

1 UNITED STATES OF AMERICA  
 2 NUCLEAR REGULATORY COMMISSION  
 3 \*\*\*  
 4 BRIEFING ON FIRE PROTECTION  
 5 \*\*\*  
 6 PUBLIC MEETING  
 7 \*\*\*

8  
 9 Nuclear Regulatory Commission  
 10 Commission Hearing Room  
 11 11555 Rockville Pike  
 12 Rockville, Maryland

13  
 14 Thursday, March 31, 1998  
 15

16 The Commission met in open session, pursuant to  
 17 notice, at 10:06 a.m., the Honorable SHIRLEY A. JACKSON,  
 18 Chairman of the Commission, presiding.

19  
 20 COMMISSIONERS PRESENT:

- 21 SHIRLEY A. JACKSON, Chairman of the Commission  
 22 GRETA J. DICUS, Member of the Commission  
 23 NILS J. DIAZ, Member of the Commission  
 24 EDWARD McGAFFIGAN, JR., Member of the Commission  
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1 STAFF AND PRESENTERS SEATED AT COMMISSION TABLE:

- 2 BRYAN SHERON, NRR  
 3 GARY HOLAHAN, NRR  
 4 STEVE WEST, FPES  
 5 ED CONNELL, FPES  
 6 MARK CUNNINGHAM, PSA  
 7 JOSEPH CALLAN, NRR  
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1 P R O C E E D I N G S

2 [10:06 a.m.]

3 CHAIRMAN JACKSON: Good morning, ladies and  
 4 gentlemen. The purpose of today's Commission meeting is to  
 5 be briefed by the NRC Staff on its efforts to date in  
 6 developing a risk-informed performance-based regulation for  
 7 fire protection at nuclear power plants.

8 In October 1996, the Commission directed the Staff  
 9 to revise 10 CFR 50.48 and modify or remove Appendix R. The  
 10 Staff was tasked with developing a plan for transitioning

11 fire protection regulations to a more risk-informed and  
12 performance-based structure.

13 The Commission received a Staff update in mid-1997  
14 and again directed the Staff to expedite the resolution of  
15 issues necessary to formulate a rule which takes a more  
16 risk-informed and performance-based approach.

17 The Staff was directed to shift the rulemaking  
18 effort to NRR, the Office of Nuclear Reactor Regulation, to  
19 finalize the current research, and to obtain the Office of  
20 General Counsel feedback on backfit implications; and  
21 finally, to obtain industry feedback on interest in the  
22 rule.

23 This Commission meeting was scheduled to discuss  
24 these various issues. The Commission is particularly  
25 interested in as much as the results are in, the Staff

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1 discussion of fire protection functional inspection results,  
2 the IPEEE review results, the status of research review  
3 results on the 12 technical issues presented in the previous  
4 Commission paper, and the Staff's pros and cons and industry  
5 comments on the options presented in the recent Commission  
6 paper, and any differing professional views held by the  
7 Staff.

8 Copies of the presentation are available at the  
9 entrances to the meeting, so unless my colleagues have any  
10 opening comments, Mr. Callan, please proceed.

11 MR. CALLAN: Thank you, Chairman, and good  
12 morning, Chairman and Commissioners.

13 With me at the table are Bryan Sheron, who is the  
14 associate director for Technical Review in NRR, to my right;  
15 and to my left, Gary Holahan, the director of the Division  
16 of Systems Safety in NRR; to his left is Steve West, who is  
17 the chief of the Fire Protection Engineering Section; and to  
18 Bryan Sheron's right is Ed Connell, who is going to be the  
19 chief presenter. He is the senior fire protection engineer.  
20 And then finally, to Ed's right is Mark Cunningham, who is  
21 our sole representative from Research, and Mark is the chief  
22 of Probabilistic Safety Assessment Branch in Research. And  
23 as I said, Ed Connell is our chief presenter, and Mark will  
24 also assist Ed in the presentation.

25 With that, Ed.

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1 MR. CONNELL: Good morning.

2 CHAIRMAN JACKSON: Good morning.

3 MR. CONNELL: Lisa, could I have the first slide,  
4 please.

5 I would like to briefly go over the agenda for the  
6 meeting. First we are going to discuss briefly the  
7 background, how we got to where we are today. The history  
8 of revising the existing fire protection regulations is  
9 rather long, so we will briefly cover that.

10 We will talk a little bit about the external  
11 feedback that we have gotten from industry, from the  
12 National Fire Protection Association, also from some public  
13 interest groups that have expressed interest in this area.

14 We will discuss about the Staff feedback that we  
15 have gotten from OGC regarding the backfit implications, the  
16 fire protection functional inspection program, and the IPEEE  
17 program. Also we will finish up with the considerations  
18 that the Staff used making the options for the Commission's  
19 consideration, and then we will go into detail in the  
20 options and recommendations.

21 Next slide, Lisa.

22 This is an abbreviated background. There's

23 actually more than what I have here, but in the interest of  
24 time and brevity, we will shorten it.

25 SECY 92-63, the Staff plans for elimination of

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1 requirements marginal to safety, identified Appendix R as a  
2 candidate to reduce regulatory burden without adversely  
3 impacting safety. The opportunity was to make the  
4 regulation less prescriptive, more performance-oriented, and  
5 use PRA as appropriate and consider the Commission's safety  
6 goals in revising the regulation.

7 The follow-on SRM approved the Staff's  
8 recommendations.

9 SECY 93-142, report on the reassessment of the NRC  
10 fire protection program. This primarily dealt with the fire  
11 protection issues following the thermo-lag issue. The Staff  
12 went back and reevaluated the entire fire protection program  
13 on the issues with thermo-lag and the Staff recommended that  
14 50.48 and Appendix R -- 50.48 be revised and Appendix R  
15 either be modified or eliminated, make the new regulation  
16 more reactor safety-oriented, add flexibility to the  
17 regulation, eliminate some of the confusion that exists,  
18 address shutdown conditions, and address compensatory  
19 measures such as fire watches which are currently not within  
20 the scope of the existing regulation.

21 Yes?

22 CHAIRMAN JACKSON: You know, if I look at this  
23 history, you know, there were the four years leading up to  
24 SECY 96-134 and five, 97-127. It sounded like the original  
25 Staff plans in 92-263 were not unlike what were submitted

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1 and addressed by the Commission in 96-134 and, to some  
2 extent, in 97-127. What happened?

3 MR. CONNELL: A lot hasn't changed from --  
4 actually in 1986, in a NUREG the Staff considered making  
5 PRAs part of the fire protection and it really didn't use  
6 the term risk-informed, but it did use performance-oriented.

7 CHAIRMAN JACKSON: And PRA?

8 MR. CONNELL: Right. And did use PRA, did use  
9 performance-oriented term, and that was in 1986, so this is  
10 a very old issue. I'd say a lot has changed since the  
11 September SRM and now with industry changing its position,  
12 with the input from the National Fire Protection  
13 Association, as well as the fire protection functional  
14 inspections and we have some preliminary insights from the  
15 IPFEE results. So I'd say a lot didn't happen that's  
16 changed our opinion up until September. Since September, we  
17 have changed our opinion based on all the input we have  
18 gotten from external sources and the results of some of the  
19 internal reviews.

20 CHAIRMAN JACKSON: Well, I guess the question I  
21 really had was that back in 92-263, you didn't initiate a  
22 rulemaking.

23 MR. CONNELL: No.

24 MR. HOLAHAN: I think what was happening in that  
25 time period was that the industry expressed interest in

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1 developing a rule option of their own, and rather than the  
2 Staff moving ahead and developing a rule to implement some  
3 of these thoughts, the industry had indicated that they were  
4 developing a rulemaking proposal and, in fact, eventually  
5 did submit what's been called the proposed Appendix S as a  
6 rulemaking to deal with those issues, and ultimately the  
7 Staff recommended and the Commission decided against that

8 option, and I think that's what filled in a lot of that time  
9 period, where there was a hope that the industry initiative  
10 would deal with these issues in a risk-informed sort of way,  
11 but that didn't work out.

12 CHAIRMAN JACKSON: Yes?

13 COMMISSIONER MCGAFFIGAN: What was the basis of  
14 the Staff recommendation then in August or so of 1996 that  
15 it could come up with something better than Appendix S?  
16 Because the recommendation was don't do Appendix S, reject  
17 the petition for rulemaking, but we will come up with  
18 something risk-informed performance-based, I think it was by  
19 December of '96, and submit it to you, Commission.

20 Why was there that hope at that time? What was  
21 the basis for that hope at that time that you could do that?

22 MR. HOLAHAN: Well, I'm not sure I can speak  
23 exactly to what was said in 1996. My recollection is that  
24 it was a rulemaking plan that was going to be developed by  
25 the end of that period of time, and I think conceptually I

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1 think we still do believe that you can develop such a  
2 risk-informed rule and, in effect, that's what option 1  
3 would be, for the Staff to go and on its own develop such a  
4 rule. And I think there was -- it's not easy, but it was  
5 possible all throughout these years for the Staff to do such  
6 a thing. It was possible in '96 and it's possible now.

7 COMMISSIONER MCGAFFIGAN: Which changes what was  
8 said earlier, the difference from industry, but also is  
9 there a matter of resources involved, that you don't have to  
10 do that?

11 MR. HOLAHAN: I don't think it's so much a  
12 resource issue. I think there is a technology issue of  
13 understanding that methodologies exist to implement a  
14 risk-informed approach, and I think it takes some time and  
15 effort to work, you know, a risk-informed approach into the  
16 regulatory framework for fire protection. But I don't think  
17 that resources is what held us back in earlier years. It  
18 was the question of which option to take, you know, whether  
19 to wait for an industry initiative, or whether to pursue a  
20 Staff direct writing of the rule, or what we have now, a  
21 proposal to work with industry fire protection group as an  
22 alternative.

23 CHAIRMAN JACKSON: Okay, then, why don't you go  
24 on.

25 MR. CONNELL: Okay. Well, I won't cover the other

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1 ones except just to note that in SECY 96-134, the Staff did  
2 state that if any alternatives became apparent, we would  
3 bring them to the Commission, so I think we are consistent  
4 with what we said in 96-134. We have some alternatives we  
5 weren't aware of then and we are bringing them forward for  
6 your consideration.

7 Lisa, could I have the next slide, please.

8 I will briefly cover the September SRM. These are  
9 the things the Commission directed the Staff to do to  
10 finalize the current research and study, and we are going to  
11 discuss about the research -- Mark is going to discuss the  
12 research a little bit; obtain OGC feedback on backfit, we  
13 have done that; obtain industry feedback on the interest in  
14 the new rule, we have done that, we had some meetings with  
15 NEI, attended the NEI fire protection informational forums;  
16 we have gotten some feedback from the fire protection staff  
17 of the licensees, as well as they have made some  
18 presentations to the ACRS that we have been at as well;  
19 provide the Commission with an expedited schedule for

20 rulemaking, that's in 98-058 SECY paper; expedite resolution  
21 of issues for rulemaking elimination and exemptions, that's  
22 dependent upon which option the Commission directs us to  
23 pursue; transfer the responsibility for the rulemaking,  
24 that's been completed; coordinate additional research with  
25 industry as necessary, and Mark is going to discuss the

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1 research activities; and assessing the current regulatory  
2 requirements for transition, and that is dependent upon  
3 which option we pursue.

