yes.

MR. RADLINSKI: Anything else on license renewal?

CHAIRMAN SIEBER: No.

MR. RADLINSKI: That's pretty

straightforward. Okay.

New versus existing, which regulations, which guidance apply to each. The first category there is for regulations and guidance that's applicable to both new and existing reactors. 10 CFR 50.48(a) the fire protection rule that applies to both. The new reg. guide will apply to both existing and new reactors. When I say apply to existing reactors, that's we'll apply it to exemption requests as we've discussed. But it will not be backfit to existing reactors.

SRP 9.5.1, as I've said, that's going to cover both existing and new reactors. And I mentioned Generic Letter 86-10, even though there are other generic letters that are applicable, but 8-10 is a big one that provides a lot of clarification for Appendix R implementation of fire protection requirements. So that's still going to be applicable to both new reactors and existing reactors.

Regulations and guidance that are applicable only to new reactors, of course 10 CFR 50 Part 52. Part 52 for ESPs and sign verification and COLs.

CHAIRMAN SIEBER: Yes. What's the ESP permitting process that relates to fire?

MR. RADLINSKI: I don't think there's anything in there.

CHAIRMAN SIEBER: I wondered why it was on your slide.

MR. RADLINSKI: Just because that's what 52 is about.

CHAIRMAN SIEBER: Oh, okay. You don't even need a water source because if you don't have fire water, you can't cool the reactor anyway. So you wouldn't build one there.

MR. RADLINSKI: Yes. I don't believe there's anything in the ESP relating to --

CHAIRMAN SIEBER: Well, the other thing that I can think of is the provisions that you had for wild fires. The regulations speak to don't have your plant built where you have wild fires around your plant because it has an impact on the plant.

MR. RADLINSKI: Right. But that's part of your construction fire protection.

MR. WEERAKKODY: We don't really do ESP. The fire protection program only looks at PCDs and COLs.

CHAIRMAN SIEBER: Okay.

MR. RADLINSKI: All right. The second bullet is just referring to the enhanced fire

protection that we talked about for new reactors. And as we talked earlier, 50.59 we're proposing to apply that to new reactors only.

I've got some notes here. Let's see, new reactors must meet current relations for post-'70 plants plus the enhanced fire protection requirements.

NFPA 804 is the deterministic fire protection program standard NFPA. ES PWRs have committed to that. I'm not sure about AP 1000. That standard has been issued, by the way.

Regulations guidance have not been developed for performance-based risk-informed fire protection program for new reactors yet. Okay. NFPA 806 in preparation. That will cover new reactors that want to use the risk-informed performance-based program.

And finally -- or finally, but the regulations that apply only to existing plants 50.48(b), which was the Appendix R portion of the fire protection role, that's still applicable to pre-'79 plants to the extent that we discussed before.

48(c) the NFPA 805 role, again, that's voluntary, so that will apply to some and not to others.

The new SRP section that's being developed

for future or for 805 plants is going to be a future SRP. That does not apply to new reactors.

Right, Dan?

MR. FRUMKIN: That's good. Yes.

MR. RADLINSKI: Yes. And then, of course, 805 is tied in with 50.48(c), so if the licensee adopts 48(c), then they'll comply with 805.

And then finally the regulations for decommissioned plants, it's still the same. It's 10 CFR 50.48(f).

Okay. You wanted to talk about passive plant safe shutdown. As I guess everyone's aware that the design conditions for safe shutdown for a passive plant are not the same as they are for other plants. They're required to achieve a maintain a reactor coolant temperature of 420 degrees or below for non-LOCA events. So fire to non-LOCA events, so that would be the criteria for post-fire.

Now any systems that are required to achieve and maintain that level of safe shutdown would be protected by the fire protection program.

And then systems that bring the reactor to cold shutdown or to refueling condition are not safety related. However, as we've mentioned some plants are using the fire protection system as backup to provide

cooling water to maintain the plant in safe shutdown.

VICE CHAIRMAN WALLIS: Can you explain the first bullet here?

MR. RADLINSKI: First bullet.

