

## NUCLEAR REGULATORY COMMISSION

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557th Meeting

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1 UNITED STATES OF AMERICA

2 NUCLEAR REGULATORY COMMISSION

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4 ADVISORY COMMITTEE ON REACTOR SAFEGUARDS (ACRS)

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6 557TH MEETING

7 + + + + +

8 FRIDAY,

9 NOVEMBER 7, 2008

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11 The Advisory Committee met at the Nuclear  
12 Regulatory Commission, Two White Flint North, Room  
13 T2B3, 11545 Rockville Pike, Rockville, Maryland, at  
14 8:30 a.m., William J. Shack, Ph.D., Chair, presiding.

15 MEMBERS PRESENT:

16 WILLIAM J. SHACK, Chairman

17 MARIO BONACA, Vice Chairman

18 J. SAM ARMIJO

19 GEORGE E. APOSTOLAKIS

20 SANJOY BANERJEE

21 DENNIS C. BLEY

22 CHARLES H. BROWN, JR.

23 MICHAEL L. CORRADINI

24 OTTO L. MAYNARD

25 SAID I. ABDEL-KHALIK

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MEMBERS PRESENT (Continued):

DANA A. POWERS

HAROLD B. RAY

MICHAEL T. RYAN

JOHN D. SIEBER

JOHN W. STETKAR

ALSO PRESENT:

TANNY SANTOS, Designated Federal Official

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

(8:32 a.m.)

7) OPENING REMARKS BY THE ACRS CHAIRMAN

CHAIRMAN SHACK: The meeting will now come to order. This is the second day of the 557th meeting of the Advisory Committee on Reactor Safeguards. During today's meeting, the Committee will consider the following: current issues associated with fire protection and related matters; proposed changes to the review process for subsequent combined license applications; future ACRS activities and reports of the Planning and Procedures Subcommittee; preparation for meeting with the Commission; and reconciliation of ACRS comments and recommendations. In addition, the Committee will meet with the Commission between 2:00 and 3:30 p.m. to discuss various topics.

The meeting is being conducted in accordance with the provisions of the Federal Advisory Committee Act. Mr. Tanny Santos is the designated federal official for the initial portion of the meeting.

We have received no written comments or requests for time to make oral statements from members of the public regarding today's session. A transcript of portions of the meeting is being kept, and it is

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1 requested that speakers use the microphones, identify  
2 themselves, and speak with sufficient clarity and  
3 volume so they can be readily heard.

4 Our first topic today is "Current Issues  
5 Associated with Fire Protection." I think Jack is  
6 leading us on that.

7 MEMBER SIEBER: Thank you, Mr. Chairman.

8 8) CURRENT ISSUES ASSOCIATED WITH  
9 FIRE PROTECTION AND RELATED MATTERS

10 8.1) REMARKS BY THE SUBCOMMITTEE CHAIRMAN

11 MEMBER SIEBER: As the members know, there  
12 has been lots of activity over the last months and  
13 last few years in the fire protection area. And  
14 because of the amount of work and the details involved  
15 with that and testing and industry interaction,  
16 progress has been intense but not particularly rapid.

17 This has caught the attention of the  
18 General Accounting Office. And the GAO decided that  
19 they would audit the NRC on the fire protection area.  
20 And it turns out that the ACRS was involved. And  
21 specifically I was questioned on this matter. I have  
22 read the report. And my name is not in there. So I  
23 feel I was successful.

24 On the other hand, there were a number of  
25 comments and recommendations expressed in that report.

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1 And this morning we would like to review the staff's  
2 approach to resolving the issues in the GAO report.

3 And, in addition to that, one of the  
4 intensive future activities of the staff and licensees  
5 is going to be the adoption of NFPA-805, which is  
6 risk-informed fire protection systems in nuclear power  
7 plants.

8 A major portion of the industry has  
9 elected to adopt NFPA-805. It is an area where we are  
10 still developing the field of experience, but it  
11 promises to resolve some of the issues that have been  
12 difficult to resolve in the past. And so in my view,  
13 it is a step forward. And so we during this session  
14 will review the staff's progress in the area of  
15 adoption of NFPA-805.

16 And to lead us through this discussion on  
17 these fire protection issues this morning is Mark  
18 Cunningham, an old friend of ours, who is Director of  
19 the Division of Risk Assessment. And he will lead us  
20 through this topic.

21 Mark?

22 MR. CUNNINGHAM: Thank you, Dr. Sieber.

23 8.2) BRIEFING BY AND DISCUSSIONS WITH

24 REPRESENTATIVES OF THE NRC STAFF

25 MR. CUNNINGHAM: Good morning. I think

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1 this is the first time I have talked to the Committee  
2 in my current position, which is the Director of the  
3 Division of Risk Assessment in NRR. My division has  
4 four basic functions in it. We are going to talk  
5 about that function that is becoming by far the  
6 biggest part of what our division does, which is fire  
7 protection activities.

8 I appreciate the opportunity today to come  
9 before the Committee. As Dr. Sieber said, we have had  
10 a lot of help over the last six months from the  
11 General Accountability Office, from the Inspector  
12 General, from the Commission on what we should be  
13 doing in the area of fire protection.

14 We have a great deal to do over the next  
15 year in dealing with the plants that are transitioning  
16 to NFPA-805 as well as dealing with the plants that  
17 are at this point not transitioning. So you will hear  
18 today about both sets of activities.

19 The staff today that you will hear from  
20 are all from my division in the Office of Nuclear  
21 Reactor Regulation. The work that you are going to  
22 hear about, though, involves a much broader part of  
23 the agency. We have substantial technical help from  
24 the Office of Nuclear Regulatory Research.

25 We are very actively interacting with the

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1 regions on this because there the inspectors are the  
2 ones who at some point are going to have to verify  
3 that the fire protection changes that are being made  
4 are, in fact, being made correctly.

5 We also have extensive involvement with  
6 the Office of Enforcement. As you will hear about,  
7 there is a strong relationship in some of these  
8 activities with the issue of enforcement discretion  
9 and the timing of some of the actions that are being  
10 done.

11 So because of the extensive interactions  
12 among the offices, we have a steering committee that  
13 is chaired by my boss, Jack Grobe, in NRR and has  
14 senior executives from each of those groups that I  
15 talked about.

16 For those of you who have been around fire  
17 protection for a while, you will know that the name  
18 Steve West has come into play many times in the past.  
19 Steve is right now the Director of Reactor Safety in  
20 region 3. And he is our regional representative on  
21 the steering committee. So he gives us both the  
22 regional experience and gives us his long historical  
23 experience in fire protection activities.

24 Within the division, as I said, this has  
25 become the biggest activity, biggest function in the

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1 division. We have made organizational changes within  
2 the division to reflect this.

3 One of the things that we have done is to  
4 bring another person who has been involved in fire  
5 protection activities back into the line management.  
6 Sunil Weerakkody, who is sitting back over there, has  
7 been involved for a long time in fire protection  
8 activities. He is now the Deputy Division Director in  
9 DRA for fire protection. So since this is a very  
10 complicated issue, we wanted to have a senior  
11 management who is, in effect, devoted to straightening  
12 all of this out.

13 With that, I would just like to say, as  
14 Dr. Sieber was saying, we would like to talk about  
15 what has been going on, what we expect to happen in  
16 the next year, and basically to use this as a starting  
17 point for a set of possible interactions on fire  
18 barrier issues, on regulatory guidance, inspection reg  
19 guides, SRPs, and with respect to NFPA-805 as well as  
20 for the plants that are not transitioning, dealing  
21 with the treatment of circuits for plants that are not  
22 transitioning to 805.

23 With that general introduction, questions?

24 MEMBER STETKAR: Mark?

25 MR. CUNNINGHAM: Yes, John?

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1           MEMBER STETKAR: I didn't look through  
2 your presentation. So I don't know whether it is  
3 relevant for the discussion today, but I just read  
4 sometime within the last month or so that apparently  
5 the industry, NEI, is proposing a different or revised  
6 methodology for either compliance or assessment of  
7 fire risk, you know, performance-based. Are you going  
8 to touch on how that may affect your integration  
9 implementation process?

10           I don't know what they are proposing. I  
11 haven't seen anything, but, as I understand it, it  
12 kind of caught you by surprising.

13           MR. CUNNINGHAM: That's okay. The  
14 thumbnail is -- and I will ask Alex to touch on this  
15 a little bit at some point.

16           MR. KLEIN: In a general sense, we will  
17 touch on it later in terms of the infrastructure  
18 development for NFPA-805.

19           MEMBER STETKAR: Okay. That is kind of in  
20 the context of this. I was curious.

21           MR. CUNNINGHAM: Yes. Down in the  
22 infrastructure in the fire PRA area is a NUREG  
23 document known as NUREG CR-6850. It is a joint effort  
24 of NRC's Office of Research and the Electric Power  
25 Research Institute.

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1           Within that is a set of technical issues,  
2           some of which we have found and the industry have  
3           found has been complicating their fire PRAs in the  
4           sense that in some cases the application of the  
5           methods that are described there seem to lead to  
6           nonsensical results. Okay?

7           It's a situation where you have perhaps a  
8           somewhat conservative model in one case and you bring  
9           that together with another model and the combination  
10          causes something that just doesn't seem to make sense.

11          We are working through those issues in  
12          what we call our FAQ process. The industry comment  
13          was I think with respect to how quickly we were going  
14          to reach resolution on some of those issues.

15          If we have nothing else, I am going to  
16          turn it over to Alex and his staff. Thank you very  
17          much.

18          MR. KLEIN: I'm going to slide over and  
19          see if I can bring up my presentation. Good morning.  
20          My name is Alex Klein. I am the Branch Chief in NRR,  
21          Fire Protection Branch.

22          As Mark mentioned, the division recently  
23          reorganized such that I report to Dr. Weerakkody now  
24          in terms of the line organization. I have with me  
25          today here many of my staff, most of my staff here,

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1 along with a gentleman who is a senior technical  
2 adviser in the division, who is also devoting much, if  
3 not all, of his time to the efforts with NFPA-805,  
4 Steve Laur. He will also make a presentation later on  
5 to the Commission here.

6 What we wanted to do today was to discuss  
7 a variety of --

8 MEMBER APOSTOLAKIS: Is there a special  
9 significance to the fact that fire protection is under  
10 the Division of Risk Assessment?

11 MR. KLEIN: Yes, it is. It is because the  
12 effort right now is to go towards risk-informing a lot  
13 of our efforts, our regulations; for example,  
14 NFPA-805. And I think there was a reason why it was  
15 put under risk assessment.

16 MEMBER APOSTOLAKIS: Quite a number of  
17 plants would not go to 805.

18 MR. KLEIN: Right now we have 48 units out  
19 of 104 who have sent in letters of intent to  
20 transition to NFPA-805.

21 MEMBER APOSTOLAKIS: But is the risk going  
22 to affect the other plants?

23 MR. KLEIN: Is the risk going to affect  
24 the other plants?

25 MEMBER APOSTOLAKIS: Any risk

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1 consideration. Is it going to affect the other  
2 plants, even though they choose not to go the 805  
3 route?

4 MR. KLEIN: Licensees can maintain  
5 compliance with the deterministic regulations under  
6 appendix R --

7 MEMBER APOSTOLAKIS: Right, right.

8 MR. KLEIN: -- or under their licensing  
9 basis for those who were not committed to --

10 MEMBER APOSTOLAKIS: Well, that is under  
11 you, too. That's what I'm saying.

12 MR. KLEIN: That's under me, too. That's  
13 correct, because fire protection as a discipline  
14 should be maintained, I think, in a single location,  
15 as opposed to trying to split that up between two  
16 different organizations because there are  
17 commonalities between the two.

18 MEMBER APOSTOLAKIS: Very good. I suppose  
19 that other people could run, for example, digital I&C.

20 (Laughter.)

21 MEMBER APOSTOLAKIS: You had better write  
22 into it, Alex.

23 MR. KLEIN: As I indicated --

24 MEMBER APOSTOLAKIS: Actually, I agree  
25 with you. I mean, I thought you gave a good answer.

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1 This is the way it should be.

2 MR. KLEIN: Thank you. These are the  
3 discussion topics that I've got listed on this slide  
4 that you'll hear from the staff. Without trying to  
5 list each of these, what I just want to say at a high  
6 level is that, as Dr. Sieber indicated, there has been  
7 high interest from some of our external stakeholders;  
8 for example, the Government Accountability Office, the  
9 recent IG report on the Hemyc fire barrier issues. We  
10 have got congressional interest. And we have got very  
11 high interest at the Commission level.

12 So I will have staff here to talk about  
13 some of the actions with regard to some of the  
14 Commission direction that we have received. That will  
15 be the next presentation.

16 And we will also talk about the fire  
17 protection closure plan that the staff has developed  
18 to address some of these items. And then, of course,  
19 we will talk about our status in our interactions with  
20 regard to NFPA-805.

21 With that, I would like to --

22 MEMBER APOSTOLAKIS: I have a question.

23 MR. KLEIN: Yes?

24 MEMBER APOSTOLAKIS: I mean, we heard  
25 yesterday a presentation by other people, who was

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1 prompted by the investigation or report of the  
2 Inspector General. Now we see the Government  
3 Accountability Office. Is this the one that used to  
4 be General Accounting Office?

5 MR. KLEIN: Yes.

6 MEMBER APOSTOLAKIS: Why are these people  
7 interested in you? Who else is going to come? In the  
8 next month, we're going to have somebody else.

9 MEMBER SIEBER: FBI.

10 (Laughter.)

11 MEMBER APOSTOLAKIS: But I'm curious.

12 MEMBER ARMIJO: What prompted Congress?

13 MEMBER APOSTOLAKIS: Why did the GAO do  
14 this? Somebody complained or --

15 MR. CUNNINGHAM: The GAO has a  
16 responsibility to respond to requests from members of  
17 Congress, for example, on issues that are of concern  
18 to them. In the case of this, it was Congressman  
19 Price from North Carolina requested this.

20 The Shearon Harris plant happens to be in  
21 his district. And so there is a lot of local interest  
22 at Harris, both because of the issues over the years  
23 and because they are transitioning.

24 So Congressman Price requested GAO to do  
25 this, and they accepted the request. They have some

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1 options apparently, but they did choose to do this.

2 MEMBER APOSTOLAKIS: Will somebody tell us  
3 what the issue was at Shearon Harris?

4 MR. KLEIN: We will provide you with a  
5 discussion on the GAO report.

6 MEMBER APOSTOLAKIS: Okay. Okay. Then  
7 maybe we can --

8 MR. KLEIN: Okay.

9 MEMBER APOSTOLAKIS: Very good. Thank  
10 you.

11 MR. KLEIN: So what I will do is, as each  
12 of my staff come up here, I will introduce them. So  
13 the first staff member I would like to introduce is  
14 Naeem Iqbal, who is a fire protection engineer in the  
15 Fire Protection Branch.

16 He would like to brief the Committee on  
17 some recent staff requirements memoranda that was  
18 issued by the Commission down to the staff. So bear  
19 with me for a moment, and I will --

20 MR. IQBAL: Good morning. My name is  
21 Naeem Iqbal. And I am a fire protection engineer with  
22 the Division of Risk Assessment.

23 Over the past few months, the Commission  
24 issued the SRM on the fire protection activities. So  
25 I will summarize all of the SRMs. The first SRM was

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1 issued in July 2008 as a result of Commission briefing  
2 on the fire protection program. In this SRM, the  
3 Commission directed the staff to provide a fire  
4 protection closure plan. And I think Dan Frumkin and  
5 Chuck Moulton will cover those plans.

6 The plan should include the following  
7 milestones and deliverables: option for accelerating  
8 the completion of the various fire protection issue  
9 and applicable budget implications, training to  
10 appropriate the staff on the important historical  
11 lesson learned from the fire protection issues,  
12 resolution of activities since 10 CFR Part 50,  
13 appendix R was established, a plan to assess the  
14 effectiveness of ongoing improvements to the fire  
15 protection regulatory frameworks using recent plant  
16 data to establish a baseline.

17 Such a baseline could be, for example, the  
18 number of general-type, all open fire protection  
19 deficiencies that have compensated and manner for the  
20 compensate used in the CY 2007.

21 The second SRM was on the enforcement  
22 discussion on the NFPA requirement --

23 MEMBER APOSTOLAKIS: I don't understand  
24 what you just said. Can you go back? The last  
25 bullet, what does it mean, "The number and general

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1 type of all open fire protection deficiencies that  
2 were compensated"?