4 CHAIRMAN JACKSON: Let me just ask you a question  
5 about two of these that were in the SRM last September. You  
6 know, the Commission directed that you finalize the current  
7 research and study. Now in the paper that led up to that  
8 SRM in the June 1997 Commission paper, there were 12  
9 potential fire issues. Things like hot shorts, compensatory  
10 measures, et cetera. And I don't see a slide on these  
11 issues in terms of where we are, you know, in the packet  
12 that we got. Are you going to be summarizing the status of  
13 these issues?

14 MR. CONNELL: Well, some -- there's only one of  
15 those 12 issues that's outside of the existing regulatory  
16 framework, and that's the fires during non-power operations,  
17 and that had been included in the shutdown rule, and since  
18 we are not going to pursue the shutdown rule, we are going  
19 to have to incorporate that into whatever else that we do.

20 If we chose the option or allow an industry  
21 standard, that will be incorporated into the industry  
22 standard. The rest of them are within the scope of the  
23 existing framework, compensatory measures, hot shorts, fire  
24 barriers, fire detection, all those items are within the  
25 scope of the existing regulatory framework.

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1 We don't see any of those issues right now that we  
2 cannot address through the research effort.

3 CHAIRMAN JACKSON: And then you have coordinated  
4 additional research with industry, if possible. So a  
5 question I have is whether the National Fire Protection  
6 Association is doing much research that is applicable to  
7 nuclear plant applications.

8 MR. CONNELL: No, that's not -- the National Fire  
9 Protection Association is primarily a standards development  
10 organization. It's a -- there are sixty some thousand  
11 members on all aspects of the fire protection area from code  
12 officials to manufacturers to building owners, so they don't  
13 fund that kind of research. They don't have that kind of  
14 money.

15 CHAIRMAN JACKSON: But I know that later on you  
16 talk about, you know, waiting on or making use of the  
17 National Fire Protection Association standard, and the  
18 question is, what informs their standard relative to the  
19 utility of it in a nuclear power plant operation context?

20 MR. CONNELL: We don't think that their standard  
21 will require additional research at this point. Now we are  
22 early in the development stages of the standard, and we do  
23 participate in the standards committee, but we don't think  
24 there's any additional research needed to support that  
25 industry standard.

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1 CHAIRMAN JACKSON: Okay. Thank you. But  
2 nonetheless you think it's applicable, it will have a --

3 MR. CONNELL: Oh, I think there's benefit.

4 CHAIRMAN JACKSON: Okay.

5 MR. CONNELL: Next slide, Lisa.  
6 The next part of that SRM is why we are here  
7 today. We are going to brief the Commission on all  
8 findings, observations and conclusions related to PRA and  
9 fire modeling results, that's primarily the IPEEE  
10 activities, the fire protection functional inspection, the  
11 backfit determination, as I mentioned before, industry  
12 interaction, and other relevant information.

13 CHAIRMAN JACKSON: In speaking about other  
14 relevant interaction, you met with ACRS recently; is that  
15 correct?

16 MR. CONNELL: We had three meetings with the ACRS  
17 from November till this month on this topic.

18 CHAIRMAN JACKSON: And what's come out of those  
19 meetings?

20 MR. CONNELL: Well, we -- they heard from us, they  
21 also heard from the National Fire Protection Association,  
22 they heard from Nuclear Energy Institute, and they also  
23 heard from the Nuclear Information Resource Service, and the  
24 Union of Concerned Scientists made some presentations, and  
25 we don't have any formal feedback from the ACRS, but the

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1 feedback that we did get during the meetings was they had  
2 supported the Staff's recommendation to pursue option 2,  
3 which was defer the rulemaking and allow the industry to  
4 develop a standard that we could adopt in the future.

5 MR. HOLAHAN: Can I add something to that? I  
6 think early on, at least for our first meeting with the  
7 ACRS, there was a concern that option 1 was the  
8 risk-informed option and option 2 wasn't, and I think when  
9 that perception was on the table, the ACRS was -- I think  
10 would favor option 1. I think we clarified that situation.  
11 We in fact went back and talked to NFPA about assuring that  
12 NFPA process would address risk and would be a risk-informed  
13 process, and I think that alleviated some of the committee's  
14 concerns.

15 CHAIRMAN JACKSON: Now I also note that in terms  
16 of industry interaction and comments that, you know, the  
17 industry -- and let me just issue a caveat, Commissioner  
18 Dicus sitting here -- you know, we always talk about the  
19 industry. As far as I know, NRC regulates more than one  
20 industry; is that correct? So we are talking about the  
21 nuclear power industry; is that correct?

22 MR. CONNELL: Yes.

23 CHAIRMAN JACKSON: Okay. I just wanted to clarify  
24 that. And

25 MR. CONNELL: I'm assuming in the SRM that you

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1 --that's the industry you wanted us to get feedback on.

2 [Laughter.]

3 CHAIRMAN JACKSON: I'm not saying that we're not  
4 equally guilty.

5 [Laughter.]

6 CHAIRMAN JACKSON: So you make a good point. But  
7 I noted that the industry does not want a new rule these  
8 days.

9 MR. CONNELL: That's correct.

10 CHAIRMAN JACKSON: But yet the latest Commission  
11 paper states that they do desire more allowance for risk  
12 significance within the current rule. And I guess the  
13 question I have is how much room does the current rule allow  
14 in terms of latitude vis-a-vis risk significance? And I am  
15 going to ask you that, Mr. Connell, but I am also going to  
16 ask, if Karen is willing to be put on the spot, ask her

17 that.  
18 MR. CONNELL: Well, I'll answer it and then she  
19 can correct me if I'm wrong.  
20 The existing rule doesn't address risk at all.  
21 And the existing fire protection staff guidance doesn't  
22 address risk at all. So you can infer that to mean there's  
23 a lot of latitude or there is zero latitude since it doesn't  
24 address it at all.  
25 CHAIRMAN JACKSON: It's not there?

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1 MR. CONNELL: It's not there. That's correct.  
2 CHAIRMAN JACKSON: Okay.  
3 MS. CYR: 50.48, which is the underlying  
4 regulation, is quite I mean broadly written. I mean you  
5 could say it's sort of a performance-based standard. But to  
6 the extent that Appendix R is applied or the license  
7 condition has specific terms, those tend to be very  
8 prescriptive, and they do not account for risk. They just  
9 say you are supposed to do certain things in certain ways.  
10 So I mean yes and no. It depends on how you --  
11 but I think to the extent that Appendix R provisions apply  
12 in particular circumstances, those are, I would agree with  
13 him, that those are --

14 CHAIRMAN JACKSON: But the rule itself, you're  
15 saying, is --  
16 MS. CYR: 50.48 itself is a very broadly written  
17 kind of prescriptive -- I mean performance-based regulation.

18 MR. HOLAHAN: The only thing I would have said a  
19 little differently from what Mr. Connell said was I think  
20 the fire protection rules do address safety. I mean the  
21 words safety and risk assessment are not in the rule, but  
22 they certainly provide a level of safety.

23 CHAIRMAN JACKSON: I know Commissioner Diaz is  
24 going to look up these.

25 MR. HOLAHAN: And, you know, looking backwards

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1 from a risk perspective, there have been some studies to  
2 suggest that in fact a risk reduction of something like a  
3 factor of 10 may have occurred because of the rule, even  
4 though it doesn't have, you know, risk assessment as part of  
5 the regulation itself.

6 CHAIRMAN JACKSON: We'll come back to that.  
7 Okay, Mr. Connell, why don't you proceed.

8 MR. CONNELL: Could I have the next slide, Lisa.  
9 The external feedback, the feedback we got from  
10 industry, the nuclear power industry, NEI conducted a survey  
11 of all the chief nuclear operating officers, and they got  
12 100 percent response, almost, and it was pretty consistent  
13 for all the CNOs, and they provided us a letter formally  
14 --they discussed this with us several times what the results  
15 of their survey were. Basically the chief nuclear officers  
16 feel that a new rule is not desired or necessary to ensure  
17 improved safety. Further development of risk and  
18 performance-bases should support changes in guidance to  
19 existing regulations.

20 Changes to regulations or supporting guidance must  
21 allow adequate time for completion of support elements --

22 CHAIRMAN JACKSON: What do you mean by support  
23 elements?

24 MR. CONNELL: IPEEE, fire protection functional  
25 inspections, that is what they're referring to.

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1 MR. HOLAHAN: More guidance documents.

2 CHAIRMAN JACKSON: Okay.  
3 MR. CONNELL: And industry will participate  
4 actively in any changes to rule or supporting guidance.  
5 We have also had a lot of interaction with the  
6 practicing fire protection staff at the plants, and they  
7 also agree that a new rule is not necessary at this time.  
8 CHAIRMAN JACKSON: Do they give you any input  
9 that's any different in terms of what should happen?  
10 MR. CONNELL: They believe that the guidance could  
11 be improved because the guidance is scattered in many  
12 documents, the interpretations of guidance, and they believe  
13 that a lot of clarification would be beneficial, clean up  
14 the generic letters and the standard review plans and the  
15 branch technical positions, and said we could put that all  
16 in one place and any places where we have conflicts or  
17 holes, we could fill those. So they support that.  
18 CHAIRMAN JACKSON: Okay. Please go on.

19 MR. CONNELL: Next --  
20 COMMISSIONER MCGAFFIGAN: No, on that same point,  
21 how realistic are they in light of the conversation you just  
22 had about making through guidance documents the existing  
23 regulations more risk-informed? Further development of risk  
24 and performance bases presumably means that they're asking  
25 within the current framework through this guidance process

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1 which is part of option 2 that you're going to consolidate  
2 and get the guidance. But is the industry expectation  
3 realistic here?

4 MR. CONNELL: Well, you know, we could potentially  
5 -- we haven't had much experience with it in the past, but  
6 we could use risk information as a supporting basis for  
7 supporting exemptions or deviations. That's not prohibited  
8 by the rule.

9 COMMISSIONER MCGAFFIGAN: Right. You're going to  
10 get to it this week, you know, since NRC has folks talking  
11 about the fact that the inspections that we are doing at the  
12 moment are driving up, they project, over \$1 million per  
13 plant will have to be spent to deal with issues that they  
14 don't think are very important, but could be construed as  
15 compliance matters under the current rule. Is this issue,  
16 which may have also -- I don't know whether it came up in  
17 your meetings, but is the reaction of industry to the  
18 current inspections -- is there anything that can be done in  
19 guidance documents that will split that, or is this  
20 potentially going to overtake this feedback and say if you  
21 are going to interpret the current rules the way you are  
22 interpreting them in the current inspections, maybe we do  
23 need a new rule?