VICE CHAIRMAN WALLIS: This boiling point of water. Is that on which side and --

MR. RADLINSKI: First bullet or second bullet?

VICE CHAIRMAN WALLIS: First bullet. The boiling point of water business in the top there.

MR. RADLINSKI: Yes.

VICE CHAIRMAN WALLIS: Cannot produce temperature radical below the boiling point of water.

MR. RADLINSKI: At pressure.

VICE CHAIRMAN WALLIS: At the pressure on the primary side?

MR. RADLINSKI: Right.

VICE CHAIRMAN WALLIS: So it's got to be boiling on the primary side?

CHAIRMAN SIEBER: That's how you get the movement of heat, just boiling it off, right.

MR. RADLINSKI: Yes. I mean, that's the principle of the passive cooling.

CHAIRMAN SIEBER: Convection won't do it. Boiling convection.

VICE CHAIRMAN WALLIS: And the heat sink is where?

MR. RADLINSKI: It's a closed system with the heat sink. It's circulating through a heat exchanger.

VICE CHAIRMAN WALLIS: Because usually when you make the water colder you get better heat transfer. So it's going to be more than mysterious thing. But presumably it has to do with how the whole system works and circulates and all that stuff.

MR. RADLINSKI: Yes, I don't -- I can't --

VICE CHAIRMAN WALLIS: Too big explanation for you and for me to understand.

MEMBER MAYNARD: I think the heat sink is basically to protect the current design with the sumps and stuff. You know, you're basically as it steams out of the core --

VICE CHAIRMAN WALLIS: You're boiling it off.

MEMBER MAYNARD: -- yet it condenses in containment and that you're pumping that water back in.

VICE CHAIRMAN WALLIS: Well, that's not really heat transfer occurring. It's boiling it off.

CHAIRMAN SIEBER: And you're actually

cooling the water that's in that loop.

VICE CHAIRMAN WALLIS: But you're boiling it off. It's not as if you're doing it in order to get a heat transfer. That's what's strange. It's for heat transfer to occur, it has to boil. That's really strange.

CHAIRMAN SIEBER: Well, you have no mode of power.

CHAIRMAN SIEBER: You boil it off, right?

CHAIRMAN SIEBER: So you boil it off.

VICE CHAIRMAN WALLIS: Well, it isn't heat transfer that's occurring. You're just boiling it off and condensing it somewhere else.

MEMBER SHACK: Heat is being transferred in the process.

VICE CHAIRMAN WALLIS: It's not. It's steam that's being transferred.

CHAIRMAN SIEBER: Well, heat and steam.

MEMBER MAYNARD: You've transferred heat.

VICE CHAIRMAN WALLIS: But the point is it's being boiled off, is that right? It's being boiled off. It's not a heat exchange, per se.

CHAIRMAN SIEBER: It is.

MR. FRUMKIN: This is Dan Frumkin. And I've just been following some of these designs a

little bit.

The heat exchange is going on at the top of the containment for the AP 1000 and the ES BWR. So the steam is boiling off. And then as it hits the top of the containment--

VICE CHAIRMAN WALLIS: This is as it comes back around again.

MR. FRUMKIN: -- it either condenses with the ABWR based on atmosphere of the big tank on the top or through heat exchanger with the ES BWR.

VICE CHAIRMAN WALLIS: Right. And then comes back around.

MR. FRUMKIN: But we do need the driving heat in order to get to the top of containment.

VICE CHAIRMAN WALLIS: Okay.

CHAIRMAN SIEBER: Okay. Thank you.

MR. RADLINSKI: All right. Moving on to risk information, which I think is probably the last topic.

As we've said before, licensees have not adopted 50.48(c) the 805 rule. And licensees preparing new reactor fire protection programs may apply the methodologies PRA and fire modeling to evaluations of a fire protection program change.

CHAIRMAN SIEBER: How many licensees have

committed to 805 at this point?

MR. RADLINSKI: Forty-two.

MR. WEERAKKODY: Forty-two reactor units, not licensees. Forty-two reactor units. Forty-two out of 103.

CHAIRMAN SIEBER: Almost half.