3 MR. IQBAL: Yes, compensated --

4 MEMBER APOSTOLAKIS: Can you explain that  
5 a little bit?

6 MR. IQBAL: Dan Frumkin will cover that  
7 later on, how we are --

8 MR. KLEIN: We will go into a little bit  
9 more detail on that, Doctor. But what this talks  
10 about is a Commission direction for the staff to  
11 determine how well the progress is being made and how  
12 --

13 MEMBER APOSTOLAKIS: You are going to  
14 cover this.

15 MR. IQBAL: The second SRM on the NFPA-805  
16 discussion policy, the Commission approved the staff  
17 proposal to extend the grant enforcement discussion  
18 period for six months beyond the date of the SER  
19 safety evaluation approving the second pilot plant  
20 license amendment request to transition to NFPA  
21 requirement.

22 This extension is not automatic and would  
23 be granted on the case-by-case basis and only after a  
24 licensee demonstrates substantial progress in his 805  
25 transition effort. I think Harry Barrett will cover

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1 more on that when he presents the 805 LER review.

2 The part SRM was on the second issue. And  
3 this SRM Commission also approved a star proposal to  
4 change the enforcement discussion guidance regarding  
5 the fire in the SECY earlier violation for licensees  
6 who choose not to utilize NFPA-805 or 10 CFR 50.48(c).

7 The new enforcement discussion guidance  
8 would provide six months for the licensee to identify  
9 noncompliances, identify comp measures, and place the  
10 noncompliances in the licensee corrective action  
11 program.

12 So in the closure plan I think Dan Frumkin  
13 will address more on that.

14 MEMBER CORRADINI: Can I just ask? I want  
15 to get some perspective. So just from a standpoint of  
16 what happened for a second, so the GAO report  
17 appeared.

18 And these are responses by the Commission  
19 to the report or these occurred before or how did all  
20 of this lay out? I need more background.

21 MR. KLEIN: Yes. These series of SRM,  
22 staff requirements memoranda, are not directly related  
23 to the GAO report.

24 MEMBER CORRADINI: Okay.

25 MR. KLEIN: What has occurred is because

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1 there were a number of activities in fire protection,  
2 what you saw here is this last SRM that Naeem just  
3 went over is specifically related to the NFPA-805  
4 effort with the staff because the staff had  
5 recommended to change the enforcement discretion  
6 policy. The staff send up a SECY paper, and the  
7 Commission approved that through this SRM.

8 MEMBER CORRADINI: Okay.

9 MR. KLEIN: There was also an activity  
10 with the staff related to responding to the circuit  
11 failures issue. And the staff sent up a SECY paper to  
12 the Commission, indicating the staff's plan to resolve  
13 that fire into the circuits failure issue.

14 And I might add that we have plans to come  
15 back and see you, engage you specifically on the fire  
16 into the circuits failure issue at a later time. So  
17 we will get into a lot more depth for that one.

18 Now, for the other one, this SRM related  
19 to a fire protection briefing that the staff gave to  
20 the Commission back in July of 2008. As a result of  
21 that fire protection briefing, the Commission gave the  
22 staff certain direction; for example, the fire  
23 protection --

24 MEMBER CORRADINI: So these are  
25 accumulated actions that aren't necessarily related

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1 but occurred in the same time frame?

2 MR. KLEIN: In the general same time  
3 frame, in about over the summer.

4 MEMBER CORRADINI: Right. I understand  
5 that.

6 MR. KLEIN: That's correct.

7 MEMBER APOSTOLAKIS: The closure of the  
8 fire protection issue completion --

9 MR. KLEIN: And we will talk about that.  
10 So, if I could, I would like to move on to the next  
11 subject matter, talk about the GAO report that Dr.  
12 Sieber mentioned. And we will get a briefing on where  
13 we are with that.

14 MEMBER APOSTOLAKIS: I looked at that  
15 report, Mark. There is nothing in there we do not  
16 already know. There is nothing in the report that we  
17 did not already know. Is that a true statement?

18 MR. CUNNINGHAM: I'm sorry? The GAO  
19 report? The GAO report? It provided a different view  
20 of some of the information that I think -- essentially  
21 all of which we were aware of. It focused on  
22 particular issues that we were well-aware of, but it  
23 did not surface any new issues. It did not surface  
24 any new issues for us.

25 MEMBER APOSTOLAKIS: That's right.

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1 MR. CUNNINGHAM: Yes.

2 MEMBER APOSTOLAKIS: But my question is  
3 whether Congress when they get this, did they get any  
4 feedback from you? Yes, we knew about this.

5 MR. CUNNINGHAM: When the GAO report comes  
6 out, there was a requirement that the affected agency  
7 respond within 60 days on what it is going to do. And  
8 the Chairman assigned out a memo in 60 days that  
9 describes that. But it commits us. And some of the  
10 actions that were on that list there, I think, are  
11 related to more ensuring that we don't lose sight of  
12 what we learned in times past.

13 MEMBER CORRADINI: When was the report  
14 issued or started?

15 MR. KLEIN: The report was started in  
16 August of 2007. The activities were started in 2007,  
17 in August. It would have been June of this year.

18 MR. MOULTON: Let me introduce Chuck  
19 Moulton of my staff. He's a fire protection engineer  
20 in the Fire Protection Branch. He would like to brief  
21 the Committee in regards to the recent GAO report on  
22 fire protection and the recommendations in the report  
23 and the associated staff actions.

24 MR. MOULTON: All right. The first thing  
25 I have here is the additional remit, if you will, from

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1 the GAO of the congressional requesters was to go into  
2 three different topics. The first was recent fire  
3 history at power plants. The second was the use of  
4 long-term interim compensatory measures and the  
5 effects on safety of the plants. And the third was to  
6 look into the new risk-informed fire protection rule  
7 and the effects it might have on the fire safety of  
8 power plants.

9 We'll go on to the next one.

10 MEMBER APOSTOLAKIS: The extent to which  
11 again the --

12 MR. MOULTON: Yes.

13 MEMBER APOSTOLAKIS: In other words, are  
14 they safer? Is that what they are asking?

15 MR. MOULTON: Yes.

16 MEMBER APOSTOLAKIS: Okay.

17 MR. MOULTON: This tortured syntax, it's  
18 their words.

19 MEMBER APOSTOLAKIS: Okay. But that is  
20 what it means?

21 MR. MOULTON: That is what it means.

22 MEMBER APOSTOLAKIS: Okay.

23 MEMBER CORRADINI: That is a nice way of  
24 putting it. You pasted in what they said they were  
25 going to do?

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1 MR. MOULTON: Yes.

2 MEMBER CORRADINI: Got it.

3 MR. MOULTON: That is what they said they  
4 were going to do. And that's what they investigated,  
5 at least some part.

6 MEMBER APOSTOLAKIS: Right.

7 MR. MOULTON: However, you can look on the  
8 next slide to the recommendations. They are almost  
9 all related to the second topic. They believe the NRC  
10 should have a centralized database of exemptions, of  
11 long-term compensatory measures, of all manual  
12 actions.

13 We need to address the safety significance  
14 of long-term comp measures; finally close out fire  
15 barrier issues; and, finally, set a date for solving  
16 the multiple spurious issue.

17 And then in September of this year --

18 MEMBER BROWN: "Compensatory," that's a  
19 new term for me in fire protection. Does that mean  
20 Smokey, the Bear fire prevention measures? Is that  
21 what a compensatory measure is?

22 MR. MOULTON: Compensatory measure --

23 MEMBER SIEBER: If your sensor goes out,  
24 put a fire watch there. The person is supposed to  
25 say, "The place is on fire. Call the control room."

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1 That's an example.

2 MEMBER BROWN: So it is procedures as well  
3 as preventive measures? It means if an automatic fire  
4 system goes out, it provides procedures for telling  
5 you what to do?

6 MEMBER SIEBER: It's a substitute.

7 MEMBER BROWN: I just don't understand the  
8 terminology of what it means.

9 MEMBER ARMIJO: I am with you, Charlie.  
10 I get the sense that compensatory is really a  
11 temporary, as opposed to a corrective action, --

12 MEMBER SIEBER: No.

13 MEMBER ARMIJO: -- which fixed it one and  
14 for all.

15 MEMBER SIEBER: If I can --

16 MEMBER ARMIJO: Let me interject.

17 MEMBER POWERS: Following the Browns Ferry  
18 fire, the NRC found that it had to address fire in  
19 more than just an industrial hazard basis. And then  
20 it had to backfit regulations on existing plants.

21 A lot of plants simply could not tolerate  
22 the backfit. They were required to introduce what  
23 were called compensatory measures. In many of those  
24 cases, a compensatory measure is simply a fire watch.  
25 Okay?

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1           That's something that will achieve the  
2 desired outcome of the regulations when geometrically  
3 physically you cannot implement the requirement.

4 Okay?

5           Frequently the requirement that is at odds  
6 is separation. It just geometrically cannot separate  
7 things enough. And so you would have to introduce  
8 some sort of compensatory measures.

9           Compensatory measures, I mean, there are  
10 lots of them. You can put a fire barrier issue. You  
11 can put in fire watches, lots of things like that.  
12 They may be permanent for the life of the plant. They  
13 need not be a temporary thing.

14           MEMBER ARMIJO: Okay.

15           MEMBER POWERS: And it was all because you  
16 were backfitting a bunch of requirements on plants  
17 that already exist.

18           MR. KLEIN: I would like to clarify. With  
19 respect to the appendix R rule and the licensee's  
20 compliance with the appendix R rule, Dr. Powers is  
21 absolutely correct in terms of the fact that licensees  
22 whose plants were already built and designed at the  
23 time, that rule was backfitted in. So in many cases,  
24 it was difficult for them to comply with the  
25 deterministic requirements of appendix R, for example,

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1 to provide that three-hour separation between your  
2 redundant safe shutdown trains in the safe fire area.

3 Licensees if they wish to do something  
4 different from those requirements need to come in and  
5 see us. And that would be done through an exemption  
6 request. So the licensees would then propose an  
7 alternative. We would either approve or disapprove it  
8 through the exemption request process. If it's  
9 approved, then the licensee can go ahead and make that  
10 as a permanent plant change.

11 The use of compensatory measures is  
12 usually implemented in terms of when a licensee has a  
13 degraded or an inoperative fire protection system, for  
14 example, or he finds himself in a situation where they  
15 are not in compliance with the regulations.

16 For example, Dr. Sieber mentioned the fire  
17 detection, a fire detector or system that might be out  
18 of service. Licensees used to have those types of  
19 things to find in technical specifications. They were  
20 removed and put into technical requirements manuals  
21 that will define specifically what compensatory  
22 measures the licensee would need to put into place to  
23 compensate for the fact that they have got a degraded  
24 or inoperable fire protection system, for example.

25 And that could entail a fire watch. It

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1 could entail, in addition to that or, as an  
2 alternative, different procedural measures that the  
3 licensee might implement. It could be changes,  
4 temporary changes, to their administrative controls  
5 program in terms of how they allow certain  
6 combustibles to be introduced into that fire area.

7 So there's a variety of types of  
8 compensatory measures that a licensee can implement in  
9 accordance with the approved fire protection program.

10 MEMBER POWERS: All there to achieve the  
11 desired outcome of the rule, the existing rule?

12 MR. KLEIN: The implementation of  
13 compensatory measures is there in order for the  
14 licensee to be able to comply with their fire  
15 protection programs. And compensatory measures are  
16 put in place as an interim measure while the licensee  
17 brings themselves back into compliance, either, say,  
18 through an exemption request, as I mentioned, or a  
19 plant modification.

20 MEMBER BROWN: So they are temporary.

21 MEMBER SIEBER: Temporary, but they may be  
22 for the life of the plant.

23 MR. KLEIN: Compensatory measures. If a  
24 licensee wants to use a certain type of compensatory  
25 measure as a permanent plant change in lieu of what

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1 the regulation requires, that licensee needs to come  
2 in to see us to get --

3 MEMBER BROWN: That becomes an exemption,  
4 then, or --

5 MR. KLEIN: That becomes an exemption --

6 MEMBER BROWN: Okay.

7 MR. KLEIN: -- for licensees who are  
8 required to comply with appendix R.

9 MEMBER APOSTOLAKIS: Now, the compensatory  
10 measure does not need to be approved by you?

11 MR. KLEIN: The compensatory measures are  
12 defined in the fire protection program, which was  
13 reviewed by the staff.

14 MEMBER APOSTOLAKIS: Okay. So there is  
15 approval anyway.

16 MR. KLEIN: There is a sort of an  
17 approval, yes.

18 MEMBER APOSTOLAKIS: Sort of.

19 MR. KLEIN: Because we reviewed their fire  
20 protection program.

21 MEMBER APOSTOLAKIS: Okay.

22 MEMBER POWERS: And they are subject to  
23 inspection and --

24 MR. KLEIN: And they are subject to  
25 inspection. That's correct.

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1 MEMBER BROWN: Okay. All right. Let's  
2 move on to --

3 MR. KLEIN: Which one are we on? Okay.  
4 Central database.

5 MEMBER BROWN: Move on to the last one,  
6 what the Commission wrote back to the Congress as to  
7 what actions we're going to take.

8 MEMBER APOSTOLAKIS: Which regard to which  
9 one: this one or the previous one?

10 MEMBER BROWN: This one.

11 CHAIRMAN SHACK: This response to the  
12 previous slide.

13 MR. KLEIN: Yes. All our recommendations  
14 that the GAO made these are the staff's planned  
15 actions and response to the those recommendations.

16 MR. MOULTON: Right, developed a database  
17 of fire protection-related exemptions, developed a  
18 metric and a monitoring methodology.

19 CHAIRMAN SHACK: Now, when you say that,  
20 I assume that is shorthand for exemptions,  
21 compensatory measures, and manual actions, or do you  
22 just mean exemptions?

23 MR. MOULTON: I mean exemptions.

24 MEMBER APOSTOLAKIS: Why is that useful?

25 MR. KLEIN: The centralized database?

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1 MEMBER APOSTOLAKIS: Yes.

2 MR. KLEIN: There is some usefulness in  
3 that it provides, for example, an inspector out in the  
4 field the ability to access these exemptions in a  
5 quick manner, although they are available in the  
6 public domain. It just puts it all in a central  
7 database. That's all it does.

8 CHAIRMAN SHACK: And you wouldn't include  
9 compensatory measures because they just come and go?

10 MR. KLEIN: They come and go. That is  
11 correct.

12 MR. MOULTON: Right. And then our second  
13 bullet is to develop a monitoring system that will  
14 track, that will capture those long-term compensatory  
15 measures and unapproved manual actions. The approved  
16 manual actions haven't been captured in the exemption  
17 database already.

18 MEMBER CORRADINI: Have or have not?

19 MR. MOULTON: Have.

20 MEMBER CORRADINI: Have.

21 MEMBER BROWN: So short-term compensatory,  
22 you're not going to try to capture that, but where  
23 compensatory becomes decades or whatever long-term,  
24 you want to be able to track that?

25 MR. KLEIN: Our proposal to develop this

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1 method is to only look at long-term compensatory  
2 measures. We have not --

3 CHAIRMAN SHACK: What does "long-term"  
4 mean?

5 MR. KLEIN: Right. That's a very good  
6 question. The staff is still thinking this through in  
7 terms of what the metric ought to look like and be.  
8 So we're still developing that. I think what we're  
9 here to tell you right now is that we are taking those  
10 actions in response to the GAO report. It just  
11 doesn't gel yet at this point.

12 MEMBER CORRADINI: So just again, since  
13 this is not something that -- what is a typical time  
14 frame? And to just Dana's example, which I think is  
15 a good one, so plant X that had been built before '82  
16 had some geometrical arrangement that they couldn't do  
17 something. So they came up with some sort of fire  
18 watch or something. And then they filed for an  
19 exemption.

20 And then, just so I understand the  
21 process, that exemption would be looked at, analyzed  
22 by the staff. Staff would say, "Yes. We're okay with  
23 that. Now put that in your fire protection plan."

24 So what was short-term could become a  
25 long-term measure within the exemption framework. Do

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1 I have that right?

2 MR. KLEIN: Well, I don't know if I would  
3 characterize it as "long-term." Exemption requests  
4 when they come in to the NRC, the staff reviews them  
5 within a certain time period. It might be a year or  
6 so.

7 MEMBER CORRADINI: Okay.

8 MR. KLEIN: But within that year time  
9 period, of course, the licensee would need to retain  
10 that.

11 MEMBER CORRADINI: Right. I'm not so much  
12 after the definition. I Just want to make sure I  
13 understand the process. Did I at least get the  
14 process right that they -- and I am just using his  
15 example.