24 MR. CONNELL: Well, I think a lot of the problems  
25 with some of the existing exemptions, the existing

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1 inspections, is that some of the interpretation of the  
2 requirements by industry has been incorrect and  
3 inconsistent. I think that is the crux of the problem. I  
4 think if you look at the River Bend inspection report, I  
5 think that you will find that that is the case.

6 CHAIRMAN JACKSON: Has there been sufficient  
7 guidance for the industry to work off of that that incorrect  
8 or inconsistent interpretation shouldn't be there? Given  
9 the existing regulations.

10 MR. CONNELL: Well, it depends. For some areas,  
11 it has. Of course, sometimes NEI issues their own guidance  
12 that doesn't necessarily concur with the Staff's guidance,  
13 and we have had that in several cases related to thermo-lag,

14 related to the motor-operated valve issue. So that causes a  
15 problem.

16 CHAIRMAN JACKSON: Okay. I guess I am really  
17 asking a question of whether you feel that we have had  
18 adequate guidance out there.

19 MR. CONNELL: I think we can improve our guidance.

20 CHAIRMAN JACKSON: Okay.

21 MR. HOLAHAN: I think, in fact, in the area of  
22 circuit analysis or the so-called hot shorts, we have  
23 acknowledged that the existing guidance has left some  
24 confusion in the industry, and that's the reason that we  
25 have proposed to put out additional guidance and some

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1 enforcement discretion associated with that issue, because,  
2 you know --

3 CHAIRMAN JACKSON: It also sounds like you're  
4 saying that there needs to be some consolidation of the  
5 guidance.

6 MR. HOLAHAN: Absolutely, yes.

7 MR. WEST: Could I add one thing about the  
8 guidance, please?

9 CHAIRMAN JACKSON: Sure.

10 MR. WEST: In the area of hot shorts, the kind of  
11 jargon we call hot shorts, we actually call it circuit  
12 analysis these days. But we have completed two of the fire  
13 protection functional inspections and at one plant we had  
14 problems with their circuit analysis, and at the second  
15 plant we had no problems, and both plants used the same  
16 requirements and guidance to get to where they were.

17 So I'm not -- we shouldn't -- I don't think we  
18 should suggest here today that all plants have all these  
19 problems, because that is not the case. Some plants have  
20 done a better job than others in using the guidance that is  
21 available.

22 CHAIRMAN JACKSON: I see. Okay. Yes?

23 COMMISSIONER McGAFFIGAN: I think I have heard the  
24 Chairman said a few times since I have been here that we  
25 enforce rules, not guidance. Guidance is one means of

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1 achieving compliance with a rule, and there are other means.  
2 Are these -- so you get down to this issue of do it our way  
3 or no way, or is that what we're enforcing in these  
4 inspections, that you didn't follow, you know, perhaps  
5 ambiguous guidance exactly the right way? Or what is going  
6 on? What is the industry complaint about?

7 MR. CONNELL: Well, we don't enforce the guidance,  
8 okay. The guidance is an acceptable method of meeting the  
9 regulation. If a licensee wants to have an alternative  
10 method for meeting the regulation, provided it does meet the  
11 regulation, that is perfectly acceptable.

12 The concern becomes, I guess, when they may  
13 interpret their alternative method as meeting the regulation  
14 and we may not agree.

15 CHAIRMAN JACKSON: Okay. Why don't you go on.

16 MR. CONNELL: Okay. Can I have the next slide,  
17 Lisa.

18 The National Fire Protection Association is  
19 interested in this. As I mentioned before, the NFPA, I  
20 think 70,000 members is approximately correct, they  
21 published 314 fire protection standards, four of which are  
22 related to nuclear facilities. They have a standard for  
23 non-production -- non-electric generating nuclear facilities  
24 that the DOE, Department of Energy, uses a lot for their

25 production facilities and their materials facilities. And

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1 they also have a standard for lightwater reactors that does  
2 not address safe shutdown criteria, it is more of a property  
3 protection standard. They also have a standard for advanced  
4 lightwater reactors that does address safe shutdown and, of  
5 course, they are working on the performance-based,  
6 risk-informed standard for the existing reactors.

7 CHAIRMAN JACKSON: What's the fire protection  
8 association's track record in developing standards?

9 MR. CONNELL: Well, they issued their first  
10 standard in the early 1800s on sprinkler systems, and they  
11 have had a lot of experience in this area.

12 CHAIRMAN JACKSON: No, no, I'm really alluding to  
13 specifically performance-based standards.

14 MR. CONNELL: Okay, that's new to them. Matter of  
15 fact, this standard is going to be one of the first  
16 standards. They did some initial work with the life safety  
17 code, I guess it's been probably almost 10 years, where they  
18 looked at it, instead of being performance-based, they  
19 looked at tradeoffs from the prescriptive requirements. If  
20 you put in sprinkler systems, maybe you could extend the  
21 travel distance out of the facility, stuff like that. That  
22 was their first cut at it. But they're working on it.

23 There's some international effort going on and  
24 Australia and New Zealand have performance-based  
25 alternatives to their building codes. So the building codes

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1 are a little more ahead -- the international building codes  
2 are a little more ahead of the -- than the fire codes.

3 CHAIRMAN JACKSON: And their schedule here is not  
4 contingent upon any confirmatory research?

5 MR. CONNELL: No, it is no.

6 CHAIRMAN JACKSON: Okay.

7 MR. CONNELL: Just briefly to cover the NFPA, as I  
8 said, the schedule for them is May 2000. We do participate  
9 on the technical committee. We have a meeting the end of  
10 April, and the NFPA's position, they recommend that we adopt  
11 the consensus standard in lieu of pursuing our own  
12 rulemaking in accordance with this OMB circular and a public  
13 law.

14 CHAIRMAN JACKSON: And so you see that the  
15 schedule is realistic?

16 MR. CONNELL: I think the schedule is realistic.  
17 Of course, they are -- we don't have control over that.

18 CHAIRMAN JACKSON: Right.

19 MR. CONNELL: The committee that is working on the  
20 standard expects to have a draft out in September that will  
21 be publicly available for public comment. Then you go  
22 through the process resolving all the public comments and  
23 presenting it to the NFP standards council who is actually  
24 responsible for it, and then the NFPA membership gets to  
25 vote on it. And the way that their cycle works, the

25

1 earliest that will happen is May 2000. So it won't be  
2 before then. It may be even a little after that.

3 CHAIRMAN JACKSON: Yes?

4 COMMISSIONER McGAFFIGAN: Have we endorsed any of  
5 their previous standards? You said that the --

6 MR. CONNELL: Yes, we have, like for sprinkler  
7 systems and detection systems, we have endorsed those  
8 standards.

9 COMMISSIONER McGAFFIGAN: But the one for  
10 lightwater reactors, existing lightwater reactors?

11 MR. CONNELL: No. It came out after most of the  
12 submittals were in from General Electric and Combustion  
13 Engineering and Westinghouse. So it was not adopted for the  
14 reviews of the advanced lightwater reactors.

15 COMMISSIONER McGAFFIGAN: For existing lightwater  
16 reactors, the --

17 MR. CONNELL: Oh, the existing? It was not  
18 adopted. The existing -- for existing reactors, that  
19 standard does not address safe shutdown. It deferred that  
20 to the authorities having jurisdiction, which is us, in this  
21 country. So we didn't adopt that. It is primarily a  
22 property protection program continuity ensuring they have  
23 generation capability standard. It's not a safe shutdown  
24 standard.

25 CHAIRMAN JACKSON: Okay.

26

1 MR. CONNELL: The one for the advanced reactors  
2 is, though.

3 Next slide, Lisa.

4 Now continuing with the external feedback, the  
5 Nuclear Information Resource Service made some presentations  
6 with the Union of Concerned Scientists at the ACRS. Their  
7 positions are that the existing regulations' licensing basis  
8 are complex and it makes compliance and enforcement  
9 difficult. The plant risk assessments, primarily the  
10 IPEEEs, nonconservatively estimate risk and fire, and the  
11 NRC Staff has not adequately determined the technical basis  
12 for existing regulations. And I think this focuses  
13 primarily on the issue concerning the penetration seals and  
14 the noncombustibility requirement in the existing rule.

15 CHAIRMAN JACKSON: Does the Staff agree with these  
16 bullets?

17 MR. CONNELL: Not entirely. I agree that the  
18 licensing basis may be complex. I do not agree that it  
19 makes compliance or enforcement difficult. I think people  
20 that are working in this area understand the regulations,  
21 both the licensees and us, and I think that we have been  
22 very successful in compliance and enforcement.

23 CHAIRMAN JACKSON: Didn't the Staff have a  
24 difficult time in assessing and communicating the licensing  
25 basis vis-a-vis Appendix R for the Salem plant? Could you

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1 elaborate?

2 MR. CONNELL: I believe so, but --

3 MR. WEST: I was involved in that. We had some  
4 letters to write to, I think, UCS and some senators, and I  
5 don't believe there was any particular difficulty. As Ed  
6 was explaining, it is sometimes difficult to explain to  
7 someone that is not involved in this, so we had difficulty  
8 putting the licensing basis into language that would be  
9 readily understood by the people we are writing to. But we  
10 didn't have any problem establishing the licensing basis.

11 CHAIRMAN JACKSON: Okay.

12 COMMISSIONER McGAFFIGAN: Could I follow on that?  
13 It may be hard to understand by Commissioners, too, but the  
14 -- my recollection in Salem is the two units have two  
15 different bases, right? One is Appendix R and one isn't?

16 MR. WEST: That's right.

17 COMMISSIONER McGAFFIGAN: And they're -- I've been  
18 there. They're cold -- you know, they're right next to each  
19 other, they share stuff.

20 MR. WEST: Right.

21 COMMISSIONER McGAFFIGAN: How difficult --

22 everybody knows where one set of regulations, you walk five  
23 meters that way, you go into a different space? Or how does  
24 that work in fact?

25 MR. WEST: I wouldn't say everyone knows, but --

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1 COMMISSIONER MCGAFFIGAN: But the fire people at  
2 the plant know?

3 MR. WEST: Yes.

4 CHAIRMAN JACKSON: This is because of this 1979  
5 bifurcation point?

6 MR. WEST: That's right.

7 CHAIRMAN JACKSON: One of those plants was  
8 licensed in '77 and the other in '81?

9 MR. WEST: That's right, so one became an Appendix  
10 R plant and one is a post-Appendix R plant. But the  
11 licensing basis for most plants are specified in the USAR  
12 and other reference documents, so if someone were determined  
13 to establish a licensing basis, for example, an inspector,  
14 the information is readily available.