MR. WEERAKKODY: Close to half, yes.

MR. RADLINSKI: And we've said the NRC should review and approve the proposed methodologies, should or must, and that's not resolved yet, including acceptance criteria before the implementation of any plant change based on this methodology.

VICE CHAIRMAN WALLIS: There's something wrong with, I'm sorry, the thing you were saying before. If you reduced it below the boiling point of water, then you've cooled it and you don't need to cool it anymore. So the whole thing is really sort of peculiar.

MR. RADLINSKI: I just cut and pasted that. I apologize.

VICE CHAIRMAN WALLIS: Not much to do with fire, anyway.

MR. RADLINSKI: No. Okay. According to 10 CFR 52.47(a)(v) a new reactor application must include a design specific PRA. Okay. That's overall plant.

The point is that the regulation says that it's an overall plant PRA, okay.

So going to the next page detailed fire PRA are not necessarily required for new reactor. Okay. However, if the CRL references a certified design and that certified design does have a detailed fire PRA, then that licensee must adopt that fire PRA, make it its own and maintain it and proceed on that basis. Okay.

CHAIRMAN SIEBER: He has no choice?

MR. RADLINSKI: Right.

MEMBER ARMIJO: Is there any certified design that has such a fire PRA.

MR. RADLINSKI: That was my next. You didn't give me a chance.

MEMBER ARMIJO: Okay.

MR. RADLINSKI: So so far the ones that I'm aware of, AP 1000, ES BWR both have detailed fire PRAs. Okay. So any COL that's based on AP 1000 certified design or ES BWR certified design is going to have a fire PRA and they must maintain it. And as we --

MEMBER MAYNARD: That's almost an incentive to not have a fire PRA for a new design.

VICE CHAIRMAN WALLIS: That's right.

MEMBER MAYNARD: You know, I understand the desire to do this, but I'm not sure I understand why it's okay to not have one to start with, but once -- you have to maintain -- it's almost a disincentive.

You don't have to answer that. It seems to odd to me.

MEMBER KRESS: I don't think we're going to certify it unless it's got a fire PRA.

VICE CHAIRMAN WALLIS: If that's the case, then it's a moot point.

CHAIRMAN SIEBER: Turns it into an incentive.

MR. RADLINSKI: Okay. The third bullet is right out of Reg. Guide 1.205 when we talk about what constitutes a fire PRA. It encompasses all levels and types of PRAS ranging from a simplified bounding analysis to a detailed analysis that would be in accordance with NUREG-68.50. Okay.

VICE CHAIRMAN WALLIS: As long as you don't use the word "qualitative," you're okay.

MEMBER SHACK: Well, yes. I would say that seems like Catch 22. You're just not going to get out of it. But you're going to have to have at least five, and that's a fire PRA.

MEMBER KRESS: That's right.

MEMBER SHACK: It's got the first bullet. But I guess a detailed fire PRA.

MEMBER KRESS: Yes. That's different.

MEMBER SHACK: That gets you --

CHAIRMAN SIEBER: Right.

MR. RADLINSKI: And again --

MEMBER KRESS: It's not necessarily required.

MR. RADLINSKI: Carry over from 205 is that a fire PRA should receive a peer review.

VICE CHAIRMAN WALLIS: Oh, yes.

CHAIRMAN SIEBER: Okay. That looks like you've come to the end of your slides.

MR. RILEY: It's the NEI guy again, Jim Riley.

Just a couple of final thoughts if I can leave them with you and thank you for the opportunity to share some of these with you.

I've already expressed some of this with you guys, so I'm not going to go into any kind of detail, but we still have some concerns about what the backfit analysis says about manual actions and circuit analysis.

One thing that strikes me as we kind of look at how this presentation went on, you can say

that a reg. guide has one acceptable way to meet a regulation and therefore putting in that doesn't necessarily mean it's a backfit. But the problem is that when you don't use it, you have to justify what you're doing as being roughly equivalent to what's in the reg. guide. So it's kind of round about way to still require -- to still put a requirement out there even though it isn't. So just a thought on that.