16 There was some geometrical arrangement.  
17 The plant was pre-'82. They did something  
18 compensatory. By that word, the "compensatory" word,  
19 they say, "We're going to file for an exemption." And  
20 in the filing, what they're doing in the interim is  
21 what they're proposing to do ongoing. And you would  
22 approve that. Then it becomes part of their fire  
23 protection plan.

24 Do I get this? Do I have this right?

25 MR. KLEIN: That's correct. That's

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1 correct.

2 MEMBER CORRADINI: Okay.

3 MR. KLEIN: Now, the licensee may not --  
4 you mentioned the date 1982. I just want to --

5 MEMBER CORRADINI: I am using that as an  
6 example.

7 MR. KLEIN: Yes. The licensee may find a  
8 noncompliance today.

9 MEMBER CORRADINI: Sure, sure.

10 MR. KLEIN: They have to put in that --

11 MEMBER CORRADINI: Okay. That's fine.

12 MR. KLEIN: -- that compensatory measure.

13 And they may take an action, for example, to submit an  
14 exemption request.

15 MEMBER CORRADINI: Okay. All right.

16 MR. KLEIN: And that compensatory measure  
17 would stay in place until --

18 MEMBER CORRADINI: Okay.

19 MEMBER SIEBER: So they don't have to take  
20 the action and take an exemption request?

21 MR. KLEIN: No, they don't. They can do  
22 a plant modification.

23 MEMBER SIEBER: They can have that  
24 temporary comp measure? When I was inspecting plants,  
25 I ran into a person who spent his career in the

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1 screenhouse as a fire watch.

2 MEMBER ARMIJO: He got a lot of reading  
3 done, huh?

4 MEMBER CORRADINI: What I want to ask is,  
5 when they for the exemption, when they file for the  
6 exemption, does it take months, years?

7 MEMBER BROWN: He just said a year.

8 MEMBER CORRADINI: A year?

9 MR. KLEIN: It takes approximately one  
10 year for the staff to review.

11 MEMBER CORRADINI: Okay. Fine. Thank  
12 you. I missed that. I'm sorry.

13 MR. KLEIN: Some are longer. Some are  
14 shorter. It depends on the complexity.

15 MEMBER CORRADINI: Okay. Thank you.

16 MEMBER ABDEL-KHALIK: What do you mean by  
17 assessing the regulatory effectiveness of ongoing  
18 improvements to the regulatory framework? That is  
19 just totally circular.

20 MR. KLEIN: We have a number of activities  
21 on the way. And we will talk about that with Dan  
22 Frumkin in his fire protection closure plan. For  
23 example, the fire in the circuit failure issues that  
24 we're trying to resolve right now with the industry,  
25 the fire barrier, fire wrap issue that we are trying

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1 to resolve. And we are on a path of getting to  
2 resolution.

3 I think what we are trying to determine  
4 here with this metric is just how effective the  
5 staff's actions are with respect to those activities  
6 and what should that metric be.

7 One of the ways that was suggested was to  
8 look at, well, how long are these compensatory  
9 measures in place to address some of these activities?  
10 And how soon or at what time will those compensatory  
11 measures be removed such that the licensee is back  
12 into compliance with the regulations or his fire  
13 protection program?

14 VICE CHAIRMAN BONACA: If you can go to  
15 the first slide which you have? Yes, the other one.

16 MR. KLEIN: This one?

17 VICE CHAIRMAN BONACA: The last bullet  
18 seems to imply that it started with the effectiveness  
19 of a risk-informed approach for fire safety. Is it  
20 true that there is that concern? Did you have a  
21 report?

22 MR. KLEIN: These are the words directly  
23 from the GAO report. I think what their concern is is  
24 with respect to the plants that adopt the NFPA-805.  
25 And we'll talk about that in some detail in the next

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1 couple of presentations.

2 MR. MOULTON: These are actually the words  
3 from the introductory letter starting the audit. This  
4 concern does not really show up in the FAR itself.

5 MR. KLEIN: In the recommendations, right.

6 MEMBER APOSTOLAKIS: Which bullet are you  
7 questioning?

8 MR. MOULTON: The last one.

9 MR. KLEIN: The last bullet.

10 MEMBER APOSTOLAKIS: Well, obviously  
11 somebody felt that it was not worth going to NFPA-805.

12 MR. KLEIN: But you're saying it wasn't in  
13 the report. It was only in the --

14 VICE CHAIRMAN BONACA: Yes. I am trying  
15 to understand.

16 MEMBER BLEY: They said that GAO sent a  
17 letter saying, "We want to look. We are going to do  
18 an audit of the fire protection software, look at  
19 these three things." This is how they phrased what  
20 they intended to look at.

21 MR. CUNNINGHAM: If I might just go back  
22 there? The GAO report was done at the request of  
23 Congressman Price of North Carolina. In that region  
24 of North Carolina, the long-term safety of Harris with  
25 respect to fire protection issues is a very public

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1 issue. And it is very public that they are one of the  
2 pilot plants transitioning to NFPA-805.

3 So the question coming from the local  
4 region area is, is that going to make the plant safer  
5 in a very general sense?

6 MEMBER APOSTOLAKIS: The public says,  
7 "Well, gee, so what?"

8 VICE CHAIRMAN BONACA: No. You are not as  
9 safe as you were before.

10 CHAIRMAN SHACK: You know, you are using  
11 this to reduce your cost, and we are put at risk.

12 MEMBER APOSTOLAKIS: Then these do attack  
13 805. That's my view if you are not making the plant  
14 safer.

15 MEMBER POWERS: This is, of course, a good  
16 thing.

17 MEMBER APOSTOLAKIS: It is what?

18 MEMBER POWERS: This is a good thing,  
19 right?

20 MEMBER APOSTOLAKIS: No.

21 CHAIRMAN SHACK: I don't think the end  
22 goal has to be to make the plant safer. The end goal  
23 has to be to make sure the plants are adequately  
24 protecting the health and safety of the public if  
25 they're safe enough.

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1 MR. KLEIN: Yes, I agree.

2 VICE CHAIRMAN BONACA: Of course, then,  
3 the effectiveness --

4 MEMBER APOSTOLAKIS: Well, you can  
5 elaborate on that, but yes, you are right.

6 MR. MOULTON: Okay. The last two planned  
7 actions, the first one goes out to the hammock issue  
8 with inspection activities.

9 MEMBER BROWN: Are you going to tell us  
10 what that is?

11 MR. KLEIN: We can tell you right now. I  
12 don't know if Dan will get into it or not. Let me  
13 tell you that we have completed those inspection  
14 activities.

15 MEMBER BROWN: What is it?

16 MR. KLEIN: I'm sorry? What is Hemyc?

17 MEMBER BROWN: Yes.

18 MR. KLEIN: Hemyc is an insulating  
19 material that is used around electrical raceways to  
20 protect cabling, conductors, and so forth. I  
21 mentioned to you the fact that licensees need to  
22 separate redundant trains of safe shutdown equipment  
23 in the same fire area. If there are two trains of  
24 cabling going through the same fire area, they need to  
25 meet the rule.

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1 One of the ways that they meet the rule is  
2 to wrap conduit or cable, a set of cable, trays with  
3 an insulating material. In this case, licensee --

4 MEMBER BROWN: It's a fire-resistant --

5 MR. KLEIN: Correct.

6 MEMBER BROWN: -- or fire-retardant  
7 insulating --

8 MR. KLEIN: It's a fire-resistant --

9 MEMBER BROWN: -- which slows down the  
10 effect of the cable --

11 MR. KLEIN: It's a fire-resistant  
12 material. In this case, Hemyc was used by licensees  
13 as a one-hour fire-rated barrier in conjunction with  
14 the automatic suppression.

15 CHAIRMAN SHACK: Gentlemen, if we can sort  
16 of keep the side conversations to a minimum and as low  
17 as possible, it would help.

18 MEMBER APOSTOLAKIS: I am bothered by --  
19 if somebody says, "Boy, it would be nice to have a  
20 centralized database" and you immediately say, "Okay.  
21 We'll do it," I don't see the benefit of it.

22 I mean, how much is it going to cost you?  
23 Is it something that's -- I mean, are you just doing  
24 it because you are a federal agency and you have to  
25 respond or you are doing it because it is valuable?

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1 MR. KLEIN: I think it is a little bit of  
2 both. I think there is some value added to it.  
3 However --

4 MEMBER APOSTOLAKIS: Anything you do has  
5 some value, I mean.

6 MR. KLEIN: Yes.

7 MEMBER APOSTOLAKIS: The question is, is  
8 it worth the effort of --

9 MR. KLEIN: That's not for me to decide.  
10 That's what you have to decide.

11 MEMBER APOSTOLAKIS: That's not for you to  
12 decide. Okay.

13 MR. KLEIN: Right.

14 CHAIRMAN SHACK: Then submit it to a  
15 regulatory analysis.

16 MEMBER APOSTOLAKIS: As they should have.

17 MEMBER POWERS: George, what I will tell  
18 you is, then, when you go to a plant, it is  
19 extraordinarily difficult to know as you walk in the  
20 front door what the licensing basis for fire  
21 protection of that plant is.

22 MEMBER APOSTOLAKIS: Yes.

23 MEMBER POWERS: And you have to go ask.  
24 And it is proved challenging that most of the plants  
25 where we tested it to be directed to the totality of

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1 the information that you need to establish the  
2 licensing basis for that fire protection.

3 MEMBER APOSTOLAKIS: But here if I go,  
4 say, to Seabrook, I can just go to Seabrook and see if  
5 all the history is --

6 MEMBER POWERS: Well, I don't know that  
7 their database is going to be adequate to do that.  
8 But maybe it would help because it is very difficult  
9 to do. I mean, we have tried it a couple of times.  
10 And the average cost was like a million dollars for  
11 them to assemble the fire protection licensing basis  
12 for the plant, --

13 MEMBER SIEBER: Yes.

14 MEMBER POWERS: -- something like that.  
15 Now, by rule, they are supposed to have that  
16 available. But the fact is that over the years, it  
17 kind of gets diluted.

18 MEMBER SIEBER: Depends on the plant.

19 MEMBER POWERS: Depends on the plant.

20 MEMBER APOSTOLAKIS: Well, if I had seen  
21 some bullets that say, "These are the benefits," I  
22 mean, the way it is now, if you take it at face value,  
23 it is worth doing it because we were told to do it.  
24 I mean, that's a good point. Then you can go, you  
25 know, "Are you going to get this information?"

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1           Anyway, if you guys think it is okay, it  
2 is okay.

3           MEMBER SIEBER: Well, the licensee is  
4 supposed to have a fire protection plan. That lists  
5 the stages of what regulations apply to that plant.  
6 An inspector going in there will first ask for the  
7 fire protection plan.

8           They will have comp measures that may be  
9 applied in various situations as classification plant  
10 fire protection areas are defined and so forth. So  
11 the detail is at the plant, not here.

12          MR. MOULTON: Right. Our final action we  
13 are planning on taking in the context of the GAO  
14 report is to issue guidance on multiple spurious fire  
15 relief in the year 2009.

16          MR. KLEIN: We plan to come to ACRS and  
17 provide you folks with a briefing on this issue so  
18 that we can keep you up to date on where we are with  
19 that.

20          MEMBER POWERS: Briefing number 635 on the  
21 circuit failures analysis.

22          MR. KLEIN: It's been a long road for the  
23 staff also in getting disposition, but we believe that  
24 we are on a good path right now.

25          MEMBER BROWN: This circuit, is this

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1 electrical failures that cause fires or is this fires  
2 affecting the performance of an electrical control  
3 system?

4 MR. KLEIN: It's the latter. It's fires  
5 affecting the performance of components, short  
6 circuits or shorts to the ground and so forth.

7 If I could, I would like to move to the  
8 next presentation.

9 MEMBER BLEY: While you are setting that  
10 up, is moving toward that last goal a continuation of  
11 the CAROLFIRE work or is it something in addition or  
12 multiple things going on?

13 MR. KLEIN: There are multiple things  
14 going on. Part of that is being informed by  
15 CAROLFIRE, but there are other activities ongoing in  
16 terms of we're providing regulatory clarification.

17 That is part of the guidance that we  
18 intend to introduce and develop and update to our reg  
19 guide, 1.189, to incorporate the resolution of this  
20 fire-induced circuit failures issue.

21 Our friends at NEI are working on a  
22 guidance document with respect to how licensees would  
23 actually perform the evaluation for fire-induced  
24 circuit failures. So we're in the process of engaging  
25 the industry on that issue, as directed by the

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1 Commission in their staff requirements memorandum.

2 I would like to introduce Dan Frumkin, who  
3 is a fire protection team leader in the Fire  
4 Protection Branch. Dan's main responsibilities include  
5 the resolution of operator manual actions and the  
6 fire-induced circuit failures. Dan is here today to  
7 give you a briefing on where we are with the fire  
8 protection closure plan and some of the items that are  
9 in that closure plan.

10 So I will hand it over to Dan.

11 MR. FRUMKIN: Thank you. Thank you, Alex.  
12 Again, thank you for this opportunity to share with  
13 you the closure plan. The closure plan was directed  
14 to the staff in July to be developed by the Commission  
15 in the staff requirements memoranda of July 17th, as  
16 I believe we discussed a little bit already.

17 And the goal of the closure plan is to  
18 stabilize fire protection regulatory infrastructure.  
19 It is really to track the stabilization. Many of the  
20 things that we have going on in fire protection are  
21 outside of the normal regulatory process as we talked  
22 about compensatory measures that last numerous years.

23 We have enforcement discretion that is  
24 out. Enforcement discretion is something we do when  
25 we don't have a stabilized -- is something we use to

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1 stabilize the regulatory infrastructure. So that is  
2 another point. That is another thing we have. So  
3 this is simply the tracking tool.

4 And then the last bullet on the slide is  
5 that we plan to update the Commission every six months  
6 on the status of the stabilization.

7 VICE CHAIRMAN BONACA: Stabilize the  
8 infrastructure.

9 MR. FRUMKIN: Yes.

10 VICE CHAIRMAN BONACA: That means to not  
11 have any more changes to it --

12 MR. FRUMKIN: No, no. It means to be  
13 within the normal regulatory process. We will  
14 continue to have inspections and will likely find  
15 findings, violations, et cetera, as the signs of fire  
16 protection advances.

17 For example, we are doing some testing on  
18 D.C. circuits. If that uncovers something that we  
19 weren't expecting, well, that is the normal regulatory  
20 process. And we will handle that in the proper way.

21 When I talk about stabilize, it's to take  
22 fire protection and treat it outside of these  
23 long-term comp measures and these other issues, these  
24 enforcement guidance memorandum that are out there.

25 Long-term comp measures are not a typical

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1 thing in the industry. Enforcement guidance  
2 memoranda, enforcement discretion is not something  
3 that is commonly an issue. And we want to have a path  
4 forward where the fire protection, rather than  
5 briefing the ACRS a couple of times a year -- we don't  
6 come unless there's going to be some new -- we  
7 wouldn't be coming in, just like ACRS doesn't hear  
8 from EQ very often anymore.

9 MEMBER APOSTOLAKIS: So would you say this  
10 is the greatest benefit to you?

11 MR. FRUMKIN: To stabilize?

12 (Laughter.)

13 MEMBER APOSTOLAKIS: Well done.

14 MR. FRUMKIN: Okay. In a closure plan, we  
15 have broken down each one of the staff actions into  
16 five different categories: establishing regulatory  
17 foundation. And for the most part, that's done for  
18 all of the activities. That's like developing  
19 appendix R, developing NFPA-805.

20 Structuring enforcement discretion. There  
21 was a discussion of the enforcement discretion that is  
22 in place for all of these activities.

23 Developing implementation guidance, the  
24 reg guides, the SRPs. That's where the bulk of our  
25 work is going on for a lot of these activities,

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1 specifically circuits and 805 and so forth.

2 Validating the implementation. And that  
3 includes the follow-up, maybe special inspections to  
4 ensure that the regulatory guidance, implementation  
5 guidance has been used properly and then defining  
6 final closure is we are actually using the closure  
7 plan to define where we think, at what point we think,  
8 that each of the individual tasks are entering the  
9 normal regulatory process. So if you look at the  
10 closure plan, you will see that it identifies the  
11 milestones and deliverables for each of these  
12 activities.

13 Next slide. And I will add that the  
14 closure plan has been signed by the EDO on November  
15 5th and sent up to the Commission. It is available to  
16 the NRC and whether it will be distributed probably is  
17 the discretion of the Commission.

18 Closure plan topics. There are eight  
19 topics on the closure plan. And, again, this is just  
20 a tracking tool. NFPA-805 is discussed in detail,  
21 specifically the pilots, because once the pilots are  
22 completed, for the most part, a licensee coming in  
23 with a license amendment and getting it approved, that  
24 is a fairly normal regulatory process.