15 COMMISSIONER MCGAFFIGAN: Is it all summarized in  
16 the NUREG? I mean do you have --

17 MR. WEST: No.

18 COMMISSIONER MCGAFFIGAN: Here are the 104  
19 enduring plants, and --

20 CHAIRMAN JACKSON: No, because it came up with the  
21 license at Watts Bar. It wasn't even clear.

22 MR. WEST: It's easy to establish which are  
23 Appendix R plants and which are not, based on the date of  
24 operation. But there are other components of the licensing  
25 basis, for example, which branch technical position they

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1 established their program against, and it does add some  
2 complexity.

3 COMMISSIONER MCGAFFIGAN: And which exemptions  
4 they all have. There were massive exemptions granted.

5 MR. WEST: We do have a database of exemptions, so  
6 we have that information readily available. It's not a  
7 NUREG, but we do have it. But it is complex to the public,  
8 there's no doubt, it would be complex.

9 CHAIRMAN JACKSON: Well, my perception is that it  
10 is sometimes complex to the Staff and the different  
11 documents and guidance that even our own Staff operates on,  
12 it's scattered hither and yon, and it's in branch technical  
13 positions, and discussions about whether a plant is a pre-  
14 or a post-1979 plant and so forth.

15 MR. CALLAN: Chairman, I would agree with that.  
16 It's -- from my regional experience, it's complex for the  
17 residents and the regional management, the enforcement  
18 staff, et cetera. Each region has a handful of fire  
19 protection specialists that work very closely with Steve  
20 West and his section, but it is -- it is not complex for  
21 them, but it is for the rest of the Staff, and that's how I  
22 would summarize it.

23 CHAIRMAN JACKSON: And this year the Staff has  
24 become enmeshed in reviewing and reassessing the licensing  
25 basis for the fire protection at Quad Cities. Could you

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1 discuss what some of those issues and difficulties are?

2 MR. CONNELL: Well, I don't think -- Quad Cities  
3 is an Appendix R plant, both units, so it's very simple.

4 CHAIRMAN JACKSON: Well, Mr. West was at the  
5 chairman's briefing. Maybe you should speak to the  
6 situation vis-a-vis complexities.

7 MR. WEST: I guess in my view, being involved in,

8 as you say, immersed in the review of the Quad Cities issues  
9 today, we have had to go back and take a look at the  
10 licensing basis and look at exemptions. And again, I think  
11 the information that we found that we reviewed haven't  
12 presented any particular problems to the Staff in  
13 understanding the licensing basis.

14 We do have, as we discussed with you, some  
15 technical questions with respect to implementation of  
16 exemptions or the staff approval of exemptions, and what  
17 that means to plant safety and risk. But for the licensing  
18 basis itself, just understanding, you know, that they are an  
19 Appendix R plant, that they have exemptions, finding what  
20 the exemptions were, we were readily able to do that.

21 CHAIRMAN JACKSON: Well, I think in the end what  
22 we are trying to do is to tie the regulatory framework back  
23 to where the risk is, okay, and so the question becomes --  
24 and this is what seemed to come out of the briefing that I  
25 had, was that vis-a-vis the status of exemptions at Quad

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1 Cities, there is a question, at least in one or more  
2 instances, as to whether the exemptions increased or  
3 decreased vulnerabilities vis-a-vis safe shutdown. Is that  
4 correct?

5 MR. WEST: Those are definitely questions.

6 CHAIRMAN JACKSON: And that's in terms of, you  
7 know, full disclosure, you know, I think that's -- I think  
8 it is important for you to talk about that to the Commission  
9 relative to what the issue is there.

10 MR. HOLAHAN: I think Quad Cities is an  
11 interesting example because even if in a legal sense it's --  
12 you can go back and construct whether it's an Appendix R  
13 plant or not and what are the exemptions, the safety  
14 implications of the Quad Cities fire protection program, I  
15 think, were not understood, and it is a complex matter. And  
16 it's only recently through the IPEEE program and  
17 headquarters and regional work on Quad Cities that the full  
18 safety implications of their fire protection programs are  
19 being understood. And I think -- I think I said it before,  
20 if we knew then what we know now, we wouldn't have granted  
21 some of the exemptions on Quad Cities. And in the fullest  
22 sense, if that's part of the complexity of the regulation,  
23 it can lead to those situations.

24 CHAIRMAN JACKSON: Do you have today a methodology  
25 or means, either for yourselves or for licensees, to, as you

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1 would say, understand the implications of any given plant's  
2 fire protection program?

3 MR. HOLAHAN: I think clearly the best tool  
4 available to address the fire protection safety is  
5 probabilistic risk assessment or alternative versions of  
6 that used in the IPEEE program.

7 Those methodologies are not as fully developed as  
8 PRA for power operation and other initiating events. But I  
9 think in a sense the IPEEE program has been very successful  
10 in shedding quite a lot of light on fire protection safety  
11 in these plants, you know, in some very real sense you  
12 should consider Quad Cities a success. The IPEEE program  
13 found things in Quad cities that we didn't fully, and the  
14 licensee didn't fully understand for a long time.

15 CHAIRMAN JACKSON: Yes?

16 COMMISSIONER MCGAFFIGAN: Could I follow up and  
17 ask in light of the statement Mr. Holahan made, can we -- if  
18 there are exemptions that we have misgivings about, legally

19 can we pull them back or just reimpose a license condition  
20 on the plant? This maybe is a question for Karen, but  
21 having once granted an exemption and later getting  
22 additional information that undermines the basis on which  
23 that exemption may have been granted or -- can we pull it  
24 back?

25 MR. HOLAHAN: I am prepared to be overridden by

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1 general counsel as well, but my understanding is, because  
2 this is the current, the licensing basis of the plant,  
3 probably would constitute a backfit for the Staff to change  
4 an exemption. But I think, you know, all of the options  
5 within the backfit rule, cost-justified or compliance, would  
6 seem to be available to Staff to deal with those issues.

7 CHAIRMAN JACKSON: Even if the exemption increased  
8 the vulnerabilities or the risk?

9 MR. HOLAHAN: Yes, absolutely.

10 CHAIRMAN JACKSON: Karen?

11 MS. CYR: It's clear we can go back, I mean, and  
12 address the issue. We are granting an exemption by saying  
13 you can meet the equivalent of whatever the requirement is  
14 by alternative means. If the underlying basis for that is  
15 not accurate, you can go back and address that, even if it's  
16 a backfit. In that circumstance, it would be a compliance  
17 backfit because you're bringing the plant into a situation  
18 which is an equivalent level of compliance or safety with  
19 respect to the whatever underlying requirement is.

20 CHAIRMAN JACKSON: Okay.

21 MR. WEST: There was at least one case at Quad  
22 Cities where the Staff went in after the IPEEE results were  
23 submitted and we found an area where there was an exemption  
24 that appeared to contribute to the vulnerabilities and in  
25 that case, when it was discussed with the licensee, they

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1 agreed and immediately -- I say immediately, they very  
2 quickly made a plant modification to fix that vulnerability.

3 CHAIRMAN JACKSON: Why don't you go on.

4 MR. CONNELL: Okay. Mark is going to cover the  
5 IPEE.

6 Can we have the next slide, please.

7 MR. CUNNINGHAM: In January of this year, the  
8 Staff submitted a document called Preliminary Perspectives  
9 Gained From the Initial IPEEE Submittal Reviews to the  
10 Commission. That document provided perspectives on the  
11 IPEEE results from the seismic fire and other external event  
12 initiators. It's a document based on a preliminary review  
13 of the first one-third to one-half of the IPEEE submittals.  
14 This slide provides some of the key points in terms of the  
15 fire IPEEE results. A general result we have seen, based on  
16 this review of the first third to a half of the IPEEEs is  
17 that we have seen general success in meeting the goals of  
18 Generic Letter 88-20, the supplement of Generic Letter  
19 88-20.

20 We have, however, seen some ones where -- the  
21 quality of the submittals has varied somewhat and we have  
22 seen some where we have a number of concerns about the  
23 quality of the submittal.

24 In terms of core damage frequencies, we see a wide  
25 range of results. Most plants are in the range of one times

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1 10 to the minus 6 to one times 10 to the minus 4 per year.  
2 We have some odd ones on either end. We have one that's  
3 much below a 10 to the minus 9 per year, and we have a  
4 number of questions on that submittal, it's fair to say.

5 We also have the one that we have talked about  
6 before of Quad Cities that came in at 5 times 10 to the  
7 minus 3 per year.

8 The variability that you see there comes from a  
9 number of considerations. Some of it is plant-to-plant  
10 variability in design and operation. In the case of the  
11 fire IPEEEs, though, you also see a fair amount of  
12 variability coming from the method of analysis that's used.  
13 This includes both the basic methods, be it PRA or some of  
14 the other methods used, comes from modeling assumptions  
15 within the analysis, and the level of detail that the  
16 analysis goes into.

17 However, given this, you can see that the core  
18 damage frequency contribution from fires can be equivalent  
19 to or be near or in some -- I guess in the case of Quad  
20 Cities, exceed that from the core damage frequency from  
21 traditional internal events. So this is consistent with a  
22 pattern that we have seen in fire PRAs from probably over  
23 the last 15 years, that fire contribution to core damage  
24 frequency from fire initiators can be a significant  
25 contribution.

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1 In the IPEEEs in the area of fire, about half of  
2 the licensees of the third or the half that we have looked  
3 at have implemented or proposed plan improvements, be it  
4 procedural modifications or hardware changes, that sort of  
5 thing.

6 And in the cases of -- we have a caveat here that  
7 as the case with the IPEEEs, the review that we performed  
8 was focused -- was limited and focused on whether or not the  
9 licensee met the intent of the generic letter. If we want  
10 to use -- if the licensee wants to use their fire risk  
11 analysis or their fire results in other risk-informed,  
12 performance-based arenas, then the Staff would have to -- it  
13 would necessarily have more review to do.

14 CHAIRMAN JACKSON: How large a universe of plants  
15 have a situation where the core damage frequency  
16 contribution from fire events approaches or exceeds that  
17 from internal events? You know, based on the reviews that  
18 you have done so far.

19 MR. CUNNINGHAM: From what we have documented in  
20 the January report, there is one where I think it clearly  
21 succeeds -- exceeds, and that's Quad Cities. There was  
22 another four or five on looking at it that the core damage  
23 frequencies are in the range of 10 to the minus 4 or above.  
24 I suspect that those four or five then, that the -- that is  
25 comparable to or perhaps larger than the internal events.

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1 So you have got four or five out of the 24 that are  
2 documented in here.

3 CHAIRMAN JACKSON: And when you say approximately  
4 50 percent of the licensees have implemented or proposed  
5 plan improvements, is it 50 percent of the five, or is it 50  
6 percent of all?