A concern that -- when I'm looking at the new reg. guide, I'm not sure exactly what it's doing with respect to fire PRA and NFPA 805 plants. But since Sunil and his folks are way involved in what's going on with the pilot plants, I don't think there will be a problem there. But I wasn't sure from the way it was presented exactly how this reg. guide was going to start laying out expectation for fire PRAs, et cetera. Because we don't want to get ahead of what's going on with NFPA 805 transition in the power plants. And I'm assuming that the reg. guide isn't going to put us into that kind of position where it lays out expectations before we've had a chance to work them through in the power plant process. So --

CHAIRMAN SIEBER: One page.

MR. RILEY: Okay.

CHAIRMAN SIEBER: And if everybody does

their job right, you'll get to read it pretty soon.

MR. RILEY: Yes. Okay. Just a thought on that.

CHAIRMAN SIEBER: Okay.

MR. RILEY: Just again questions about cable fire testing important to safety. You've all been talking about it. We appreciate that conversation and like to keep our minds open on where we're going and what can be concluded out of the cable fire testing, and where we're going with important to safety.

And then one final thing, and I think it's an administrative thing. At one point in your discussion I thought you were saying that this new reg. guide is not applicable to plants that are going NFPA 805 and Reg. Guide 1.205, yet one of your bullets seemed to indicate that it was for existing plants. Maybe that's just my 00

MR. RADLINSKI: No. Reg. Guide 1.205 is the applicable guide.

MR. RILEY: I would think so. I think the slide where you talked about what was applicable to existing plants listed 1.189 in there and some of the existing plants will be NFPA 805. So, like I said, it's just a clarification issue.

MR. RADLINSKI: Yes. I couldn't put all the qualifiers.

MR. RILEY: Okay. All right.

Thank you for the opportunity.

CHAIRMAN SIEBER: Okay. Thank you. We appreciate those comments.

I think it explicitly states in here that you're either NFPA 805 plant or not.

MR. RADLINSKI: It does.

CHAIRMAN SIEBER: One or the other.

VICE CHAIRMAN WALLIS: Right.

MEMBER SHACK: But the viewgraph was confusing because it said they were applicable to existing plants, where they're both applicable to existing plants and just not at the same time.

MR. RADLINSKI: Right.

CHAIRMAN SIEBER: Yes. One of the issues is that the industry has a disadvantage. They don't have this, it's pre-decisional. So they sort of have to guess as to what's in it and look at the slides and presume the worse.

Do any members have additional questions?

VICE CHAIRMAN WALLIS: Well, what we're asked to do here to approve it for going out to public comment, is that right?

CHAIRMAN SIEBER: Yes. I see that we have ahead of us a couple of choices. We need to write a letter, and the letter should either say send it out for public comments and continue on with the process or fix something that we think needs fixed before it goes out for public comments. And those are the two choices that we have.

What I'd like to do now is just briefly have each of the members here in attendance give me advice as to which way they want to go. Do you think we ought to tell the Staff they ought to send it out for public comments or if you want something changed before it goes out, tell me what it is that you don't like. And maybe I can start with Bill.

MEMBER SHACK: Well, I'm not a fire protection person. So, you know, I think I'll defer.

I found it an interesting thing. To me it seemed mostly a compilation of just pulling together everything that had been out there as far as guidance. These issues about backfit and such will be settled, I think, in a different arena.

CHAIRMAN SIEBER: Litigation.

MEMBER SHACK: Litigation. And, you know, so that aside, then so I see no real problem with putting it out for public comment myself.

MEMBER ARMIJO: Yes. I see it the same way, Bill, except your comment to the Staff could take account of the recommendations that you were making. Consider that sort of like public comment.

CHAIRMAN SIEBER: Yes, I think they can deal it with them. Otherwise, it's going to take a couple of months to--

MEMBER ARMIJO: Yes, do it again.

CHAIRMAN SIEBER: -- go through all this process again. And we get a chance to check their paper. And so if it isn't there, then we can make a fuss.

Dr. Wallis?

VICE CHAIRMAN WALLIS: Yes, I would put it out for public comment.