25 Electrical raceway fire barriers, we

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1 talked about the Hemyc fire barrier. And that is  
2 really what is being treated in the closure plan. And  
3 we're bringing that to closure or should I say we are  
4 putting that in the normal regulatory process in the  
5 end of this year.

6 Now, that is not to say that there won't  
7 be any additional issues coming up with fire barriers.  
8 We are planning and, as we discussed in our memo to  
9 the Commission, that we are going to do a thorough  
10 review of electrical raceway fire barrier systems, all  
11 of the systems, chemic included. And that is what we  
12 continue to describe as routine staff activities.

13 So there is a possibility that new issues  
14 could come up there. We are not expecting new issues  
15 to come up, but we want to bring fire barriers to a  
16 solid closure.

17 So there are two parts. The first part is  
18 the Hemyc closure, and the second part is there could  
19 still be issues coming up. And we are looking into  
20 them as part of our routine regulatory process.

21 The fire-induced circuit failures, this  
22 relates to the SRM-SECY-08-0093. And that we have not  
23 briefed the ACRS on yet, but it provides a  
24 clarification of the regulatory requirements for  
25 dealing with circuit failures. The NRC staff intends

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1 to brief the ACRS on this clarification as it becomes  
2 incorporated formally into the regulatory process,  
3 specifically a revision to the fire protection  
4 regulatory guide.

5 We are now in discussions with NEI and the  
6 industry stakeholders on this. We have had some  
7 public interest in some of our meetings on this topic  
8 as well. And we believe that we are coming to a  
9 clear, the staff is developing a clarification that is  
10 actually quite consistent with what the licensees have  
11 done in the past and we'll assure safety without undue  
12 regulatory burden and provide a stabilized regulatory  
13 structure for circuits.

14 So this is something that we are in the  
15 process of now. We expect by the first quarter of  
16 2009 to have more information on this. And that's  
17 probably the time that we will be coming back to the  
18 ACRS.

19 MEMBER CORRADINI: So the way you discuss  
20 this I guess I would interpret -- when you say  
21 "closure plan" and you discuss the elements of it, it  
22 is almost like a tracking mechanism to make sure  
23 everything is on track relative to these eight  
24 specific issues.

25 MR. FRUMKIN: Correct.

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1 MEMBER CORRADINI: Is that a fair  
2 characterization?

3 MR. FRUMKIN: Yes, and then reporting that  
4 to the Commission.

5 MEMBER CORRADINI: Okay. Thanks.

6 MR. FRUMKIN: The last item is the  
7 post-fire operator manual actions. This is the manual  
8 actions that licensees have done that have not been in  
9 compliance with the regulations. And there is  
10 enforcement discretion currently for manual actions  
11 that have compensatory measures and are in the  
12 licensee's corrective plan until March 2009.

13 This as a defined closure, but there are  
14 still some open items that we're tracking to closure  
15 on manual actions.

16 MEMBER ABDEL-KHALIK: Presumably the scope  
17 of the actions in the closure plan is much broader  
18 than the actions required to meet the GAO  
19 recommendations.

20 MR. FRUMKIN: That is absolutely correct.

21 MEMBER ABDEL-KHALIK: But is there sort of  
22 a cross-matrix between what you are doing in the  
23 closure plan and what you are doing in response to  
24 these recommendations?

25 MR. FRUMKIN: Well, if we go to the next

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1 -- well, the way the closure plan was created was we  
2 started the closure plan before the GAO report was  
3 finalized.

4 So these four issues were well-known  
5 within the staff to bring them to closure. But, as  
6 you can see, electrical, 805, was looked at by GAO,  
7 but they didn't have any recommendations.

8 They did have some recommendations with  
9 regards to fire barriers, and they had some  
10 recommendation with regard to circuit failures and  
11 manual actions. And those have been incorporated into  
12 the Chairman's response to the Congress on those. And  
13 they're also being tracked in the closure plan.

14 The next slide brings up the specific  
15 items that either came out of the GAO report or came  
16 out of Commission direction from the meeting in July.

17 MEMBER APOSTOLAKIS: I have a question on  
18 this slide.

19 MR. FRUMKIN: Sure.

20 MEMBER APOSTOLAKIS: The unapproved  
21 operator manual actions, I read in the report that the  
22 licensees have until March of '09 to identify those.  
23 Is that correct or words to that effect?

24 MR. FRUMKIN: Right, right. In March of  
25 '09 -- well, the path was, I believe it was, in March

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1 of '06, we started an enforcement discretion clock for  
2 the licensees to identify and put comp measures in for  
3 unapproved manual actions.

4 In September of '07, I believe the clock  
5 stopped for the identification period. And so  
6 licensees had until September of '07 to find any  
7 noncompliances and put them in the corrective action  
8 program with compensatory measures.

9 And now they have until March of '09 to  
10 bring those to closure under enforcement discretion.  
11 So any time between September of '07 a licensee found  
12 a manual action that wasn't in the corrective action  
13 program, they would be subject to normal enforcement.

14 MEMBER APOSTOLAKIS: I'm trying to  
15 understand what it means to correct them. Does it  
16 mean to go back -- there is a regulatory guide, right,  
17 regarding --

18 MR. FRUMKIN: Right.

19 MEMBER APOSTOLAKIS: -- operator manual --  
20 and demonstrate to you that they have followed the  
21 regulatory guide and they are satisfied that they meet  
22 whatever? That's really what it means?

23 MR. FRUMKIN: That's exactly correct.

24 NUREG-1852 --

25 MEMBER APOSTOLAKIS: Eighteen fifty-two.

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1 MR. FRUMKIN: -- provides the --

2 MEMBER APOSTOLAKIS: I saw the regulatory  
3 guide. You're --

4 MR. FRUMKIN: Yes, right. The NUREG-1852  
5 provides the NRC staff review guidance for operator  
6 manual actions. And we have had three applications or  
7 exemptions, actually, come in. I believe we have  
8 approved the one for one plant. And we are in the  
9 process of reviewing additional ones.

10 Now, licensees have until March 2009 to  
11 submit that evaluation or they can complete their  
12 modifications by March 2009. And we are under the  
13 understanding that many of the plants have decided to  
14 do modifications.

15 MEMBER APOSTOLAKIS: So they will not rely  
16 on the manual elections?

17 MR. FRUMKIN: That's correct, right. They  
18 will not rely on manual actions that are not permitted  
19 by the rules and, then, therefore, wouldn't have to be  
20 approved by the NRC.

21 MEMBER APOSTOLAKIS: And this NUREG is the  
22 one where the estimates of the time available, the  
23 time to diagnose, and the time --

24 MR. FRUMKIN: That is exactly the one.

25 MEMBER APOSTOLAKIS: Okay.

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1 MR. FRUMKIN: Okay? And, as we were  
2 discussing, there were some additional items that came  
3 up through GAO and Commission direction, specifically  
4 the assessing the effectiveness of fire protection  
5 improvements.

6 Then, as Alex Klein was mentioning  
7 earlier, our main task on this is to determine what  
8 the metric is first and then we're going to try to  
9 measure it.

10 The second bullet there is the staff  
11 training on key fire protection historical lessons.  
12 This one came directly from the Commission. And we  
13 are working on some information that we plan to  
14 develop these lessons with staff input and then this  
15 database of fire protection exemptions.

16 And I believe that during my discussions  
17 with the GAO, their concern was that the NRC staff  
18 wouldn't be able to find these similar to what Dr.  
19 Powers was mentioning, that this information would be  
20 difficult to find. So it's a centralized repository.

21 In fact, we had this information in two  
22 places. And now we're going to have it in one place.  
23 And the place where we're going to have all of the  
24 information is in the ADAMS system. And we're also  
25 going to have a way to find it within the ADAMS

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1 system. And so I believe that this is going to be a  
2 very limited expense. And exemptions should be in the  
3 ADAMS system anyway. So that is a part of the  
4 licensing basis.

5 MEMBER MAYNARD: On that first bullet, for  
6 clarification, are you assessing the effectiveness of  
7 the fire protection improvements or the regulatory  
8 process or the protection and improvements?

9 MR. FRUMKIN: Yes.

10 MEMBER MAYNARD: They are kind of tied  
11 together, I think, but there is a difference between  
12 investing in fire protection improvement, as opposed  
13 to the regulatory process for the --

14 MR. FRUMKIN: Right. And I think what  
15 we're doing as the regulatory process improves where  
16 we implement something, for example, the manual  
17 actions; e.g., enforcement guidance and new guidance,  
18 we can assess whether that worked through this metric.

19 MEMBER APOSTOLAKIS: I thought the process  
20 --

21 MR. FRUMKIN: Well, we improved the  
22 process. And now we're verifying that it has been  
23 improved.

24 MEMBER ABDEL-KHALIK: Well, the previous  
25 presentation said that they're looking at assessing

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1 the regulatory effectiveness, rather than assessing  
2 the effectiveness of the improvements.

3 MEMBER APOSTOLAKIS: Maybe it is both.

4 MR. FRUMKIN: It is a little bit of both.

5 MEMBER MAYNARD: Well, they are tied  
6 together, but it seems like you are using primarily  
7 the effectiveness of the fire protection, of the  
8 improvements.

9 CHAIRMAN SHACK: That would be tougher to  
10 measure, I would think.

11 MR. FRUMKIN: Right. And that's why the  
12 key is to find this metric. And also we want to come  
13 up with a metric that is going to build the public  
14 confidence, it's going to be transparent, and it's  
15 actually maybe even going to help provide the  
16 licensees an idea of what we are interested in and  
17 what shows improvement.

18 So by creating a -- this is to basically  
19 develop a new tracking system. So we want it to be  
20 very valuable. So we're putting a lot of time and  
21 energy into what exactly we are going to measure.

22 MEMBER MAYNARD: You talked about  
23 stabilizing the process. And I applaud that. I know  
24 you have done some of this, but I think it is  
25 important fire protection for both the staff and I

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1 think the licensees need to kind of do an overall  
2 lessons learned from this whole process.

3 It is something that has been going on for  
4 a long time. The fire protection has improved. That  
5 may not have been the most efficient process by  
6 getting there. And you talked about being able to  
7 handle that new information, new things coming up.

8 I think it would be good to take a look at  
9 how did we do it in the past versus how can we do it  
10 in the future. And, again, I think there are lessons  
11 learned for both the staff and the licensees in this  
12 area of responding to new information.

13 You mentioned one earlier. You were  
14 talking about coming out with a new clarification  
15 you're working with. In the past, it is a lot of  
16 these clarifications that has caused a lot of the  
17 issues and delays and concerns as to whether that is  
18 a new requirement or, really, a clarification or  
19 whatever.

20 So I would suggest I know you have done  
21 some, but I think if you want to stabilize the process  
22 in the future, you need to learn from what mistakes  
23 have been made in the past to make those things better  
24 in the future.

25 MR. FRUMKIN: Right. And I think these

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1 bullets, we have been directed to do that, just that  
2 kind of thing, with the staff training on fire  
3 protection lessons learned, and then the last bullet  
4 on the page, which is the survey to establish  
5 reasonable assurance that past regulatory  
6 infrastructure instabilities are identified.

7 I think those two pieces together, the  
8 survey of what has gone wrong and what is still out  
9 there and then marrying those two together to make  
10 sure that they solve it in the best way possible, that  
11 is what it is all trying to accomplish.

12 MEMBER ABDEL-KHALIK: What is a regulatory  
13 infrastructure instability in a few words?

14 MR. FRUMKIN: It is a lack of clear  
15 guidance. For example --

16 MEMBER APOSTOLAKIS: I can provide some  
17 positive.

18 (Laughter.)

19 MR. FRUMKIN: For example, we are trying  
20 to come up with clear guidance in the area of circuit  
21 analysis.

22 MEMBER APOSTOLAKIS: You don't think so?

23 MEMBER POWERS: Absolutely.

24 MEMBER BROWN: The guidance is clear.

25 MR. FRUMKIN: Well, in some cases, it may

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1 not be. It may not --

2 MEMBER POWERS: It doesn't say the values  
3 are positive. It's much clearer.

4 (Laughter.)

5 MEMBER ARMIJO: We all understand that.

6 MEMBER APOSTOLAKIS: I'll tell you what.  
7 Let me propose something here. It is a major problem.  
8 A major problem, it seems to me, was rushing to the  
9 issue of appendix R without doing the fire risk  
10 assessment. I think that was a major mistake.

11 MR. FRUMKIN: I think if you start pulling  
12 together where we have had regulatory instabilities,  
13 it's where the NRC acted in a reactive manner.

14 MEMBER APOSTOLAKIS: I agree.

15 MR. FRUMKIN: And I think that is going to  
16 perhaps be a big lesson, rather than planning through  
17 our responses.

18 MEMBER APOSTOLAKIS: Yes, rushing to  
19 issues that the appendix with all of these  
20 requirements without attempting to do some analysis.  
21 I mean, I appreciate it was way back, but still, you  
22 know, I mean, this 20 feet separation and all of that,  
23 I mean it came out of the blue. And I hope we learned  
24 that lesson when it comes to digital I&C.

25 MR. FRUMKIN: Yes. Thank you.

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1 MR. KLEIN: If I could, we have a couple  
2 of more presentations that the Committee would be very  
3 interested in.

4 MEMBER APOSTOLAKIS: Is the last one there  
5 performance survey to establish with reasonable  
6 assurance? Is that what you mean?

7 MR. FRUMKIN: No. I think we --

8 MEMBER APOSTOLAKIS: Reasonable assurance?

9 MR. FRUMKIN: We want to assure that there  
10 is reasonable assurance that past regulatory  
11 infrastructure instabilities are identified. We want  
12 to go out and find any problems.

13 MEMBER APOSTOLAKIS: Is it the same thing  
14 as with reasonable assurance or that there is  
15 reasonable assurance?

16 MR. FRUMKIN: Yes, that there is. Yes,  
17 with reasonable assurance.

18 CHAIRMAN SHACK: Agree with him. Then we  
19 can move on.

20 (Laughter.)

21 MR. KLEIN: Okay.

22 MEMBER APOSTOLAKIS: Thank you.

23 MR. KLEIN: Let me bring up a set of  
24 slides here. I would like to introduce --

25 MEMBER APOSTOLAKIS: I must say this is an

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1 unusual presentation.

2 MR. KLEIN: I would like to introduce  
3 Harry Barrett of my staff. He is a recently promoted  
4 senior fire protection engineer. Harry comes to us  
5 with a lot of plant experience. As I think many of  
6 you probably know Harry from past interactions when he  
7 was with the industry, with Duke Energy, Harry is, as  
8 I indicated, a senior fire protection engineer.

9 He held a senior reactor operator's  
10 license. So he has got a lot of plant experience.  
11 And we are very happy to have Harry on the staff  
12 helping us deal with the NFPA-805 process.

13 And what Harry is going to talk to us  
14 about today are the two pilot plant license amendment  
15 requests that the staff has in-house right now. The  
16 two pilot plants are the Shearon Harris plant and the  
17 Oconee plant.

18 So, with that, I will hand it to Harry.

19 MR. BARRETT: Good morning. Here are the  
20 topics that I am going to be talking about here: a  
21 little bit of background about the 805 process, where  
22 we are with the license amendment request from the two  
23 pilots, a little bit about the process that we're  
24 using and the teams that we're using to do this  
25 review, a little bit about the schedule of the

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1 reviews, and then some related issues.

2 Next, please. As Alex has just stated, we  
3 have designed two different plants to be the pilots  
4 for NFPA-805: Duke Energy's Oconee plant and Progress  
5 Energy's Shearon Harris plant.

6 These plants ended up filing a letter of  
7 intent in early 2005. Oconee filed theirs in February  
8 of 2005, and Shearon Harris followed in May with  
9 theirs. And so for the past three, three and a half  
10 years, these guys have been working diligently at  
11 trying to make 805 a viable way of establishing a fire  
12 protection program.

13 Both licensees submitted their license  
14 amendment request to transition to 805 in May of 2008.  
15 Each one of them was a substantial amendment, 600-700  
16 pages. Progress Energy also ended up submitting about  
17 4,000 pages worth of supporting calculations.

18 Next page. The staff completed an  
19 acceptance review under the new LIC-109 process in  
20 August of this year for the Shearon Harris plant. We  
21 did find some issues that we ended up having to go  
22 back and tell the licensee that they kind of missed  
23 the boat on their application. So we are waiting to  
24 get a new supplement in November, November 15th, later  
25 this month.

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1           Some of the things that we ended up  
2 finding were that they had not established their final  
3 configuration and did not describe their final  
4 modifications.