7 MR. CUNNINGHAM: 50 percent of all.

8 CHAIRMAN JACKSON: And were they related to safe  
9 shutdown requirements or they were broader based than that?

10 MR. CUNNINGHAM: They were probably more broadly  
11 based than that.

12 CHAIRMAN JACKSON: Okay.

13 MR. CONNELL: Just some additional information.  
14 As part of the assessment, some licensees did identify  
15 compliance issues and addressed them in their corrective

16 action plan.  
17 MR. CUNNINGHAM: Ed will go to the next slide  
18 then.  
19 MR. CONNELL: Can I have the next one, Lisa.  
20 I will briefly cover the fire protection  
21 functional inspection program. I'll just jump down to the  
22 fourth bullet very quickly here. This is a risk-informed  
23 inspection. We do use the IPEEE submittals, and if we have  
24 an existing PRA for the plant, fire PRA for the plant, we do  
25 use that for the inspection.

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1 Four plants are part of the pilot. River Bend  
2 inspection has been issued, that one is complete.  
3 CHAIRMAN JACKSON: What are some of the  
4 preliminary results?  
5 MR. CONNELL: I'll cover that on the next slide.  
6 CHAIRMAN JACKSON: Okay, I'll wait.  
7 MR. CONNELL: Susquehanna, the inspection is  
8 complete. The Staff is completing the report.  
9 St. Lucie, the Staff is right now down at the  
10 plant on their second week of their on-site inspection.  
11 We have a fourth plant, right now that's Prairie  
12 Island, that may change.  
13 Following the completion of the pilot program, we  
14 are going to have a public workshop in the fall. The Staff  
15 is going to reassess the program after the workshop and the  
16 final inspection, and we owe the Commission a report on the  
17 results.

18 CHAIRMAN JACKSON: Let me ask you a question. I  
19 mean given all the years that the Staff has been working  
20 with Appendix R and Appendix R issues, what is it that you  
21 do not know today?

22 MR. CONNELL: What is it that we do not know?  
23 CHAIRMAN JACKSON: I mean what are these fire  
24 protection functional inspections going to tell you? I mean  
25 are they to tell you the status of the licensee's fire

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1 protection programs, their compliance with 50.48? I mean  
2 what is it that you do not know today?

3 MR. CONNELL: Well, it will tell us all those  
4 things.

5 CHAIRMAN JACKSON: But I'm saying, you know, this  
6 has this long and sordid history, and the question is, I'm  
7 asking what are they focused on? I mean what is it that you  
8 don't know that these pilots are focused on?

9 MR. CONNELL: Well, we're looking -- the risk  
10 information we didn't know before when the plants were  
11 originally assessed against Appendix R, so that's new  
12 information that we are using as part of the inspection.

13 The thermo-lag, a lot of plants changed  
14 dramatically their safe shutdown methods as part of their  
15 thermo-lag resolution. They did not submit those to the  
16 Staff. The Staff originally approved or reviewed the  
17 initial safe shutdown methodology. All the thermo-lag  
18 plants had changed their safe shutdown method. The Staff  
19 doesn't know what that is, so the inspections are going to  
20 look at that. So that's one of the things, how they  
21 resolved their thermo-lag issue detail.

22 We had generic answers to questions where they  
23 said, well, we're going to upgrade some barriers, we are  
24 going to change our safe shutdown method in some areas, we  
25 are going to replace barriers, we are going to reroute

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1 circuits, but they didn't say necessarily in this room we

2 are going to do this to address charging pumps or something  
3 like that, we don't have that level of detail in their  
4 responses to the REIs we sent out. So the PPFIs will go  
5 into more detail.

6 CHAIRMAN JACKSON: Well, now, you know, I think we  
7 have issued one confirmatory order to one licensee because  
8 of the thermo-lag.

9 MR. CONNELL: That's right.

10 CHAIRMAN JACKSON: Is this then to play into the  
11 thermo-lag resolution and what other plants might have  
12 confirmatory orders? Or I mean what --

13 MR. CONNELL: No, there's no direct tie between  
14 the PFFI and the thermo-lag corrective action plans. The  
15 confirmatory orders were primarily schedule-driven to ensure  
16 that the licensees -- we have had some slippages with the  
17 schedules. Licensees have sent a completion date of such  
18 and such a time and it ends up slipping. So the  
19 confirmatory, you always kind of like to tighten that up a  
20 little bit to eliminate some of the slippage.

21 CHAIRMAN JACKSON: Okay. Maybe we could go to the  
22 next slide because I think that gets to my question about  
23 what is it that we do not know? You know, you have these  
24 observed weaknesses.

25 MR. CONNELL: Right.

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1 CHAIRMAN JACKSON: And except for the IPEEE  
2 process, can't all of these be viewed as Appendix R  
3 implementation issues?

4 MR. CONNELL: Well, actually only two of them are  
5 specific to Appendix R. That's the safe shutdown capability  
6 and emergency lighting. The other items are part of the  
7 licensee's fire protection program that is required by 50.48  
8 to meet General Design Criterion 3. So they are not  
9 specifically Appendix R. But it is part of their overall  
10 fire protection program and at one time the Staff reviewed  
11 and approved those. Licensees that have the standard  
12 license condition can make changes to those programs without  
13 Staff approval. So these things have changed over time.  
14 The way they deal with compensatory measures has changed,  
15 and for a lot of plants their QA audits have changed.  
16 Compliance with industry codes and standards has changed.  
17 Codes and standards have changed from when the plants were  
18 licensed.

19 So a lot of these things the licensees have  
20 modified from what the Staff originally looked at 10 or 15  
21 years ago, maybe.

22 CHAIRMAN JACKSON: If an observed strength was the  
23 technical competency of the fire protection staff, why are  
24 all these issues still here as weaknesses?

25 MR. CONNELL: Well, I think it's a resource issue.

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1 I think the Staff knows what the requirements are. I think  
2 the resources that have been applied for fire protection has  
3 kind of waned at some licensees' facilities, and that's not  
4 a criticism of the technical staff, it's working on it, but  
5 they're not getting the appropriate management support to  
6 implement their fire protection program. We don't hold them  
7 responsible for that.

8 CHAIRMAN JACKSON: Okay. So again, it's the issue  
9 that if we're not looking --

10 MR. CONNELL: If we're not looking, they're not  
11 looking.

12 CHAIRMAN JACKSON: Okay.

13 MR. CALLAN: Well, of course, the nuclear insurers  
14 also look at this and, in fact, in many fire protection  
15 areas are a bigger prime mover than the NRC is. Isn't that  
16 right? So I guess it's more of a question to Ed.

17 MR. CONNELL: It depends. Of course, from a  
18 property protection standpoint, that's true, but the nuclear  
19 insurers do not address safe shutdown.

20 MR. CALLAN: No, they don't, no. But we are  
21 talking about fire protection broadly, and we need to be  
22 careful because the nuclear insurers hold licensees' feet to  
23 the fire collectively almost more than we do in many areas.

24 MR. CONNELL: But the way the insurers do it is if  
25 a licensee elects not to make a modification, they will

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1 increase their rates.

2 MR. CALLAN: So they just say okay, if you don't  
3 like this change, we are going to increase your insurance  
4 premiums.

5 CHAIRMAN JACKSON: So then it's a tradeoff between  
6 what it costs to change versus the --

7 MR. CONNELL: That's right. Whereas, of course,  
8 our perspective is very different.

9 CHAIRMAN JACKSON: Okay.

10 MR. CONNELL: The next slide is on Research, and  
11 Mark is going to address that.

12 COMMISSIONER MCGAFFIGAN: Can I just ask a  
13 question?

14 CHAIRMAN JACKSON: Please.

15 COMMISSIONER MCGAFFIGAN: What do insurers look  
16 at? I mean if they don't look at safe shutdown, yet they  
17 are smart enough to say if you don't make this change, we  
18 are going to increase your rates?

19 MR. CONNELL: Property protection. They look at  
20 property protection, continuity of operations. They are  
21 covering themselves for how much they are going to be liable  
22 for. If you had a turbine building fire, it may not impact  
23 safe shutdown capability, but it certainly is going to  
24 represent a loss to the insurance company.

25 COMMISSIONER MCGAFFIGAN: And so they have a

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1 prescriptive set of --

2 MR. CONNELL: Yes, very prescriptive.

3 COMMISSIONER MCGAFFIGAN: -- requirements that  
4 they will put on the balance of plant?

5 MR. CONNELL: Right. It's a schedule that they  
6 look at. They look at the suppression and detection. If  
7 licensees have suppression and detection for these  
8 particular hazards, they give them a certain rate. If they  
9 don't have the protection, the rate goes up.

10 COMMISSIONER MCGAFFIGAN: And if the insurers  
11 maintain a prescriptive set of requirements and we some day  
12 get to a performance-based rule, how will those two things  
13 mesh? I mean --

14 MR. CONNELL: The licensee is going to have to  
15 address that, the licensees are going to have to address  
16 that.

17 I just would note that the --

18 CHAIRMAN JACKSON: Well, but let me just make sure  
19 that you are saying that even though the insurers look at  
20 many things, particularly in the balance of plant, that some  
21 of the things that are the most sensitive to us from a  
22 safety significance perspective, they don't necessarily look  
23 at?

24 MR. CONNELL: They do not address.

1 MR. WEST: I think they are relying on the NRC to  
2 take care of that, so it works both ways.

3 MR. CONNELL: And I just would note that the  
4 chairman of the technical committee that is working on the  
5 standard does do the fire protection inspections for the  
6 insurance industry. So they are involved in the development  
7 of the performance-based standard.

8 May we have the next slide, please.

9 MR. CUNNINGHAM: There are two elements to the  
10 work that's been underway in the Office of Research with  
11 respect to fire. The first is activities in Research that  
12 have been directly supporting the rulemaking when the  
13 rulemaking was in Research. Basically that work is pretty  
14 much wrapped up now, and I'm not going to talk much about  
15 that.

16 What is happening now, though, is more in the  
17 traditional sense of Research, which is we are trying to  
18 extend our state of knowledge, if you will, on fire risk  
19 analysis and try to improve the underlying technical basis  
20 for our fire risk analysis.

21 In general we think that this is needed to support  
22 the increased use of fire PRA throughout the regulatory  
23 process, not just focused on fire protection rulemaking or  
24 anything, but it could be in the context of a proposed Reg  
25 Guide 1.174 as well where fire risk has to be considered in

1 licensing basis changes.

2 Basically we are at the point now where we have  
3 been going through and trying to identify potential --

4 CHAIRMAN JACKSON: I don't mind if whoever that is  
5 turns off their alarm. It's disturbing to the Commission.

6 MR. CUNNINGHAM: We are at the point now where we  
7 are trying to review previous work in Research and in other  
8 areas, looking at the IPEEE reviews to identify -- and other  
9 areas to identify potential Research issues. We have a list  
10 that's a very broad list of 42 items. It includes, I think,  
11 the 12 that we had talked about earlier. And much broader  
12 than that. I'm just trying to say let's find out all the  
13 issues we can possibly identify and then try and screen down  
14 to say which do we think are the most significant, which are  
15 the ones that are the most amenable to Research, which are  
16 the ones that are the most cost-effective, that sort of  
17 thing.