CHAIRMAN SIEBER: Okay.

VICE CHAIRMAN WALLIS: I think it covers a lot of things, a lot of things which have been covered before and as Bill said, are being pulled together. I didn't see any show stopper or something I wanted to change.

CHAIRMAN SIEBER: I think, just picking up on your comment, I think it's important that this is one of the most complex areas of regulation that I know of. Lots and lots -- hundreds of documents apply

to this. Plants in different categories and different kinds of treatment. And maintaining the roadmap through this process is to me extremely important. And I think the reg. guide does that because, you know, it's complex and you need to know what category you're in for a lot of different situations in order to be able to run an effective program and to achieve the right result.

Dr. Kress?

MEMBER KRESS: I see no reason why it should go out for public comment.

CHAIRMAN SIEBER: Otto?

MEMBER MAYNARD: I think it should go out for public comment. I appreciate the Staff's discussion. I appreciate the comment from NEI. And I think we need to highlight a couple of points that you've brought up and others have brought up in here. But I think the main thing it needs to go out for public comment. And that we can see those and --

CHAIRMAN SIEBER: How about doing me a favor? Write down what you think ought to be highlighted. I actually have a letter that follows your recommendation, for some strange reason. If you want to add something to it, it would be easier to do it before we start arguing about it.

MEMBER MAYNARD: Yes. The only thing that I would necessarily highlight, maybe two things. One is on the definition of important to safety. And the fact that we discussed that and that's something that may need clarification after public comment and stuff that comes in.

And the other is we need to talk about whether we need to make it clear or not. At this point I don't think we're making a conclusion whether this is or is not a backfit. And that I think could be comments that receive back. I don't know if you have to put that in the letter, but --

CHAIRMAN SIEBER: I think it's premature. And, first of all, that's not our prime function.

And secondly, I think that everybody has to really make a case that it's really almost a legal case that has to be made as to whether the backfit rule applies or not.

I would like to see the Staff and the industry go through its process before we jump in there and try to make decisions for everybody. Because right now we don't have enough information from either party to decide whether it's a backfit or not.

MEMBER MAYNARD: I agree. And I don't

think it has to be in the letter. I just want to make sure that we don't imply by sending the letter out that we're saying it's not a backfit --

CHAIRMAN SIEBER: And I agree.

MEMBER MAYNARD: And it may not need to be put in there at all. I just don't think --

CHAIRMAN SIEBER: Well, it's in the transcript now, so I think it'll be clear enough.

MEMBER MAYNARD: I think that's fine. I think mission accomplished there.

CHAIRMAN SIEBER: Okay. That sort of gives the Staff an idea of where we're headed. And I will work on that.

I certainly appreciate the effort that you went to to make the presentation first. But more importantly, in developing the guide in the first place. It's a job pretty well done.

MR. RADLINSKI: Thank you.

CHAIRMAN SIEBER: You accomplished a lot of goals that I think that were important in promulgating a list. And it's a very complex issue. And in order to make a complex issue relatively easy to understand takes talent. And that talent shows.

So if there -- oh -- do you have a comment?

DR. BANERJEE: I am just an observer.

VICE CHAIRMAN WALLIS: He's going to TP everything now.

CHAIRMAN SIEBER: You could make me work all night. Do you have any comment?

DR. BANERJEE: No.

CHAIRMAN SIEBER: Okay. Thank you, Dr. Banerjee.

With that, then I would like to thank the Staff for the work that you've done and your presentation today.

When you give a presentation to the full Committee it ought to be a brief version of this one. I think that this covers the main points.

MEMBER KRESS: And leave the blue background out.

CHAIRMAN SIEBER: Pardon?

MEMBER KRESS: And leave the blue --

CHAIRMAN SIEBER: My eyes are so bad that I couldn't even see it.epoxy

MEMBER KRESS: You couldn't see it.

VICE CHAIRMAN WALLIS: Yes, leave that blue out.

CHAIRMAN SIEBER: So in any event, I think it is appropriate that we adjourn the meeting now. And

thank you very much.

(Whereupon, at 4:51 p.m. the meeting was adjourned.)