5           A lot of their supporting information was  
6 not submitted under oath or affirmation. So we really  
7 couldn't reference in a licensing action. Their  
8 description of the current licensing basis was far to  
9 o brief. They really need to describe the current  
10 licensing basis.

11           Fire PRA quality, there were some issues  
12 with that as far as how they ended up justifying the  
13 use of their PRA to model changes to the plant so that  
14 they were accurate.

15           Their fire modeling, they did not  
16 accurately describe which fire models. NFPA-805  
17 specifically states that any fire models that are used  
18 have to be approved by the authority having  
19 jurisdiction, which is the NRC.

20           And in their submittal, they did not give  
21 us a list of the fire models that they used and came  
22 out with a statement that says that these have been  
23 reviewed and approved by the NRC.

24           The treatment and recovery actions were --

25           MEMBER APOSTOLAKIS: Can you give an

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1 example of what fire model? I mean, what --

2 MR. BARRETT: Okay. They used CFAST or  
3 FDS, those NIST type of --

4 MEMBER APOSTOLAKIS: But these have not  
5 been approved by the NRC.

6 MR. BARRETT: No, they haven't been  
7 approved, though they have been verified and validated  
8 to the point where we understand their accuracies and  
9 limitations. And that is what is required by  
10 NFPA-805.

11 Now, they have used those. And they are  
12 ones that we recognize. But they didn't give us a  
13 clear statement that they had used those and the  
14 verification was done properly.

15 Recovery actions. The treatment of  
16 recovery actions was not in accordance with all of the  
17 requirements. Their LERF, one of the requirements in  
18 NFPA-805 for any risk analysis is in addition to core  
19 melt frequency. You also end up looking at large  
20 early release frequency. And their calculations for  
21 LERF were not adequate for what we considered.

22 And another issue on fire PRA quality,  
23 their peer review results were not adequately  
24 documented in the license amendment.

25 Oconee. When Duke submitted their

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1       submittal in May, they were not all the way done. So  
2       they negotiated a position that they could end up  
3       giving us a partial submittal and committed to giving  
4       us the remainder of the submittal at the end of  
5       October, which they have done. Since this slide was  
6       prepared, we have received the submittal from Duke.  
7       And we're in the process of looking at that right now.

8                 When we did receive the amendment in May,  
9       we started a limited acceptance review, but we did not  
10      complete the final acceptance review because we needed  
11      the rest of the supplemental information. So now that  
12      we've got that, we're continuing to do the acceptance  
13      review on the full package. The partial submittal  
14      ended up having the fire PRA change evaluations and  
15      modifications in it.

16                The teams that we have put together to  
17      review these license amendments are it's a  
18      multidisciplinary team, obviously. There's a lot of  
19      things that go into one of these license amendments.  
20      So on our end, on the NRC's end, we end up having to  
21      use a fairly wide based team.

22                The head of the team ends up being the  
23      project manager for that particular licensee. Within  
24      fire protection, we have got classical fire protection  
25      and fire modeling that are issues that have to be

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1 looked at.

2 And you have all of the appendix R safe  
3 shutdown issues, the circuit analysis, the plant  
4 systems and procedures usage, the electrical  
5 engineering part of it, and then obviously the PRA is  
6 probably the biggest piece.

7 And for all of the plants that I know of  
8 that are transitioning to 805, their critical path, so  
9 to speak, for the transition is the PRA. And that is  
10 the biggest expenditure of effort in dollars as far as  
11 the overall transition.

12 Next slide. Review schedule. What we  
13 plan to do is generate draft requests for additional  
14 information in the first quarter of 2009, then go  
15 visit the site and see if we can end up resolving  
16 those.

17 But based on what information we can see  
18 at the site, once we come back from that, we'll  
19 actually put the official RAIs out to the licensee.  
20 And then we expect to be able to write the safety  
21 evaluation report in the third quarter of 2009, quite  
22 a bit of work to go yet.

23 What we're trying to do there is that we  
24 want to find whatever things that we need that are  
25 missing out of the license amendment and go to the

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1 site and actually look at the detailed documentation  
2 to have to see if we can find that documentation.  
3 Then we know what to ask for in the RAI. I suspect  
4 we'll end up having more than one round of RAI, but  
5 we're trying to do it all at once.

6 Some related issues. I think, as had been  
7 mentioned, we have the frequently asked question  
8 process that we put together to try to end up  
9 resolving some of the issues that come up in 805.  
10 There have been a lot of technical issues and things  
11 related to both the PRA and the normal fire protection  
12 part of the process.

13 And the frequently asked question process  
14 is an attempt to establish a position that both the  
15 industry and the staff can agree on and then get some  
16 interim buy-in from the NRC on up through even ORG, if  
17 necessary, so that the licensees have some idea that  
18 we are not going to change our mind and change the  
19 rules on it once we end up establishing a position.

20 So that frequently asked question process  
21 is a big part of this. And that is going to get  
22 factored into the infrastructure guidance, which Steve  
23 Laur is going to talk to you about after my  
24 presentation.

25 CHAIRMAN SHACK: Is this a collection of

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1 RAIs that you're submitting that you think you will be  
2 asking other pilots? Who is identifying the  
3 frequently asked questions?

4 MR. BARRETT: The frequently asked  
5 question process most of the time is identified by the  
6 licensees as they're doing their transition.

7 CHAIRMAN SHACK: Okay.

8 MR. BARRETT: They will find some piece of  
9 the process that either they feel uncomfortable with  
10 or they don't understand what the rules really mean.  
11 They will put out a question.

12 The industry has put together a task  
13 force. NEI has a task force of all of the experts  
14 related to 805. They propose a solution. They bring  
15 it to us. We have a public meeting to talk about it.  
16 The whole thing is a very open process so that anybody  
17 that is interested can end up following up on it.

18 And that is put out. Once we have  
19 established a position on it, that is put out as a  
20 public position. And that will eventually get wrapped  
21 into either the guidance on NEI's side or in our reg  
22 guide. So that is guidance the non-pilots can use, in  
23 addition to the pilots.

24 That is an important thing I think we need  
25 to talk about. The enforcement discretion process was

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1 built on the concept that we would allow the pilots to  
2 go through this process, learn the lessons, and then  
3 be able to factor that into the license amendments for  
4 their non-pilots.

5 The way the original discretion was we had  
6 a whole slew of them that had their three years end  
7 right either in November or December of this year.  
8 And there was no way that they were going to end up  
9 being able to factor in any lessons learned from the  
10 SER development and what we learned in the license  
11 amendment reviews. So we extended the discretion so  
12 that we could allow them to take those lessons learned  
13 and roll them into their amendments.

14 MEMBER BLEY: Is this FAQ on the Web site  
15 now?

16 MR. BARRETT: It's in ADAMS.

17 MEMBER BLEY: Okay.

18 MR. KLEIN: It is part of our --

19 MEMBER SIEBER: You can use it.

20 MR. KLEIN: We have updated our external  
21 Web site in fire protection.

22 MEMBER BLEY: Okay.

23 MR. KLEIN: So a lot of that information,  
24 as we hold -- we hold frequently asked question  
25 meetings, public meetings, with this task force on a

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1 monthly basis. And the information, both the meeting  
2 minutes and any attachments, any of the FAQs are  
3 attached and available in ADAMS.

4 MEMBER ABDEL-KHALIK: Do you expect  
5 licensees to sort of implement any physical changes as  
6 they undergo the transition to --

7 MR. BARRETT: Yes. Let me talk about  
8 that. Both pilots went into this with significant  
9 non-compliance issues. Shearon Harris had issues with  
10 their Hemyc. They had a lot of manual actions that  
11 were not approved. Oconee went in there with several  
12 different issues as far as their fire protection  
13 compliance.

14 And both plants are planning on -- well,  
15 Harris has already made several significant  
16 modifications. And they plan on making another  
17 significant modification. They're planning on putting  
18 in an independent seal injection, RCP seal injection,  
19 diesel and pump, essentially a new alternative  
20 shutdown path, to alleviate a risk issue that they  
21 have identified.

22 And Oconee is in the process of  
23 implementing something very similar that they're  
24 taking the benefit of essentially an alternate safe  
25 shutdown process that will allow them for a fire in

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1 the turbine building to have a redundant -- well, they  
2 have what they call a standby shutdown facility. And  
3 this new modification that they are putting in will  
4 end up being a redundant process or trained to that.

5 MEMBER ARMIJO: Are these improvements  
6 that they would not have done or identified absent the  
7 805 implementation?

8 MR. BARRETT: In Harris' case, yes. There  
9 are modifications that they would not have done had  
10 they not gone to 805.

11 MEMBER ARMIJO: And convinced themselves  
12 that that was the right thing to do?

13 MR. BARRETT: Yes. Now, Oconee, they had  
14 other issues. And they were going to end up doing it.  
15 But when they ended up finding the issues in fire,  
16 they ended up changing how they were doing their  
17 modifications to make it better for fire.

18 MEMBER SIEBER: Yes.

19 MR. BARRETT: So there is significant  
20 benefit on both pilots. And they are spending real  
21 dollars and making real changes that are really  
22 improving safety by quite a bit. So I think --

23 MEMBER ARMIJO: And it has developed from  
24 their analysis, not imposed externally?

25 MR. BARRETT: That's right. That's right.

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1 They're coming to the conclusion based on their  
2 analysis that they need to make these changes.

3 MEMBER ABDEL-KHALIK: You indicated that  
4 both of these pilots entered the process with  
5 significant non-compliance issues.

6 MR. BARRETT: Yes.

7 MEMBER ABDEL-KHALIK: Not everybody who is  
8 going to make the transition has significant  
9 non-compliance issues.

10 MR. BARRETT: I would say that at least  
11 probably 90 percent of the people that are  
12 transitioning have significant issues and that is why  
13 they are transitioning, because they find that it will  
14 be cheaper to do that under 805 than it would be if  
15 they tried to comply with regulations.

16 MEMBER ABDEL-KHALIK: Thank you.

17 MR. BARRETT: Okay. The implementation  
18 guidance that we're putting together for this  
19 transition, Steve Laur is going to give you more of a  
20 talk about it, but we are developing a new SRP  
21 chapter, standard review plan, the reg 800. We had  
22 the reg guide 1.205, which we're in the process of  
23 developing a new revision that takes some of these  
24 lessons learned and wraps it in.

25 NEI has put together several guidance

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1 documents. The 402 is the guidance document for  
2 transition of 805 plants. NEI 0001 is the guidance  
3 document for doing post-fire safe shutdown analysis,  
4 which is part of this process to figure out what the  
5 standard is.

6 And then NEI 07-12 was the peer review  
7 guidance. We're doing a peer review of the fire PRA.  
8 And, of course, as has been mentioned before, NUREG  
9 CR-6850 was a big part of this because that is the  
10 guidance that has been put together as a joint effort  
11 between EPRI and NRC research to do the fire PRA at  
12 the state-of-the-art and most advanced approaches for  
13 doing fire PRA.

14 MEMBER BLEY: Harry, I am going to take  
15 you back, where you said the people doing this have  
16 found that moving forward under 805, it looks like it  
17 will be cheaper for them than under existing  
18 regulation.

19 From what you said about the pilots, it  
20 sounds like you might also from NRC's point of view be  
21 getting a better safety improvement. Would you say  
22 that or not?

23 MR. BARRETT: I think so. I think we're  
24 going to find that in the long run, they're going to  
25 be spending their money on the things that matter

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1 most, rather than having a plant that generically  
2 complies with the regulation but in some cases doesn't  
3 comply as well as it could with the risk-informed  
4 approach.

5 MEMBER ABDEL-KHALIK: But on the opposite  
6 side of this coin, though, even though 90 percent of  
7 the people going in that direction have significant  
8 noncompliance issues, how about those other 10  
9 percent? Does the process allow someone going through  
10 the transition to sort of remove existing measures  
11 that may have implemented in the past?

12 MR. BARRETT: I know there was a lot of  
13 fear with the risk-informed process to allow licensees  
14 to risk away fire protection features, but there are  
15 many checks and balances that are built into the  
16 process. Okay?

17 In order to remove something, not only do  
18 you have to have the risk low, but you also have to  
19 have fire protection defense-in-depth and meet safety  
20 margins.

21 That fire protection defense-in-depth  
22 requires you to not only say that, "Well, I can end up  
23 withstanding a fire in this area because the risk is  
24 low," but you also end up having to be able to  
25 demonstrate that you don't have that many fires. You

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1 can put them out when you do get them so that you've  
2 got to have suppression and detection systems there.  
3 You still have to have a fire brigade.

4           You know, this is a multi-layered system.  
5 And we're not allowing them to just say, "Well, I can  
6 take that away." Okay? There may be instances where  
7 they could take a suppression system out and really  
8 not have a problem and under 805 rules take that  
9 suppression system out. More than likely, they're not  
10 going to be able to do that because the  
11 defense-in-depth part of this will not allow that.

12           And I think I've already talked about the  
13 enforcement discretion extension.

14           MEMBER APOSTOLAKIS: The two pilots are  
15 not the only plants that --

16           MR. BARRETT: That's right. There are 48  
17 plants that have filed a letter of intent, 48 units.

18           MEMBER APOSTOLAKIS: Well, actually, are  
19 they transitioning or it's just a letter of intent?

20           MR. BARRETT: No. They're transitioning.

21           MEMBER APOSTOLAKIS: They're  
22 transitioning.

23           MR. BARRETT: Now, some of them are doing  
24 it later. I mean, a lot of the fleets have only got  
25 to many resources. And they're doing some first and

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1 then, you know, using that experience and going on to  
2 the next ones.

3 MEMBER APOSTOLAKIS: So what is the  
4 purpose of the pilot?

5 MR. BARRETT: To make sure the process  
6 works.

7 MEMBER CORRADINI: So they will be the  
8 first ones up.

9 MR. BARRETT: Right.

10 MEMBER APOSTOLAKIS: But the other guys --  
11 well, I don't know that they will be the first. Will  
12 they be the first?

13 MR. BARRETT: Yes. No, the pilots are the  
14 first.

15 CHAIRMAN SHACK: So you have a big enough  
16 head start.

17 MR. BARRETT: Yes. They're moving right  
18 along. There is substantial -- the non-pilots that  
19 have asked for extensions, most of them are 75 percent  
20 done, if not closer to 90 percent, many of them. They  
21 have expended a lot of money on this.

22 I am done.

23 MR. KLEIN: Okay. Thank you. We are past  
24 our time. Would the Chairman like to continue with  
25 our last presentation?

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1 CHAIRMAN SHACK: Okay.

2 MR. KLEIN: Okay. I would like to  
3 introduce Steve Laur, who is a senior technical  
4 adviser in the Division of Risk Assessment. He is  
5 providing primary support in the infrastructure of  
6 development for NFPA-805. Let me see if I can bring  
7 his presentation up very quickly here.

8 All right, Steve. It's yours.

9 MR. LAUR: As Alex said, I am Steve Laur.  
10 And we are ready for slide 2. Thank you.

11 Today the purpose of my presentation is  
12 relatively short. I will give you a status of the  
13 standard review plan that we are developing to support  
14 the NFPA-805 effort and the status of the reg guide  
15 1.205 update, to incorporate the lessons learned from  
16 the pilot process. Since I will be coming back to  
17 ACRS with both of those documents, I expect you will  
18 have a chance for more involvement and engagement at  
19 that time.

20 I would also like to give you a quick  
21 overview of the other infrastructure development that  
22 is going on. We are not seeking your review or  
23 endorsement at this time since we don't have the  
24 product yet.

25 Okay. The standard review plan section

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1 right now we're calling a 9.5.1(b) is specific to  
2 NFPA-805 of the risk-informed, performance-based fire  
3 protection program.

4 We have drafted it. It is almost ready to  
5 start the internal concurrence process, which will  
6 include public comments, ACRS review, et cetera. And  
7 we had actually shared a draft at a public meeting  
8 October 3rd with the stakeholders, including  
9 licensees, industry, and the public.

10 The reg guide 1.205 was issued in May of  
11 2006. It was not issued for trial use. It was issued  
12 as a completed reg guide. ACRS reviewed and approved  
13 it as part of the process.

14 And, as I mentioned, as we go through the  
15 pilot process, there is a number of lessons that are  
16 being learned, many of which are associated with the  
17 FAQ process. Other ones we will learn as we go  
18 through the review of the license amendment request we  
19 received.

20 That will result in new regulatory  
21 positions or modifications or clarifications that we  
22 will either put explicitly in reg guide 1.205 or they  
23 will be incorporated into the industry document that  
24 is endorsed by 1.205. So either way these will get  
25 captured as our positions.

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1           What we would like to do is bring these to  
2           ACRS after we have incorporated the public comments,  
3           both the SRP and the reg guide 1.205.