18 And we have some examples here of issues that are  
19 in that list of 42. We have talked about hot shorts, the  
20 fire-induced circuit failures before. Treatment of operator  
21 performance during fires. Reliability of fire protection  
22 systems, that sort of thing. So we have a long list. We  
23 are going to be working over the next month or two to talk  
24 to -- to try to settle down and come up with an initial list  
25 to begin working on this fiscal year.

1 I should note that the Electric Power Research  
2 Institute is also beginning or has a fire research program.  
3 The Staff is meeting with them next month to sort out what  
4 they are up to and give them an idea what we are doing.

5 CHAIRMAN JACKSON: Commissioner Diaz.

6 COMMISSIONER DIAZ: Now, of course, you have been  
7 working for many years studying fires and establishing bases  
8 to deal with them. Is there a comprehensive document that  
9 summarizes the efforts that Research has made in this area

10 that could be used as a starting point, a launch to your new  
11 efforts? Because I think it is important that efforts be  
12 closed, and if there are new efforts needed, they should be  
13 supported by state of the art, and I wonder if such a  
14 document exists?

15 MR. CUNNINGHAM: The document that we are putting  
16 together -- we have a document we are preparing that will  
17 describe these 42 issues, and the technical basis for them,  
18 and the technical issues and that sort of thing. And I am  
19 trying to recall if it --

20 COMMISSIONER DIAZ: This is what you want to do.  
21 I want to say can you summarize, or has it been summarized  
22 at a point that we can say yes, you need to look at these 42  
23 because you never looked at them before? You close so many  
24 each -- what is, you know, all the years you have been  
25 working on it, what is the comprehensive report that you can

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1 present and say this is the state of the art from Research's  
2 perspective?

3 MR. CUNNINGHAM: What I was getting to is I can't  
4 quite recall if the document we are preparing now has that  
5 sort of summary or not.

6 CHAIRMAN JACKSON: No, I think he's asking a  
7 separate question. The issue is, clearly there's been  
8 thinking and analysis and/or research on fire protection  
9 issues over a number of years. Question: Does there exist  
10 a compendium of what's come out of that research so that we  
11 know what the state of the art is or was as of a certain  
12 point? And then can we look at and have you look at these  
13 42 potential additional issues relative to what we already  
14 know? I mean that's kind of the similar question that's  
15 behind, you know -- but it's different, I understand now,  
16 the fire protection functional inspections. But it's a  
17 similar kind of thing. What is it that you don't know and  
18 how does that play off of what you do know? And is there a  
19 place where what you do know has been brought together and  
20 summarized and the significance of it?

21 MR. CONNELL: Let me get a crack at it. There is  
22 a NUREG that combines all of the research. Most of this  
23 fire research post-Browns Ferry was done by Sandia. And  
24 Sandia, I think it's four or five years old, published a  
25 NUREG that -- all the research they had done over 10 or 12

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1 years in one place. So we have all of that in one place.

2 We also have the NUREG 50.88, the fire risk  
3 scoping study issues that address a lot of the things, the  
4 hot shorts, that kind of stuff. But they said there is  
5 needed more information to really address the smoke. They  
6 are starting to do some more work on smoke; don't have a lot  
7 of information on smoke right now. So there's -- we have a  
8 lot of that that is done, but we have identified in 50.88  
9 and some other documents stuff that we don't know from a  
10 research perspective.

11 COMMISSIONER DIAZ: My point is that when you are  
12 going to launch a new initiative, you should precisely know  
13 and document where you are starting from. I think that is a  
14 basic fundamental question.

15 CHAIRMAN JACKSON: Go ahead, Commissioner.

16 COMMISSIONER McGAFFIGAN: I would be interested in  
17 what's in Draft NUREG 1521 because Mr. Dey, in his differing  
18 professional opinion or view, says that he believes Draft  
19 NUREG 1521 reports on a technical review of risk-informed  
20 performance-based methods for fire protection analyses that  
21 have become available since NRC issued its fire protection

22 regs and goes on to say that this draft NUREG concludes the  
23 currently available risk-informed performance-based methods  
24 can be applied now, and then he says the reason this NUREG  
25 hasn't gotten out is violent disagreement with NRR, I guess,

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1 on the need to change the current regulatory structure and  
2 the conclusions of the study, et cetera, et cetera.

3 So is this document a document that would purport  
4 to be what Commissioner Diaz was working for, the basis  
5 where we are at the moment?

6 MR. CONNELL: No, I don't -- on the major obstacle  
7 that's listed in there is the persons having a lot of  
8 comments on it.

9 COMMISSIONER MCGAFFIGAN: But that document does  
10 not summarize the state of research as it is today?

11 MR. CONNELL: No, it does not.

12 COMMISSIONER MCGAFFIGAN: Okay. So it makes an  
13 argument for why we should go ahead with essentially option  
14 1 now, an argument that you all disagree with?

15 MR. CONNELL: For -- not just based on what is in  
16 the NUREG. Option 2 includes a lot of things outside of the  
17 research area.

18 COMMISSIONER MCGAFFIGAN: Right.

19 MR. CONNELL: I mean having a -- we could develop  
20 option 1. If nobody adopted it, if we made it voluntary and  
21 nobody adopted it, what have we accomplished? Nothing. If  
22 we made it mandatory and it doesn't pass the backfit test,  
23 what have we accomplished? Nothing.

24 This option 2, I think, is our best shot at  
25 getting something that can be done, you don't have to worry

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1 about the backfit, and in some plants they are never going  
2 to adopt it. They don't care. Some plants may. So if we  
3 look at reality, option 1 to us, it looks cleaner.

4 CHAIRMAN JACKSON: You know, we talk about  
5 backfits and compliance backfits, and I'm going to make a  
6 comment at the end about some of that, but I guess I'm  
7 confused. I'm just going to leave you with kind of a  
8 general question, which is that if you really have a  
9 risk-informed and/or performance-based approach, why can  
10 such an approach not be developed and implemented in a way  
11 where, by definition, it meets a backfit test? Because  
12 that, to me, is the intent of a true risk-informed approach.  
13 Because we get into these discussions all the time about  
14 whether something meets the backfit smell test, and we have  
15 it, and it's a good regulation to have. But it seems to me  
16 that there has to be a marriage between that and what you  
17 would call a risk-informed approach.

18 But why don't we finish the discussion here.

19 MR. CONNELL: Okay. Could I have the next slide,  
20 please.

21 Okay, we have pretty much covered all of these in  
22 our discussion, so I'm really not going to go into a whole  
23 lot of detail. I just wanted to note that there is a lot of  
24 flexibility today with the current regulations and guidance.

25 CHAIRMAN JACKSON: I guess I want to get back to

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1 just asking a question because this -- if you look at the  
2 five plants that you talked about that either have fire as  
3 an initiator that exceeds or approaches that for others,  
4 just those five, what do we know or what are we doing about  
5 our understanding of their understanding of the safety  
6 implications of their fire protection programs, particularly

7 vis-a-vis any exemptions that may exist, but more generally?  
8 MR. CONNELL: Well, the IPEEE was supposed to  
9 assess the as-built plant, so in theory the exemption should  
10 be addressed in the IPEEE. Now a lot of licensees did not  
11 specifically address exemptions in their submittal, and we  
12 have asked the questions about that, especially when we have  
13 looked at -- we have all the exemptions and we look at some  
14 that are pretty easy to dismiss without any detailed  
15 evaluation. Things that we have had questions about  
16 specific exemptions, we have asked them how did you assess  
17 this particular exemption in your submittal. Those are the  
18 kinds of questions that we asked to try to resolve those.

19 CHAIRMAN JACKSON: But there was no systematic  
20 folding in of that into the IPEEE evaluation?

21 MR. CONNELL: Well, except that they are supposed  
22 to assess their plant as it exists, so that includes  
23 whatever exemptions they may have. It's not really to  
24 assess the plant's compliance with Appendix R.

25 CHAIRMAN JACKSON: It's not trying to assess it,

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1 but the issue is if you do an IPEEE assessment, which is  
2 meant to get at the risk, and you find out that for a small  
3 limited universe of plants, that risk is higher than what  
4 you might have anticipated, and any IPEEE is going to be  
5 done relative to the plant as it exists, and the exemptions  
6 in that case relate to them how they have implemented a fire  
7 protection program.

8 MR. CONNELL: Okay.

9 CHAIRMAN JACKSON: And the issue is what are the  
10 implications of that relative to the risk profile of that  
11 plant? It's not a compliance issue.

12 MR. CONNELL: Right.

13 It's where the two things come together because  
14 what you're interested in is the risk significance.

15 So is your question have they specifically  
16 assessed the delta in risk relating to a particular  
17 exemption?

18 CHAIRMAN JACKSON: The safety implications of  
19 their fire protection program.

20 MR. CONNELL: The only plant that has done that is  
21 Quad Cities. Most plants do not specifically address we  
22 have this particular exemption that results in this delta.

23 CHAIRMAN JACKSON: I understand, but you mentioned  
24 five plants.

25 MR. CONNELL: Right.

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1 CHAIRMAN JACKSON: Where the IPEEEs show that  
2 their core damage frequency from fire approaches or exceeds  
3 that from any other initiating event. What are you doing  
4 relative to those plants? That's all I'm asking.

5 MR. CONNELL: And we're following up with those  
6 plants.

7 MR. CUNNINGHAM: The first piece is within the  
8 context of Generic Letter 88-20, one of the objectives is  
9 for them to consider improvements to the plant, and as we  
10 have said, in half of the cases or so, they voluntarily go  
11 back and make changes to their plant. Whether they relate  
12 to exemptions or something else.

13 CHAIRMAN JACKSON: I'm only asking about the five  
14 plants. I'm trying to focus on those where --

15 MR. CONNELL: When they report a high number, that  
16 increases our attention, and those plants --

17 CHAIRMAN JACKSON: What is the attention? What do  
18 you mean specifically?

19 MR. CONNELL: Well, what we do is we ask them --  
20 if we get a -- if we see something in the submittal that  
21 doesn't look right, in other words, an assumption that  
22 doesn't look valid or they have done something that's  
23 different from everybody else, we are saying why is this  
24 plant getting a different number?

25 A good example would be Limerick and Susquehanna.

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1 Limerick reported a 10 to the minus 6 number; Susquehanna  
2 reported a 10 to the minus 9 number. They are basically the  
3 same plant, same NSSS, built about the same time, in the  
4 same state, they just happen to be operated by two separate  
5 utilities. Why is there three orders of magnitude  
6 difference? It's the method of the analysis that was used.

7 So you've got to take the numbers with a grain of  
8 salt. The plants basically are the same, they have similar  
9 safe shutdown methodologies. If the methods were sound,  
10 they would give you relatively similar results. Three  
11 orders of magnitude difference shows you that the methods  
12 are not as -- for getting a core damage frequency are not as  
13 sound as we would like.

14 MR. CALLAN: Now, Chairman, I think the question  
15 you are asking is have we shifted gears, so to speak, like  
16 we did with Quad Cities for the other handful of plants that  
17 rose to that level and done any kind of systematic  
18 assessment of their exemptions? And I think the answer is  
19 no, we haven't.

20 MR. CONNELL: No, we have not.

21 MR. CALLAN: Yes.

22 CHAIRMAN JACKSON: Thank you.

23 MR. CONNELL: Okay, next slide, please.

24 These are basically stuff we've done. So next  
25 slide.

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1 Some additional considerations. We'll skip over  
2 that, except for one, the International Fire Protection  
3 Performance-Based Effort. I just wanted to note that the --  
4 there has been a lot of ideas floated that we ought to do  
5 this. The fact is where this has been done in other  
6 countries, it's primarily limited to new construction. That  
7 is not our situation. It's only been adopted in about five  
8 or 10 percent of the new construction in the other  
9 countries. It's primarily based on occupant egress, which  
10 is not really relevant to our interest. Most of them are  
11 just an alternative to a prescriptive building code, so even  
12 in countries that have this, 90 or 95 percent of the  
13 building owners that supposedly benefit from this elect to  
14 use the prescriptive code, and I would expect if we adopted  
15 a voluntary performance-based, risk-informed code, 99 to 100  
16 percent of our plants would elect to do what they have.

17 COMMISSIONER DIAZ: Following now that I got  
18 started with research in the same vein, is there something  
19 that the Staff has or where they summarize all of these fire  
20 protection issues, including the IPEEE, the fire protection  
21 action plans, fire protection functional inspections? Is  
22 there something -- and I'm not a glutton for paper.

23 CHAIRMAN JACKSON: Yes, he is.

24 [Laughter.]

25 COMMISSIONER DIAZ: But is there a summary of

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1 these issues that the Commission could look at and become  
2 better informed about what is -- because you talk about  
3 resolution of issues, and I haven't seen evidence this has

4 been resolved in this matter. And I certainly hope that all  
5 the --

6 MR. CONNELL: The research issues -- I should let  
7 Mark address this. Of course, it's still being worked. Are  
8 there other issues that you were interested in?

9 COMMISSIONER DIAZ: No, at the very top of your  
10 previous page 13 it says resolutions of outstanding fire  
11 protection issues.

12 MR. CONNELL: Those were the 12 issues that were  
13 in 97-127.

14 COMMISSIONER DIAZ: Right. But now I am looking  
15 at that from a complete perspective. There's a summary of  
16 all of these issues, both from the IPEEE, the fire  
17 protection technical -- you know, the inspections, something  
18 that summarizes it in a few pages, what are the key issues,  
19 the ones that we will have to deal with. You can keep the  
20 ones that are --

21 MR. CONNELL: I don't think we have anything like  
22 that right now, I don't think so.

23 COMMISSIONER DIAZ: Well, it might be a good idea,  
24 because I am getting confused.

25 CHAIRMAN JACKSON: Right, I'm confused, too. And,

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1 for instance, you know, there is this issue of having some  
2 voluntary standard. You know, to inform my thinking I want  
3 to know if you have done IPEEE, you do the fire protection  
4 functional inspections. Do we have any fallout between  
5 those plants that are pre-Appendix R and those that are  
6 post-Appendix R?

7 MR. CONNELL: The IPEEE results don't show a  
8 correlation between core damage frequency and vintage.

9 CHAIRMAN JACKSON: But all I'm really trying to  
10 say, it relates to the Commissioner's point, that in terms  
11 of informed decision-making, it is helpful if relative to  
12 what you're asking us to act on, consider, that there is  
13 some compendium of what's come out of all these various  
14 initiatives to date; fire protection functional inspections,  
15 IPEEE relative to the issues you are asking us to address.  
16 Because that's necessary for informed decision-making.

17 Yes, Commissioner?

18 COMMISSIONER DIAZ: I would just say that that's  
19 perfect, and if I might jump back to research, the Chairman  
20 used the words up to date. I understand you have something  
21 that is four or five years old. The point is somebody that  
22 is an expert should look at all of the information and bring  
23 it up to date and bring it to the Commission for  
24 consideration.

25 MR. CONNELL: Okay.

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1 CHAIRMAN JACKSON: Okay.

2 MR. CONNELL: Okay. Now we get to the options.  
3 Next slide, Lisa.

4 CHAIRMAN JACKSON: You see, the reason I ask about  
5 the issue of the post versus the pre-Appendix R plants is  
6 that some of what we have been talking about revolves around  
7 Appendix R, you know, that you have a prescriptive appendix  
8 versus things, whether they are voluntary or not, that are  
9 more performance-based or more risk-informed, and so we need  
10 to know, and that's regulatory effectiveness is, is the  
11 regulation or this part of it accomplishing what we expect,  
12 et cetera, et cetera. I mean particularly if you are  
13 talking about moving away from it or offering an additional  
14 menu of choices relative to whatever exists.

15 COMMISSIONER DIAZ: If I may. I'm sorry, but

16 there was something in here that caught my attention. It's  
17 the bottom of page 13, it says application for  
18 performance-based/risk-informed method. I've seen in the  
19 last three weeks that we are changing, and probably it might  
20 be a healthy change, the way we bring together or separate  
21 in a risk-informed performance-based. I think the Staff  
22 should be very, very, very aware that when you put them  
23 together, risk-informed/performance-based, you mean  
24 something different than when you say risk-informed and  
25 performance-based, or risk-informed or performance-based or

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1 risk-informed and/or performance-based. And that separation  
2 is not trivial. It actually defines the fact that there are  
3 many cases in which risks are not available, nor will they  
4 be performance-based would be applicable.

5 CHAIRMAN JACKSON: Or vice versa.

6 COMMISSIONER DIAZ: Or vice versa.

7 CHAIRMAN JACKSON: Or both.

8 COMMISSIONER DIAZ: And so I would like to  
9 sensitive, Mr. Callan, please, to make sure when these  
10 things are written that people separate them so that the  
11 Commission has the benefits of the Staff thinking ahead of  
12 them.

13 CHAIRMAN JACKSON: Right. And if you are bringing  
14 forward options, the options should make clear whether you  
15 are talking ones that are risk-informed options but not  
16 performance-based, performance-based but not risk-informed,  
17 or if you somehow believe they are both.

18 COMMISSIONER DIAZ: Does the entire Commission --

19 CHAIRMAN JACKSON: I think everybody agrees with that. We  
20 just took a vote.

21 No, we didn't vote.

22 [Laughter.]

23 CHAIRMAN JACKSON: It's consensus.

24 COMMISSIONER DIAZ: Well, I like consensus.

25 MS. CYR: You were just confirming your

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1 understanding.

2 COMMISSIONER DIAZ: That's what I was looking at,  
3 the heads nodding.

4 MR. CONNELL: Okay, I'd like to briefly go over  
5 the three options in the Staff paper.

6 Option 1 is continue the performance-based and/or  
7 risk-informed effort to replace the existing fire protection  
8 requirements. The Staff would develop a comprehensive reg  
9 guide that provides for a prescriptive and a  
10 performance-based and/or risk-informed alternatives in  
11 compliance with the new rule. This would be one rule that  
12 would apply to everybody. The backfit Appendix R would be  
13 eliminated. The existing exemptions from Appendix R would  
14 be eliminated. Everybody would have to re-baseline their  
15 fire protection program, the Staff would have to review --  
16 re-review their fire protection program.

17 Option 2 is defer the performance-based,  
18 risk-informed rulemaking. We would be working with industry  
19 to develop the consensus standard. In parallel to that, the  
20 Staff would like to develop a comprehensive regulatory guide  
21 that captures all the existing fire protection guidance and  
22 adds to guidance wherever we think it is necessary.

23 CHAIRMAN JACKSON: So this would be concurrent?

24 MR. CONNELL: Concurrently, yes, ma'am.

25 Option 3 is basically maintain the status quo, and

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1 the note on the bottom there addresses the combustible  
2 penetration seal issue.

3 CHAIRMAN JACKSON: How soon in fact on the  
4 combustible penetration seal will the Commission see this  
5 rule change?

6 MR. CONNELL: Well, it depends which option is  
7 selected. If Option 1 is selected, there is no need to  
8 change the penetration seal issue since we are eliminating  
9 Appendix R.

10 CHAIRMAN JACKSON: Okay. But if one of the  
11 others?

12 MR. CONNELL: It would be quick. We could give  
13 you a schedule. It would be short term.

14 CHAIRMAN JACKSON: Commissioner Dicus?

15 COMMISSIONER DICUS: Given this vulnerability that  
16 you have noticed, if we were to defer rulemaking, are there  
17 other vulnerabilities that have to be addressed, or are we  
18 --

19 MR. CONNELL: We are not aware of any other  
20 vulnerabilities with the existing rule that need to be  
21 changed, with the exception of this one.

22 Okay, for each option I have pros and cons, and  
23 then I will say there is not consensus between everybody  
24 about what's a pro and what's a con. This is the Staff's  
25 categorization of the issues. Industry may not agree, and I

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1 think some of the public interest groups may not agree with  
2 some of -- the way I have categorized these, just to let you  
3 know.

4 Option 1, of course, would eliminate the 850  
5 exemptions. It would eliminate the need for most future  
6 exemptions. However, 50.12 would still be there, so  
7 licensees could still request an exemption, although they  
8 may not need to quite as often. It would provide a single  
9 uniform consistent licensing basis for all the plants, and  
10 the schedule is an 18-month schedule, and that's in the  
11 Commission paper.

12 The cons, the fire risk assessment method  
13 limitations and uncertainties. We don't have really good  
14 prior models, we don't have good data for those fire models.  
15 There's a lot of uncertainties with the risk assessment  
16 methods, as I explained with the different results we are  
17 getting from IPPEEs for different plants, all that kind of  
18 stuff.

19 Inspectability and enforceability. If we have new  
20 requirements, we are going to have to bring both the  
21 licensees and the Staff up to speed on inspection and  
22 enforcing these new requirements.

23 CHAIRMAN JACKSON: So one would have to do a  
24 re-baseline inspection of all plants?

25 MR. CONNELL: Yes. There would be a learning

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1 curve, both for industry and ourselves in implementing these  
2 new requirements. There would be a significant resource  
3 commitment. Industry does not support this option. It does  
4 preempt the NFPA effort, and based on the feedback we got  
5 from OGC, it would be a backfit.

6 Option 2, the pros of this. The Staff considers  
7 this to be consistent with DSI-13. We do have fairly broad  
8 support for this, and we could -- we have been assured of  
9 much involvement. The comprehensive reg guide would be  
10 developed in parallel. We think this would be useful.

11 CHAIRMAN JACKSON: How long would it take?

12 MR. CONNELL: Twelve months, ma'am, once the

13 Commission directs us to pursue this, 12 months.

14 It is less resource-intensive, and since the  
15 industry standard would be an alternative that licensees  
16 could choose, it would not be a backfit.