4           MEMBER APOSTOLAKIS:   So when will that be?  
5           Roughly what is the time estimate?

6           MR. KLEIN:   We would like to have the SRP  
7           -- I want to say June or July of 2009.   And the reg  
8           guide, I think September is the date we have  
9           tentatively.   But we would probably bring them -- we  
10          would like to bring them to the ACRS at the same time,  
11          I believe is what we were shooting for.

12          MR. LAUR:   Third quarter 2009.

13          MR. KLEIN:   The third quarter of 2009.

14          MEMBER POWERS:   One of the interesting  
15          features about fire protection is that there is a  
16          fairly well-informed cadre within which we might call  
17          the intervenor community that knows a lot about fire  
18          protection.   And I would assume that they would offer  
19          comment on your draft and you would react to them.

20                 It would be useful if prior to coming to  
21          the ACRS with that material you would share it back to  
22          that community because undoubtedly we will ask them to  
23          come and comment.

24                 And it's not uncommon to say, "Well, we  
25          don't know how they handled our comments."   And that's

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1 not very useful to us. We would really like to know  
2 what they think about the product you are asking us to  
3 review and not just the product that they commented  
4 on.

5 I think you know the personalities or we  
6 can certainly share with you the personalities. It  
7 would just be useful to wrap this thing up efficiently  
8 if they could see not only your draft but how you  
9 disposed of their comments before you come to us.

10 MR. LAUR: Okay. Noted. Thank you.

11 Okay. So the next slide just highlights  
12 the other infrastructure activities that are going on.  
13 There is a relatively new office instruction. I think  
14 you have been briefed on it, LIC-109, acceptance  
15 reviews, which pretty much formalizes our practices  
16 with respect to accepting a licensing action or a  
17 licensing amendment request for review.

18 And because this is a relatively large  
19 licensing action to transition a plant from its  
20 traditional appendix R licensing basis for the fire  
21 protection program to this new NFPA-805, we actually  
22 have developed a multi-page acceptance review  
23 checklist to make sure that the information that they  
24 provided meets at least the minimum requirements so we  
25 can begin our review.

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1 A second infrastructure item is a  
2 regulatory audit template. At least for the pilot  
3 plants and probably for a number of the plants after  
4 that, during the review process, we expect to have to  
5 actually go on site and look at, verify calculations,  
6 that sort of thing, maybe do some walk-downs. And so  
7 we have drafted an audit template that is out for  
8 internal review and comment.

9 A safety evaluation template is in the  
10 beginning stages. We have developed a draft, and the  
11 staff is commenting. So that we will have consistency  
12 in how we write the safety evaluation reports. And it  
13 also provides a framework for focusing the review and  
14 focusing the request for additional information.

15 And, finally, we have a set of documents  
16 for the inspectors to use once a plant has  
17 transitioned. And so those are in various stages of  
18 draft. The quarterly and annual inspection procedure  
19 that the resident inspectors use has been drafted to  
20 include NFPA-805 and is undergoing comments by the  
21 region.

22 And the same is true for the triennial  
23 fire protection procedure, which the regions do.  
24 Currently it's for the deterministic fire protection  
25 program. There's another chapter that has been

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1 drafted to handle NFPA-805.

2 This is just for information only. We do  
3 not plan to bring those to the ACRS. That's the end  
4 of the --

5 MR. KLEIN: What I would like to do, if I  
6 may, just bring up my last slide. It should only take  
7 about a minute. I think I've probably spoken about  
8 some of this already, our anticipated next steps with  
9 respect to our interactions with the Committee.

10 I mentioned to you the fire-induced  
11 circuit failures and some of the other issues, like  
12 the electrical fire guard system, fire barrier  
13 resolution. We would like to come back to ACRS and  
14 provide you specifics on those. And we're estimating  
15 sometime early second quarter of 2009.

16 With respect to some of the guidance  
17 documents that Steve Laur just mentioned to you here  
18 today, we would like to come back to you sometime in  
19 the third quarter of 2009 to discuss with you the  
20 revised regulatory guide 1.205 and the new standard  
21 review plan, 9.5.1B, at this point.

22 That concludes the staff's --

23 CHAIRMAN SHACK: When is the SER for a  
24 pilot coming?

25 MEMBER BLEY: Late 2009, I thought I heard

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1 earlier.

2 MR. KLEIN: Yes. The SER for the pilots  
3 are due to be completed in September of 2009.

4 CHAIRMAN SHACK: Fourth quarter.

5 MR. KLEIN: Fourth quarter.

6 MEMBER ARMIJO: This may not be a fair  
7 question, but once the pilots are done and the other  
8 people all the frameworks and guidance and things and  
9 review plans are in place, the follow-up guys, will it  
10 require as much time to get through their reviews? Do  
11 you think this will shortcut the process for the  
12 follow-on people who will want to --

13 MR. KLEIN: Are you referring to the  
14 licensee of --

15 MEMBER ARMIJO: Yes, the licensee. The  
16 licensee, they say, "Okay. Now the system is in  
17 place. Two folks have gone through it. We want to do  
18 it."

19 MR. KLEIN: Our expectation is that  
20 licensees will be able to complete this in the  
21 three-year time frame. Right now they have longer  
22 than three years because of the extension with  
23 enforcement discretion.

24 Our expectation is that with development  
25 of these through the pilot plants, the lessons

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1 learned, and so forth, that licensees will be able to  
2 complete their transitions and bring their license  
3 amendment requests into us within the three-year time  
4 frame.

5 MEMBER ARMIJO: And actually get a  
6 license?

7 MR. KLEIN: Then it would be followed up  
8 with the staff's license amendment request review time  
9 beyond that. So it's three years for a licensee to  
10 develop their transition and their license amendment  
11 request to us and then an additional amount of time  
12 for the staff to review that license amendment  
13 request.

14 MR. CUNNINGHAM: And we expect our review  
15 process to be quicker for the non-pilots, which is  
16 perhaps part of the question.

17 MEMBER ARMIJO: I am hearing like a four  
18 to five-year process. Is that really the best way to  
19 do it?

20 " MR. BARRETT: I'm not sure it's directed  
21 to your question, but the plants that are the 40 some  
22 plants that are beyond the pilots are not waiting for  
23 this process to start --

24 MEMBER ARMIJO: They're already working at  
25 it.

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1 MR. BARRETT: Yes. They're well underway  
2 is my understanding, at least based on the industry  
3 meetings we have been to.

4 MEMBER POWERS: Here is a question. I'm  
5 not sure whether it goes to Mr. Klein or Mr.  
6 Cunningham. Mr. Klein, you introduced yourself when  
7 you came here and said you will cover the regulation  
8 of both plants that go to NFPA-805 and those that  
9 don't.

10 MR. KLEIN: Yes.

11 MEMBER POWERS: What I wonder is, in that  
12 central position, have you given thought to the kinds  
13 of technologies for prior issues that your staff would  
14 like your staff to have but don't?

15 For instance, in those plants that are  
16 transitioning to NFPA-805, they're in a position of  
17 having to look at and validate risk assessments. The  
18 deterministic tools that they have for fire effects  
19 modeling are pretty relative to the kinds of tools we  
20 have for analyzing severe accidents initiated by  
21 something else.

22 There may be other kinds of technology  
23 tools that would considerably age our staff in  
24 carrying out their mission. Have you thought about  
25 those sorts of things?

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1 MR. KLEIN: As the staff learns about new  
2 tools that might be available out there, for example,  
3 fire modeling, I believe is a fairly new tool in terms  
4 of its direct application to both NFPA-805 plants and  
5 now potentially to those licensees who are not  
6 transitioning to NFPA-805.

7 Our Office of Research performed a  
8 significant effort through the verification and  
9 validation of these fire models. That is one method  
10 certainly that or one tool, if you will, that the  
11 staff would look at for a licensee who is not  
12 transitioning to NFPA-805 but may want to apply a tool  
13 such as that.

14 Now, new tools as they come along  
15 certainly I think the staff is always trying to  
16 maintain awareness of.

17 MEMBER POWERS: I have every confidence  
18 that they do. And they know enough of them to be  
19 assured of that. That is not what I am asking. I am  
20 asking, you don't know that there is a tool out there.  
21 But it would sure be nice to have one. You know, what  
22 kinds of things?

23 For instance, one thing that always struck  
24 me is that circuits analysis is something that should  
25 be susceptible to computerization, should be able to

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1 do a circuits analysis on a computer, not just single  
2 failures, double failures, multiple failures analysis.  
3 It should be doable.

4 We should be able to do that. But nobody  
5 has ever taken the step to do that. And I have always  
6 been puzzled as to why not. I mean, it is such an  
7 obvious thing to try to attack. What I'm asking is,  
8 what about the technologies you don't have but it  
9 would be nice to have?

10 MR. KLEIN: We have user needs with our  
11 Office of Research, but to answer your question  
12 directly, we do not directly sit back in our chairs,  
13 if you will, and contemplate these things, not at this  
14 point. Staff is fairly busy with existing actions.

15 I think, to answer your question directly,  
16 no, we do not sit back. But we are aware of tools.  
17 And if they do --

18 MEMBER POWERS: I'm sure of that. It's  
19 hard not to be.

20 MR. KLEIN: We'll explore it.

21 MEMBER POWERS: Yes.

22 MR. KLEIN: Right.

23 MEMBER POWERS: But it would be nice if  
24 there were some mechanism to go in, maybe not now  
25 because you are going through a transition period

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1 right now where okay, you bar the door. All hands and  
2 the cook are busy.

3 But as you get into this in the existence  
4 of technology that would facilitate not only the  
5 conduct but improve the quality of your work, it would  
6 be nice to come up with a list and say, "Here are the  
7 kinds of things we would like to have" and maybe  
8 transmit it over to the research and say, "Look at  
9 these things and tell us which ones are feasible and  
10 which ones are just beyond hope right now" for what  
11 it's worth.

12 MR. KLEIN: Thank you. We will take that  
13 under advisement.

14 MEMBER SIEBER: Anything else?

15 MR. KLEIN: No.

16 MEMBER SIEBER: Any questions from the  
17 members?

18 (No response.)

19 MEMBER SIEBER: It looks like we finished  
20 right on time by my watch.

21 (Laughter.)

22 CHAIRMAN SHACK: We will take a break  
23 until 10:30.

24 (Whereupon, the above-entitled matter  
25 went off the record at 10:18 a.m. and

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1 resumed at 10:34 a.m.)

2 CHAIRMAN SHACK: Come back into session.

3 Our next topic is "Proposed Changes to the Review  
4 Process for Subsequent Combined License Applications."

5 I like SCOL as -- Mike will be leading us through  
6 that.

7 MEMBER CORRADINI: Okay. Thank you, Mr.  
8 Chair.

9 9) PROPOSED CHANGES TO THE REVIEW PROCESS FOR  
10 SUBSEQUENT COMBINED LICENSE APPLICATIONS

11 9.1) REMARKS BY THE SUBCOMMITTEE CHAIRMAN

12 MEMBER CORRADINI: Just to give a little  
13 bit of introduction here, so staff is going to be  
14 presenting to us a proposed change in the review  
15 process for combined licenses after the referenced  
16 combined license. So we're looking out into the  
17 future a bit.

18 So Mr. Bergman will be leading us off and  
19 introducing our other presenter.

20 9.2) BRIEFING BY AND DISCUSSION WITH  
21 REPRESENTATIVES OF THE NRC STAFF

22 MR. BERGMAN: Hi. My name is Tom Bergman.  
23 I am the Deputy Director for Licensing Operations in  
24 our Division of New Reactor Licensing in the Office of  
25 New Reactors.

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1                   Since this is primarily a process  
2 discussion, I will be leading the discussion. Ravi  
3 Joshi is here. He is the lead project manager for the  
4 Summer application. And if we get into specifics  
5 about how is this implemented in an application, he  
6 will handle those questions. He is in the Division of  
7 New Reactor Licensing as well.

8                   As mentioned, our agenda is to cover this  
9 new process. We're going to quickly go through some  
10 background material, the design-centered review  
11 approach, the application review process, and now this  
12 new four-phase combined license application review  
13 process and the expansion of that from a pilot on  
14 Summer to all subsequent combined license  
15 applications, so basically how did we get to where we  
16 are today.

17                   We're not seeking a letter. We think in  
18 terms of developing criteria for how to engage the  
19 ACRS early under the new process is something we can  
20 work out with your staff.

21                   I think you have a very good relationship  
22 with your staff. They participate in a lot of our  
23 meetings. And they have been very helpful to the  
24 Office of New Reactors in terms of getting all the  
25 meetings scheduled as it is.

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1           Since we are going back in time, which in  
2 the case of the Office of New Reactors, we are really  
3 talking just a few years, but there was a quote I will  
4 use. And keep it in mind throughout this  
5 presentation.

6           Unfortunately, I don't know who to give  
7 credit to, but in theory, there is no difference  
8 between theory and practice. But in practice, there  
9 is. Now we have shifted from theory to practice in  
10 the Office of New Reactors.

11           In the beginning, right, we expected  
12 vendors to come in and get a design certified. And  
13 then we expected an applicant to come in and get an  
14 early site permit. And then we expected an applicant  
15 to come in and seeking a combined license referencing  
16 both of those things. We have not seen a single  
17 applicant match that theory.

18           And part 52 does allow great flexibility  
19 in terms of how you get the combined license. And  
20 that flexibility is being taken full advantage of.  
21 And what kind of drive this change was the Energy  
22 Policy Act of 2005, which not only created incentives  
23 for nuclear power but incentives to come in very  
24 quickly.

25           So that created the problem of how are we

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1 going to review all of these applications? And the  
2 staff developed what is known as the design-centered  
3 review approach.

4 It was developed by the staff. It has  
5 been endorsed by the Commission. It is consistent  
6 with our standardization policy. And it has been  
7 embraced by industry, not only when it was developed,  
8 but I would say their applications are very consistent  
9 with the design-centered review approach, that it has  
10 been a success in this sudden increase and interest in  
11 nuclear power.

12 And, in a nutshell, the design-centered  
13 review approach is -- you know, for each issue, there  
14 is one review, one position, and it applies to  
15 multiple applications. To resolve an issue in the  
16 design certification, we do not revisit it in either  
17 the reference or the subsequent combined license  
18 applications. And if we resolve an issue in the  
19 referenced combined license, similarly we do not  
20 revisit it in the subsequent.

21 And what this has allowed us to do, you  
22 know, this is to deal with our problem. You know, in  
23 theory again, you know, the red lines, which are the  
24 design certifications, would have been before any of  
25 the blue lines, which are the combined license

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1 applications because, as you can see and I am sure you  
2 are aware, all of these reviews are in parallel.

3 And this makes everybody's job harder. It  
4 makes the combined license applicants' job harder  
5 because they have to keep track of what is going on in  
6 the design certification review and amend their  
7 applications as those applications change. It creates  
8 problems for the NRC staff because we are trying to  
9 review a combined license application where the  
10 technical resolution in the design certification isn't  
11 clear.

12 And that spills over to you as well. You  
13 are going to be meeting with us on applications that  
14 are very close in time covering different things.

15 This is just the second page of that. It  
16 really isn't until you get to that unannounced  
17 applicant maybe at the very bottom that we will begin  
18 to have our practice be closer to what we expected.  
19 In other words, the designs, depending which design  
20 they reference, will be certified or very close to it.  
21 And we'll get into more of what we were expecting.

22 So when I say I think the design  
23 certification review approach has actually worked very  
24 well, Mohammed Shuaibi and I came before you a couple  
25 of months ago. And this is out of that presentation.

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1           And this is specific to North Anna, but it  
2 is a representative example that roughly half of their  
3 -- they are the referenced combined license applicant  
4 for the ESBWR. But about half of their application  
5 matches the DCD, what we call incorporate by  
6 reference. In other words, we would not look at it  
7 because it should be resolved in the ESBWR design  
8 certification review.

9           A quarter to a third is standard. Either  
10 it's completely standard to it's mostly standard or  
11 it's half and half standard/site-specific. And about  
12 20 percent is site-specific. And there will always be  
13 a site-specific portion in every combined license  
14 application, most of it in chapter 2, but there are  
15 portions scattered across the application.

16           And, again, just to cover a design  
17 certification review, which are our biggest reviews,  
18 just to put them in ballpark, they're typically in the  
19 range of 120 to 140 thousand review hours for the NRC  
20 staff. They are the approval of the standard design.  
21 Of course, they put into part 52 as an appendix.

22           There are currently four appendices: one  
23 for the ABWR system 80 plus AP600 and AP1000. And, of  
24 course, you know there is an amendment to that AP1000  
25 appendix under review.