17 Option 2 does maintain the existing exemptions and  
18 the existing exemption process. It does provide a third  
19 licensing basis. We could have the pre-Appendix -- the  
20 post-Appendix R plants, the Appendix R plants, and now the  
21 NFPA standard plants, and that might cause some people some  
22 uncomfort. Of course, we are not controlling this schedule.  
23 It is the NFPA's document, so they may or may not meet that  
24 date. Of course, with new requirements, we would have the  
25 same inspectability and enforceability and learning curve.

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1 CHAIRMAN JACKSON: How does this option -- I mean  
2 how do you fix inspectability and enforceability?

3 MR. CONNELL: Time.

4 MR. CALLAN: Chairman, if I -- I think Edward is  
5 right here. The Staff isn't monolithic on how these are  
6 pros and cons. I would almost list inspectability and  
7 enforceability as a pro under Option 1 for the very reason  
8 that option -- the pros indicate that you have a single  
9 uniform consistent licensing basis, essentially no  
10 exemptions, so you have that simplicity there. So it would  
11 enhance its inspectability and enforceability.

12 Option 2, you sort of maintain the status quo in  
13 terms of complexity.

14 MR. CONNELL: The problem I have with that is I  
15 think it would be difficult for our inspectors to start  
16 looking at fire models and the input data into fire models.  
17 They haven't had to do that before. They are not trained to  
18 do that. So that's going to be a problem.

19 Looking at risk deltas, all the inputs that go  
20 into those things, that's all going to be -- if we went that  
21 way, that would all be input into the rule, and our people  
22 have not had a lot of experience with that and neither have  
23 the licensees. So that's why I think inspectability and  
24 enforceability is going to be a problem area. It can be  
25 done, but it's a concern.

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1 CHAIRMAN JACKSON: And doesn't that get you back  
2 to Commissioner McGaffigan's comment on what he says about  
3 inspecting against guidance versus -- I mean enforcing  
4 against guidance as opposed to enforcing against a rule?

5 MR. CONNELL: Well, if we wrote a rule that had  
6 some sort of core damage frequency as the requirement, how  
7 do you inspect against that? It's everything that the  
8 licensee does to get to that number, and all the input that  
9 goes into that. What kind of cable are they having, what's  
10 the fragility data on that particular cable. That's not  
11 stuff we have had to look at before. Inspectors had to look  
12 at does the area have a --

13 CHAIRMAN JACKSON: I'm on the enforceability, not  
14 the inspectability.

15 MR. CONNELL: Okay. It's the same-- but one leads  
16 to the other.

17 CHAIRMAN JACKSON: Okay.

18 MR. CONNELL: Option 3. Next slide, Lisa.

19 This basically maintains the status quo. The NFPA  
20 standard could be used, and actually industry would prefer  
21 that that first bullet be incorporated into Option 2. They  
22 would rather we didn't adopt the NFPA standard as an  
23 alternative to the rule. They would prefer that it be used

24 as say a basis for 50.59 evaluations, Generic Letter 86-10  
25 evaluations or as a basis for exemptions and deviations.

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1 And we'll go to the last slide.

2 Okay, as we discussed today, the Staff recommends  
3 development of a performance-based risk-informed rule be  
4 deferred, and that the proposal described in Option 2 be  
5 approved and we discussed the reasons for the Staff  
6 recommendation.

7 CHAIRMAN JACKSON: Well, my only comment or  
8 question -- I mean again, you talk about the adequacy of the  
9 current regulatory framework, and the low number of new  
10 exemption requests, but sticking with the first bullet, you  
11 know, I think if you go back to the issues that Commissioner  
12 Diaz and I raised, the issue is -- you are talking about  
13 having a new research program with 42 -- you know, potential  
14 issues, no compendium of where things are today, a  
15 systematic assessment of Appendix R versus non-Appendix R  
16 plants, a systematic follow-up even for the five in terms of  
17 the safety significance of the existing fire protection  
18 program. And so in the absence of that information, the  
19 issue is what are we to work off of and kind of have a basis  
20 for any of the options?

21 I mean I'm not looking at one versus the other  
22 versus the other, because the Commission will decide, but I  
23 just challenge you particularly vis-a-vis your first bullet  
24 that we don't have a sense of what the adequacy is, given  
25 that there is no systematic statement about exactly where

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1 things are today, both in terms of state of the art from a  
2 research and a technical issue point of view, you know, a  
3 systematic statement in terms of how the IPEEE programs,  
4 what they say about the adequacy of existing programs, what  
5 have come out of the fire protection functional inspections,  
6 et cetera, et cetera, et cetera.

7 So -- and I'm not sure about the bases of the --  
8 go ahead.

9 COMMISSIONER DIAZ: And I think that it might be  
10 very well that you are convinced of the adequacy. We just  
11 want to have the appropriate documentation that supports  
12 that statement, and so I do think we are saying that you  
13 don't know, as we don't know.

14 MR. CONNELL: I understand. I understand. And  
15 it's not in one place. I mean I could go over licensee  
16 event reports, I could go over our enforcement history, I  
17 can go over industry's position, I can cover the IPEEE  
18 results, but it's not in one place.

19 COMMISSIONER DIAZ: I understand.

20 CHAIRMAN JACKSON: Yes, Commissioner?

21 COMMISSIONER MCGAFFIGAN: I have a couple  
22 questions. In passing, you said industry's view on Option 3  
23 is that it's really a variation on Option 2, that rather  
24 than adopt ultimately in the year 2001 by rule this standard  
25 that may come out of the standards-setting body, that they

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1 would suggest we simply use it as a device for 50.59 and  
2 Generic Letter 86-10 evaluations.

3 Does the Staff have an opinion on that? That's  
4 not what you are proposing.

5 MR. CONNELL: Well, obviously our opinion is that  
6 that's not what we would prefer. We would prefer that  
7 industry standard, if we find it acceptable, be adopted as  
8 an alternative. We would prefer that plants fall in one of  
9 the bins. If they want to adopt the industry standard, they

10 adopt it in total, not in piece. I think industry would  
11 prefer that while we'd like to use our existing licensing  
12 basis for this area, we'd like to take this chapter or  
13 paragraph out of the NFPA standard and use it for this  
14 issue, and the Staff is very uncomfortable with doing that.

15 COMMISSIONER MCGAFFIGAN: Okay. So you do not  
16 recommend that option?

17 MR. CONNELL: No. No, that is not an option -- we  
18 recommend Option 2.

19 COMMISSIONER MCGAFFIGAN: Now let me just try  
20 Option 1 for a second. As I understand the differing  
21 professional opinion, his is a variation as well, somewhere  
22 between Option 1 and Option 2, in that he would avoid the  
23 backfit issue. He lays out the history of Appendix J,  
24 Option 2, the performance-based option, which has a long  
25 history, and believes that something of that order can

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1 happen. That was a voluntary option, you know, but it was  
2 such a good option, I'm not sure whether we have very many  
3 people left still pursuing the Option A in Appendix J. But  
4 it's the judgment of Mr. Dey that -- if I'm pronouncing the  
5 name right -- that we are -- that there is a similar  
6 opportunity available at this point in time and, as I say,  
7 he would avoid -- just make such a good deal, people would  
8 voluntarily transition to the new deal as they did in  
9 Appendix J Option --

10 MR. CONNELL: Well, I think fire protection is a  
11 lot broader than Appendix J, and I don't believe that -- my  
12 feedback from the practicing fire protection professionals  
13 is they would not adopt a performance-based rule, even if it  
14 would grant them some relief in some areas.

15 COMMISSIONER MCGAFFIGAN: But in saying that, are  
16 you also saying -- back to the first part of my question,  
17 that if we don't give them the chance to pick and choose,  
18 the industry version of Option 2, and we say by rulemaking  
19 in the year 2001 you can take this new third option, but you  
20 have to take it in toto, we're not going to let you pick and  
21 choose, that there won't be many takers for that?

22 MR. CONNELL: I don't expect the majority are  
23 going to adopt it. That's reality. I mean we are going to  
24 give them the alternative, but I don't think a majority are  
25 going to adopt it.

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1 COMMISSIONER MCGAFFIGAN: So that gets back to --I  
2 mean what I detect through all this is the Staff and the  
3 industry have sort of peered into the abyss of  
4 risk-informed/performance-based regulation in fire  
5 protection and are jointly stepping back from it.

6 MR. CONNELL: That's correct.

7 COMMISSIONER MCGAFFIGAN: Okay.

8 CHAIRMAN JACKSON: Commissioner Dicus?

9 Commissioner Diaz?

10 COMMISSIONER DIAZ: The only point is that again  
11 does risk-informed/performance-based. I can generally see  
12 the risk insights are definitely a pro, and I am encouraged  
13 that the industry agrees with that.

14 CHAIRMAN JACKSON: Well, I would like to thank the  
15 NRC Staff for briefing the Commission on the subject of the  
16 development of a risk-informed and/or performance-based  
17 regulation for fire protection, and as you can tell from the  
18 questions, actually, the Commission realizes that this is a  
19 complicated task, and we have a lot of history, for better  
20 or for worse, that we are operating off of, and the

21 Commission has also realized, however, that the current  
22 regulation or implementation of it is confusing, and  
23 requires a high degree of maintenance, whether we are  
24 talking with respect to interpretations, inspections,  
25 exemptions. It's a high maintenance process, and -- but the

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1 discussion this morning has been good, and so I do want to  
2 compliment you on that, and I think it's been a robust  
3 discussion. And the deliberations will help the Commission  
4 in its decision-making, and the Commission has before it the  
5 Staff's paper recommending one of the three options  
6 presented, and we obviously then will further study the  
7 issue, and we will vote on your recommendation.

8 But let me just say that the Staff should expedite  
9 its handling of any differing views among the Staff, and if  
10 you can provide an assessment in a timely manner to help  
11 inform the Commission's decision-making, I think that would  
12 be very useful.

13 In addition, I think you need to look carefully at  
14 this issue of having documents summarizing where we are from  
15 the point of view particularly of the decision you are  
16 asking the Commission to make, although we will probably end  
17 up acting on the recommendation in a time frame that's more  
18 expedited than that.

19 Nonetheless, you owe it to the Commission to bring  
20 this forward because the place to have the data and the  
21 convincing arguments is not at the table, but to have the  
22 Commission have the opportunity to evaluate these things  
23 before we get here, and then we can have informed questions.

24 I would like to ask OGC to look at this issue of  
25 compliance backfits versus backfits vis-a-vis the backfit

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1 rule, because there seems to be some element of confusion  
2 that keeps coming up in our discussions.

3 And then my last comment is that consolidation and  
4 reconciliation of guidance should just be an operational  
5 principle. It should not be something that requires a  
6 Commission vote, it doesn't make sense to have guidance  
7 documents all over the place and have things that have  
8 apparent conflicts with each other or only the well-schooled  
9 and well-practiced can understand them.

10 And so if we don't have any further discussion, we  
11 are adjourned.

12 [Whereupon, at 11:43 a.m., the public meeting was  
13 concluded.]

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