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1           The majority of the safety issues are  
2 resolved through the design certification process. I  
3 mean, it's the whole nuclear part of the plant is in  
4 there, really the part that isn't exciting. Exciting  
5 issues are still going to be site-specific. But the  
6 safety issues are generally resolved through the  
7 certification review.

8           And in the case of the -- when we say  
9 "resolved," there's a difference between issues we  
10 resolve under the design-centered review approach and  
11 the design certification from the referenced combined  
12 license in that the design certification issues  
13 actually have finality, meaning by regulation we would  
14 not rereview nor are they subject to the hearing.

15           In the referenced COLA -- and we have five  
16 of those in-house: South Texas, Bellefonte, North  
17 Anna, Calvert Cliffs, and Comanche Peak. They're all  
18 in-house now. They, of course, have a portion that's  
19 incorporated by reference, as I noted.

20           And then they have a portion of their  
21 application marked as standard, which means all the  
22 subsequent combined license applicants should be the  
23 same as that. And then they have a site-specific  
24 piece.

25           Now, even though the subsequent combined

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1 license applicants have the same content in the  
2 standard portion, there isn't finality, meaning we can  
3 revisit that review at a later date because some of  
4 the subsequent poles could come in much later. And it  
5 is still subject to hearing, even though it has been  
6 resolved in a little r, instead of a big R, in the  
7 case of a reference COLA.

8 MEMBER CORRADINI: Can you repeat that?  
9 I wanted to make sure I understood that. Could you  
10 just repeat what you said again? I'm sorry.

11 MR. BERGMAN: The portion of the  
12 application that is incorporated by reference, meaning  
13 from the design certification, has finality. And it  
14 is not subject to staff review or hearing. We need to  
15 make sure that the application is consistent with the  
16 incorporated by reference, but unless we can pass a  
17 backfit-type test, we can't say, "Gee, we thought of  
18 a new question in your RCS. You're got to answer it,"  
19 --

20 MEMBER CORRADINI: Okay.

21 MR. BERGMAN: -- as long as they're  
22 consistent. But in the reference COLA, if there is a  
23 standard piece, we could ask a new question in a  
24 subsequent COLA review or certainly when it goes to  
25 hearing, it is still subject to hearing.

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1 MEMBER CORRADINI: So can you give me an  
2 example of that, then?

3 MR. BERGMAN: I'm trying to decide what is  
4 not site-specific, what is not in the DCD but will be  
5 standard material. So can you give an example?

6 MR. JOSHI: Operational programs. That's  
7 one of the things that can be standard. Operational  
8 programs.

9 MEMBER CORRADINI: Okay. Fine. Right.

10 MR. JOSHI: That's one of the things that  
11 can be standard. But we can ask that question. Even  
12 that question can be asked on site-specific also.  
13 Okay?

14 MEMBER CORRADINI: Right. Fine.

15 MEMBER RAY: What is it that makes a COLA  
16 a reference?

17 MR. BERGMAN: It's just been we allow the  
18 design center to designate it, but it's the first one  
19 who comes in.

20 MEMBER RAY: The first one out of the box.

21 MR. BERGMAN: The first one into the NRC,  
22 not necessarily back out of the --

23 MEMBER APOSTOLAKIS: You have five of  
24 those?

25 MR. BERGMAN: Yes, one for each design

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1 center.

2 MEMBER APOSTOLAKIS: One for each design.

3 MEMBER ARMIJO: The first one out of the  
4 box is better, not the first one into the box.

5 MR. BERGMAN: Well, I just bring that up  
6 because in the case of the --

7 MEMBER ARMIJO: I understand. I  
8 understand.

9 MR. BERGMAN: In the case of AP1000, we do  
10 expect a subsequent combined license to be likely to  
11 go to hearing before Bellefonte, a reference, at least  
12 one.

13 MEMBER CORRADINI: I'm sorry. Let me make  
14 sure I understand that. Say it again.

15 (Laughter.)

16 MEMBER APOSTOLAKIS: From now on say  
17 everything twice.

18 MEMBER CORRADINI: So the second one will  
19 go before the first one gets there. Is that what you  
20 --

21 MR. BERGMAN: Potentially, right, because  
22 in the case of Bellefonte, there are significant  
23 site-specific issues. Specifically, the one that is  
24 driving their schedule is with respect to flooding of  
25 the site.

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1           And they have enough problems there they  
2 asked us a week or two ago to reschedule that review  
3 for a year. So that's putting it off at least a year.  
4 The subsequent -- we don't have that flooding issue --  
5 we can continue to review.

6           MEMBER APOSTOLAKIS: When that happens,  
7 you will hold the second one reference.

8           MR. BERGMAN: There is a DOE angle for  
9 certain reference calls. The DOE is picking up half  
10 the cost of their application review. So we can't  
11 just change it.

12           MEMBER BLEY: But if the third one comes  
13 in, can they reference the one that already went  
14 through the hearings, the one for which you already  
15 finished the review or what happens?

16           MR. BERGMAN: We will probably need to  
17 wait and see what direction the Commission provides,  
18 ASLB, in terms of if an issue is resolved in a hearing  
19 and it's identical in another hearing, should they  
20 revisit it or not, that's not our call. That would be  
21 up to the Commission and the Board.

22           But no, they would -- when their  
23 application actually goes to hearing. It doesn't say  
24 the Bellefonte application in the case of AP1000. It  
25 would be the Vogtle or the Summer, but, really, the

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1 only thing that is different is the plant name and  
2 location. So we have to make an adjustment just  
3 before we develop the advanced SER to convert it to  
4 that site's SER.

5 But the technical content would be  
6 identical. The verbiage will be slightly different.

7 MEMBER CORRADINI: Maybe I misinterpreted.  
8 Let me just ask you again. So the reason you are  
9 connecting the SCOLA to the RCOLA is not that there  
10 will be something in the SCOLA referring back to the  
11 RCOLA. Rather, you are trying to maintain consistency  
12 in content and method of review.

13 But, to use your example, whoever -- I  
14 can't remember who is whom. Whoever is the reference  
15 COLA for the AP1000 slows down. And the second one  
16 then catches up, so to speak, or passes it in time.  
17 It's not that the second one will be referring back to  
18 the other one. It's just you want consistency in  
19 content and review process.

20 Is that correct? Do I have it right?

21 MR. BERGMAN: It is, although what we have  
22 done in that case, just to be clear, is we have split  
23 the Bellefonte review. So the standard portion will  
24 continue on its regular schedule. So that way we can  
25 still maintain that linking between the reference in

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1 the subsequent sentence.

2 MEMBER APOSTOLAKIS: If I could I think  
3 follow up on this? A subsequent COLA had referred to  
4 the reference COLA?

5 MR. BERGMAN: Yes, but not at the end of  
6 the day.

7 MEMBER APOSTOLAKIS: It doesn't have --

8 MR. BERGMAN: No. They could be  
9 completely custom in that. They could have their own  
10 application.

11 MEMBER APOSTOLAKIS: But it will help them  
12 if they refer to the standard --

13 MR. BERGMAN: It greatly helps them.

14 MEMBER APOSTOLAKIS: Yes and you.

15 MR. BERGMAN: And it helps us.

16 MEMBER APOSTOLAKIS: Yes.

17 MR. BERGMAN: And you're right. That's  
18 that one issue. And I will say that the subsequent  
19 applicants have been very good about --

20 CHAIRMAN SHACK: Can they incorporate that  
21 material by reference or do they just reproduce it?

22 MR. BERGMAN: It is reproduced.

23 CHAIRMAN SHACK: Reproduced.

24 MR. BERGMAN: It is different than the  
25 application for the incorporate by reference. If we

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1 incorporate DCD rev. whatever by reference for the  
2 portion that is incorporated from the reference COLA,  
3 the text is replicated with a different plant name.

4 MEMBER CORRADINI: All right. Thank you.  
5 That helps. Charlie, I --

6 MEMBER BROWN: Word for word?

7 MR. BERGMAN: Except for plant name and  
8 location, but in general word for word, yes.

9 MEMBER CORRADINI: I kind of --

10 MEMBER BROWN: That's okay. I'm just  
11 listening, absorbing good information from all the  
12 conversation, integrating. You had an interesting  
13 word called "finality."

14 In other words, you can't come up with  
15 another question. If in the process of review you  
16 find that you missed a significant safety issue which  
17 would impact public safety, I presume you're not bound  
18 by the rules to say, "We're going to ignore this"?

19 MR. BERGMAN: We have to go through a  
20 backfit process.

21 MEMBER BROWN: Okay. So there is a --

22 MR. BERGMAN: It is in the regulations.

23 MEMBER BROWN: Okay. That's fine, but, I  
24 mean, there is a methodology to go back and address.

25 MR. BERGMAN: Yes, there is.

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1 MEMBER BROWN: I didn't want to see us  
2 "Well, the rule says we can't do anything. And,  
3 therefore, we are going to ignore this problem" so  
4 that you do have --

5 MR. BERGMAN: No.

6 MEMBER BROWN: Okay. I didn't understand.

7 MR. BERGMAN: You do. And there are a  
8 couple of cases in the AP1000, in fact, where we are  
9 looking at we may need to go through that backfit  
10 process.

11 MEMBER APOSTOLAKIS: It doesn't have to --

12 MEMBER BROWN: It doesn't have to be what?

13 MR. JOSHI: We have our own.

14 MR. BERGMAN: I don't know the citation,  
15 but we have our own. It's very similar.

16 MEMBER APOSTOLAKIS: Okay.

17 MEMBER BROWN: I know.

18 MEMBER BLEY: It puts a little bit of an  
19 onus on you to make sure that, in fact, the  
20 word-for-word replication is word-for-word replication  
21 and there's not a --

22 MR. BERGMAN: Correct. We checked that.

23 MEMBER BLEY: -- correction in there with  
24 a minor change somewhere.

25 MR. BERGMAN: Correct. WE checked that.

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1           MEMBER MAYNARD: In a previous meeting, I  
2 think both the NRC and the applicants have, at least  
3 intend to have, very thorough quality assurance  
4 mechanisms to check the word-for-word. That was  
5 discussed in one of the previous meetings of the  
6 importance of --

7           MEMBER BLEY: And the licensee must have  
8 to certify it under --

9           MR. BERGMAN: Oh, yes. It's all --

10          MEMBER BLEY: Structure.

11          MR. BERGMAN: Configuration control is a  
12 challenge in all these documents.

13          MEMBER BROWN: How in the world do you  
14 word for word, Chuck, 4,000 pages?

15          MR. BERGMAN: I don't know, but, I mean,  
16 at least everything is electronic now. It has got to  
17 be a lot easier than holding up the pages to the  
18 light, like we used to have to do.

19                 Are we ready? So, again, this is our  
20 application review process. I would, you know, remind  
21 you of the theory. We actually call things space  
22 because that actually means something in project  
23 management. But we had six phases.

24                 The first phase is basically we want to  
25 issue the request for additional information. Now,

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1 while that is being done, it's sort of too old to help  
2 the reviewers identify all of the RAIs. They do begin  
3 drafting the SE.

4 When they hit a spot where they can't make  
5 a finding, that triggers I need an RAI here. But that  
6 document -- we call it the preliminary SERs -- is  
7 really a draft document. And it gets no sort of QA  
8 review other than maybe by their own branch chief.

9 Phase two is the applicant responds to the  
10 RAIs and then the staff evaluates those responses.  
11 Ideally the applicant's response is sufficient to  
12 close out the RAI. Frequently their response isn't  
13 adequate to close out the RAI. We then create an open  
14 item.

15 And that then generated this document  
16 called the SER with open items, which is what we have  
17 traditionally met with you on in what we were calling  
18 phase three on that document.

19 Depending on what issues you raised in  
20 that meeting, there could be sort of more RAIs because  
21 the applicant has to address your issues as well as  
22 ours.

23 Phase four then brings all of that to  
24 closure and we create what is called the advanced SER  
25 with no open items. So it's really a final SER. We

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1 meet with you again on that advanced SER. If we had  
2 done our job right, you have no more issues.

3 And phase six is basically print the  
4 document and move forward. If you identify issues,  
5 depending on the extent of them, we need to supplement  
6 SER or we could potentially even need to come back  
7 depending on how significant they are.

8 MEMBER APOSTOLAKIS: So phase five we are  
9 really reviewing the final?

10 MR. BERGMAN: Our goal would be at phase  
11 five, you identify no new technical issues.

12 MEMBER APOSTOLAKIS: And you don't know --

13 MR. BERGMAN: That's our goal, yes.

14 MEMBER APOSTOLAKIS: It would be nice to  
15 know that --

16 MR. BERGMAN: Oh, yes. We would not  
17 generate any changes. From our standpoint, it is  
18 done. It would only be if you identified something  
19 that we would go back and modify it.

20 Now, in a design certification, that is a  
21 rulemaking. And through the public comment process,  
22 it could cause change to occur. It's a little  
23 different than from the COLAs.

24 So the four-page process, which really is  
25 for subsequent COLAs -- only that is the only thing we

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1 are looking at -- we were requested to look for ways  
2 to shorten the schedules in the future. And when we  
3 looked at the six-page, it's already so tightly  
4 scripted we really couldn't just compress tasks.

5 I mean, you will see a little bit. The  
6 staff will get better at these things. But, you know,  
7 chapter 2 is chapter 2. It takes so much time to  
8 review each time. We couldn't just squeeze a little,  
9 certainly not to the extent we were being asked to  
10 shorten schedule to, which was around two years.

11 MEMBER CORRADINI: So can I just interject  
12 one thing? You threw out a number that I thought I  
13 got right, something around for design certification,  
14 about 120,000 hours. That means if you're a reference  
15 COLA, you guys have guesstimated your time at task.  
16 What is it? You said it. I missed it.

17 MR. BERGMAN: Okay. Yes. No, I didn't  
18 say it. Reference COLAs are 80 to 95 thousand hours.  
19 And the subsequents had more variability because they  
20 had an ESP. They are down around 50,000 hours, just  
21 to put it all in perspective.

22 MEMBER APOSTOLAKIS: You really don't want  
23 to use staff resources.

24 MR. BERGMAN: Well, I'll get to --

25 MEMBER APOSTOLAKIS: You use staff

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1 resources expended for the particular --

2 MR. BERGMAN: Well I will get to where we  
3 are because where we are doesn't affect the safety.  
4 Where we cut staff resources isn't in the safety  
5 review. And for the COLAs, both the resources I gave  
6 you include the environmental impact statement, which  
7 is typically 20 to 25 thousand of those hours.

8 MEMBER BLEY: Tom, I want to ask you a  
9 question that doesn't really fit in what you are  
10 telling us about except it seems to me it fits in this  
11 idea of the review time and that sort of thing  
12 involved.

13 In the initial design cert, if it's a  
14 plant that has a substantial amount of DAC in it; for  
15 example, a complete I&C system, then after this is  
16 done and before fuel load, that all has to be  
17 reviewed, which includes issues related to the design,  
18 maybe a substantial review associated with the DAC.  
19 But because it's there, are you going to have to  
20 review it again for every plant for all the subsequent  
21 plants because it is not finished in the application?

22 Well, it is probably going to be the  
23 identical system, but it is nowhere in the design  
24 documents.

25 MR. BERGMAN: Because it doesn't have

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1 finality, right, design hasn't been complete, yes. In  
2 the --

3 MEMBER BLEY: And it isn't even in the  
4 reference COL review.

5 MR. BERGMAN: Or even in the subsequent.

6 MEMBER BLEY: Yes.

7 MR. BERGMAN: They could potentially put  
8 the DAC all the way into the construction.

9 MEMBER BLEY: Exactly.

10 MR. BERGMAN: Right. At that time the  
11 applicant has to show us that all the DAC have been  
12 met.

13 MEMBER BLEY: Right.

14 MR. BERGMAN: Now, if they buy the exact  
15 same system --

16 MEMBER BLEY: Which they probably will on  
17 what I talked about.

18 MR. BERGMAN: -- it is sort of like  
19 extending the design-centered review approach to the  
20 construction.

21 MEMBER SIEBER: But that is not --

22 MR. BERGMAN: Then that second -- once you  
23 have approved the design, right, if it is the exact  
24 same system on another plant being built, you would  
25 think your inspection resources would be less because

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1 you have already reviewed that.

2 MEMBER BLEY: We have been told it is not  
3 just inspection but review. Headquarters is going to  
4 have to review those DAC items, as opposed to the rest  
5 of the --

6 MR. BERGMAN: But it is still considered  
7 an inspection activity, not a licensing review.

8 MEMBER BLEY: Go ahead.

9 MEMBER SIEBER: But that can get  
10 complicated. For example, even then the whole piping  
11 system is in the plant. When you buy the plant, you  
12 may buy the large bore piping, but the small bore  
13 piping, six inches or less, may be fit in the field.

14 MR. BERGMAN: Correct.

15 MEMBER SIEBER: You buy it. So the  
16 contractor is going to have his own engineers saying,  
17 you know, "I've got to run from A to B. And here is  
18 how I can go and get there." But things like slopes  
19 and so forth may not contemplate the original design.

20 So depending on the situation, there may  
21 be a simple review or a more complex review required.

22 MR. BERGMAN: Correct. Now, we do expect,  
23 especially with piping, that most of those will be  
24 resolved now in the design certs. That is the  
25 direction the applicants are all heading.

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1 But yes, DAC --

2 MEMBER SIEBER: It is still a DAC.

3 MR. BERGMAN: -- and resolution of ITAC,  
4 that is unique for each plant being built, but you --

5 MEMBER BLEY: Thank you.

6 MR. BERGMAN: There's a possibility,  
7 though, if it's identical like an I&C system that  
8 you're putting cabinets in, you would expect you can  
9 -- I would think you could say some resources on the  
10 second one.

11 MEMBER BLEY: But you don't have a process  
12 defined for doing that yet?

13 MR. BERGMAN: Not yet, no.

14 MEMBER BLEY: Thank you.

15 MR. BERGMAN: That's another division,  
16 thankfully.

17 MEMBER SIEBER: In any event, in any  
18 event, the ACRS does not review DACs, as I understand  
19 it.

20 MEMBER BLEY: What?

21 MR. BERGMAN: You don't review the closure  
22 of them.

23 MEMBER SIEBER: Implementation.

24 MR. BERGMAN: Right. You do have the  
25 opportunity to review the DAC at the --

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1 MEMBER SIEBER: Well, that's just the  
2 envelope, though.

3 MR. BERGMAN: Correct. So we were asked  
4 to bring these schedules down. And we couldn't  
5 compress. So we said, "We need to see if there are  
6 ways to modify the process." And that's what led to  
7 the four-phase approach.

8 MEMBER BROWN: I guess I have lost the  
9 bubble between six-phase and four-phase.

10 MEMBER BLEY: You are going to show us  
11 that?

12 MR. BERGMAN: Two slides.

13 MEMBER BROWN: Have you been in a  
14 six-phase before and you want to transition to a  
15 four-phase? I'll stop. Go ahead. I'll listen.

16 MR. BERGMAN: We've been in a six-phase  
17 but, again, not like we thought we would be. And I  
18 will try to clear this up.

19 So in the short term, what we realized is  
20 in the four-phase, even without shortening the  
21 schedule -- and this is not our goal for any of the  
22 current application. It was not to shorten the  
23 schedule. We are going to keep the schedules as if  
24 they were six-phase. So we're going to be able to  
25 spread the work out over a long period of time.

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1           The work we have removed I will show in a  
2 minute is the project management in OGC quality review  
3 at the end of phase two. That's the resource savings.

4           MEMBER BROWN: GC?

5           MR. BERGMAN: Our lawyers.

6           MEMBER BROWN: Okay. General counsel.

7           MR. BERGMAN: Since the SER with open  
8 items is a public document, it gets full QA review.  
9 And then we repeat that QA review at the end of phase  
10 four. So we're not taking resources away from the  
11 tech staff review. It is only from the project  
12 management and General Counsel's review.

13           MEMBER BROWN: And you did that because  
14 there was no value-added?

15           MR. BERGMAN: We think we add value, but  
16 we didn't need to add the same value twice. It's a  
17 redundant review.

18           MEMBER SIEBER: You eliminate an ACRS --

19           MR. BERGMAN: And we are still using  
20 numbers, which gets really confusing, we know. And we  
21 may come up with new terminology because now you've  
22 got to say, is it phase two in the four-phase or in  
23 the six-phase? So long term we will probably fix our  
24 terminology but not for today's briefing.

25           So phase one is to issue the RAIs and

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1 supplemental RAIs. Right now we do one round of RAIs.  
2 And then we create open items. So, really, the  
3 supplemental RAIs replace the open items.

4 So this is a combination of under the  
5 six-phase process phases one and two. Phase two is  
6 develop the advanced SER with open items. So that is  
7 the same as phase four. Phase three is the same as  
8 phase five. And phase four is the same as phase six.

9 Again, we plan to do a pilot. For  
10 resource management resources, we needed to expand  
11 that pilot. So the change, though, is there is no SER  
12 with open items generated. And so there isn't the  
13 ability to link an ACRS meeting to a document that  
14 doesn't exist. So we can still engage early, though.  
15 And that is the focus I think going forward. The  
16 question is, how do we do that?

17 And, in fact, we may be able to engage  
18 earlier because we don't have to go through the  
19 process of generating this public document.

20 CHAIRMAN SHACK: But this is only now for  
21 SCOLs?

22 MR. BERGMAN: Only for SCOLs. And we may  
23 be able to engage more effectively if you say, "Well,  
24 we have an interest in the Eastern Tennessee seismic  
25 zone." All right? We can talk about the issues with

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1 that and which applicants it affects. It's not a  
2 great example because Bellefonte right --

3 CHAIRMAN SHACK: A lot of us are  
4 interested in that particular seismic zone. Do tell  
5 me what you know about it.

6 MR. BERGMAN: I don't know much other than  
7 it affects multiple applicants. It does. And  
8 Bellefonte is addressing it somewhat generically. And  
9 that is the reference call. So you would see that  
10 automatically. But that is one where you could say,  
11 "Well, what are the issues with it? And which plants  
12 are affected?" And we can focus on the issue and how  
13 are we treating it differently. Right?

14 So you have the opportunity to say, "Is  
15 the staff being consistent in their application of  
16 this issue across all the applicants affected by it?"  
17 It's just something to keep in mind. But we haven't  
18 worked out some of these details.

19 MEMBER BROWN: So you have eliminated an  
20 ACRS review?

21 MR. BERGMAN: We have eliminated the  
22 review that's linked specifically to the SER with open  
23 items, but we can still meet on issues that are  
24 significant.

25 MEMBER POWERS: Let me ask you a question

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1 on this consistency business. I am told by those of  
2 the PRA persuasion that all PRAs are plant-specific,  
3 that you really can't generalize.

4 In a risk-informed regulatory system, why  
5 would it necessarily be true that you would treat  
6 things like seismic consistently between plant to  
7 plant if, in fact, they have different risk profiles?

8 MR. BERGMAN: Well, the issue may be  
9 handled differently, but you want to look and say,  
10 have we considered the same factors in each? I mean,  
11 I am not a seismologist, but Summer is a lot further  
12 away from the center point, I think, that Bellefonte.  
13 I am looking. I see Summer is here. So it's less of  
14 an issue.

15 I know like at Vogtle, we concluded it was  
16 so far away that there was no impact. So it wasn't  
17 really specifically analyzed. But you want to make  
18 sure you are addressing all of the same issues. But  
19 it doesn't mean how they are handled within the  
20 application is identical because the effect would be  
21 different depending on your proximity to it.

22 There is a site-specific PRA required,  
23 though.

24 MEMBER RYAN: The six-phase process allows  
25 the ACRS to review the staff's response and the

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1 applicant's response to any issues, any new issues,  
2 brought up by ACRS during the old phase three when we  
3 review it again in phase five. This four-phase  
4 process does not give us that opportunity.

5 MR. BERGMAN: I think it does. We will  
6 get to that. Everything we do with an applicant I  
7 think we cc you on. Is that right, Ravi?

8 MR. JOSHI: Yes, that's correct.

9 MR. BERGMAN: Yes. They're on  
10 distribution for every single piece of correspondence.  
11 So the applications for all the applicants that are  
12 in-house now are all available but every RAI, every  
13 response to an RAI, every in this case supplemental  
14 RAI, which is really after your phase three review,  
15 currently.

16 So all that information is still  
17 available. The piece that isn't is the staff's  
18 write-up of those issues. They are beginning to  
19 convert it to a safety evaluation. But the  
20 application and the problems with the application the  
21 staff have identified, which are the RAIs, is  
22 available as well as you could meet at that point on  
23 an issue after the staff issued its RAIs. You could  
24 meet after the applicant responded to the RAIs. You  
25 would have both their response and our questions.

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1           We have a lot of flexibility in terms of  
2 if we wanted to meet on an issue. It adds about a  
3 year's flexibility in terms of when we could meet on  
4 --

5           CHAIRMAN SHACK: The question is, what  
6 would we have to review?

7           MR. BERGMAN: You would have the  
8 application, the RAIs, staff's response --

9           MEMBER SIEBER: And the answers.

10          MR. BERGMAN: -- staff's response to the  
11 RAIs. We can meet with you on an application before  
12 we issue RAIs if that's what you chose. It's how much  
13 information do you want to have?

14          CHAIRMAN SHACK: But we wouldn't have your  
15 evaluation of the application except for the RAIs.

16          MR. BERGMAN: Correct.

17          CHAIRMAN SHACK: And this is the problem.

18          MR. BERGMAN: Correct.

19          CHAIRMAN SHACK: There are questions on  
20 that.

21          MEMBER ARMIJO: And the assumption built  
22 into that is that except for the new RAIs, everything  
23 is what would your review be for? In the reference  
24 quota, we reviewed the whole thing.

25          MR. BERGMAN: Correct.

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1 MEMBER ARMIJO: The SER and the RAIs and  
2 how they were closed and everything --

3 CHAIRMAN SHACK: No. I think the  
4 assumption here is that their RAIs are our RAIs.

5 MR. BERGMAN: Who is "they" and --

6 CHAIRMAN SHACK: Staff.

7 MR. BERGMAN: Staff. The staff's RAIs are  
8 ACRS'.

9 CHAIRMAN SHACK: Right.

10 MR. BERGMAN: Well, actually, what we are  
11 most interested in is, are there RAIs being failed to  
12 ask?

13 MEMBER CORRADINI: I think that is  
14 actually --

15 MEMBER ABDEL-KHALIK: That is the point.

16 MEMBER CORRADINI: That is the substantive  
17 thing that I guess I want to get to. I think that is  
18 what, at least for me -- I don't know what the other  
19 members are worried about there, but I am not so sad  
20 or happy that I don't get a previous document with 300  
21 RAIs that I am trying to piece through.

22 I more want to make sure that we have  
23 adequate entre into the process so that if we are  
24 worried about something that you decided you weren't  
25 worried about, we understand why you weren't worried

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1 and you understand why we're worried. And that may  
2 generate another RAI to possibly clean something up.  
3 That to me is the essence of all of this phasing  
4 stuff.

5 MR. BERGMAN: If you agree with us, then  
6 things go great. But where we want to know is where  
7 you don't agree with this. And the earlier we know  
8 that the better.

9 MEMBER ARMIJO: Find out later, rather  
10 than earlier.

11 MEMBER SIEBER: Because that turns the  
12 fourth step into a sixth step.

13 MEMBER CORRADINI: Well, I am not sure of  
14 that. That is why I want to --

15 MEMBER MAYNARD: The four-step process  
16 puts you a little bit more --

17 MEMBER CORRADINI: That's right.

18 MEMBER MAYNARD: We get to do that, but  
19 that comes at the tail end. And if we generate  
20 questions at that point --

21 MEMBER STETKAR: Back-end risk.

22 MR. BERGMAN: Which is one of the reasons  
23 we limit it to the SCOLs because we know that the  
24 application is much smaller.

25 MEMBER BROWN: The reference COLs will be

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1 six-phase?

2 MR. BERGMAN: Yes, reference COLs will be  
3 six-phase.

4 MEMBER BROWN: So the fourth phase is only  
5 applicable to subsequent --

6 MEMBER CORRADINI: So can I just go  
7 through this because I am getting Dana is worried  
8 about site stuff, and I don't know enough about site  
9 stuff. So I guess I am just naturally worried about  
10 site stuff.

11 So it seems to me that is the one thing  
12 that could come up that you are at risk that we start  
13 thinking of things. And unless we have early meetings  
14 that we essentially look at what you have asked and  
15 what they have answered in some fashion, not compiled  
16 but asked and answered, unless we do that early, it is  
17 at the end, where you have developed --

18 MR. BERGMAN: Right. And that is where I  
19 say this developing this -- I'm using process, little  
20 p, criteria, whatever you want to call it, with your  
21 staff as to how do we make sure either we think you  
22 need to engage us or your staff says, "Hey, we know  
23 the Committee is interested in this, and we can begin  
24 to plan for those issue-specific meetings."

25 And we do, as I said, expect a lot of that

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1 interest to be in chapter 2.

2 MEMBER CORRADINI: That's not consistent  
3 with the first slide or couple of slides, where you  
4 talk about your design-centered approach and you say,  
5 "Then there is a four-phase COL application review  
6 process."

7 The next bullet says, "Expansion of the  
8 four-phase review to SCOLs," almost as if the  
9 four-phase -- I thought four-phase was being applied  
10 to references.

11 MR. BERGMAN: No, no.

12 MEMBER CORRADINI: Well, that is based on  
13 the --

14 MR. BERGMAN: The expansion is from the  
15 Summer application only, which was a pilot, VC Summer,  
16 VC Summer -- it's an AP1000 applicant -- to all the  
17 SCOLAs. We originally just wanted to test the  
18 process, see if it worked, and then apply it,  
19 including the schedule shortening for applicants that  
20 came in, say, 2011 or later.

21 MEMBER RYAN: I've got a question on the  
22 scheduling of this. If there's no issue on this kind  
23 of back end, that's fine. If there's no issue,  
24 everything rocks along. But doesn't it put a real  
25 schedule pressure on any time there is an issue?

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1 MR. BERGMAN: Any issue identified late in  
2 phase four, five, or six or phase --

3 MEMBER RYAN: I'm talking about your  
4 four-step process.

5 MR. BERGMAN: Right.

6 MEMBER RYAN: It seems to me by  
7 eliminating the two steps, if there are issues, you  
8 create a tremendous pressure on schedule.

9 MR. BERGMAN: We are taking a risk that an  
10 issue will be --

11 MEMBER RYAN: It's a "Yes" or "No" answer.  
12 I mean, there is the --

13 MR. BERGMAN: There is tremendous schedule  
14 pressure for the six-phase --

15 MEMBER RYAN: On everything in here. I  
16 appreciate that. I appreciate that.

17 MR. BERGMAN: And I don't think it will be  
18 higher.

19 MEMBER RYAN: It can create kind of a  
20 valet of a headache, becoming a real headache for two  
21 reasons. One is the technical issues and the schedule  
22 issues. I'm just wondering if it's four-step and --

23 MR. BERGMAN: It's really not --

24 MEMBER RYAN: -- great. If it's four-step  
25 and there's a problem, what have you gained by making

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1 it a four-step, as opposed to a six-step, which I'm  
2 assuming gets those issues explored a little bit  
3 earlier in the process.

4 MR. BERGMAN: It may. Right. We don't  
5 know.

6 MEMBER RYAN: I'm always worried about  
7 letting things drag closer to the end when the  
8 bow-wave of water is coming over and everybody says,  
9 "What is that noise?"

10 MR. BERGMAN: Even on the six-phase  
11 review, we have yet to hit phase three on a single  
12 combined license.

13 CHAIRMAN SHACK: The scope of an SCOLA is  
14 much like an ESP plus.

15 MR. BERGMAN: Correct.

16 CHAIRMAN SHACK: I'm just trying to think  
17 over our experience with ESPs. I think it was helpful  
18 to have earlier, rather than later.

19 MR. BERGMAN: And it was the late  
20 identified issue. I wasn't in this organization when  
21 we did them, but North Anna, I think, with the switch  
22 in cooling methods was a very -- and that was  
23 identified by the applicant, driven by the applicant,  
24 right?

25 CHAIRMAN SHACK: No.

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1 MR. BERGMAN: A late identified problem  
2 blew their schedule out of the water, right? That is  
3 always the risk. If they make changes or we identify  
4 things late, it is always going to impact the schedule  
5 more.

6 MEMBER ABDEL-KHALIK: You indicated that  
7 in some cases the first SCOLA had actually come  
8 through before the reference.

9 MR. BERGMAN: Correct.

10 MEMBER ABDEL-KHALIK: So how would you  
11 handle that?

12 MR. BERGMAN: Well, the standard, again,  
13 the design center where we see that is limited right  
14 now to the AP1000 and the reason the RCOLA is taking  
15 so long to do the site-specific issues.

16 So the standard portion will still be on  
17 its regular six-phase schedule ahead of the SCOLAs.  
18 So the standard portion of those applications you will  
19 see ahead of --

20 CHAIRMAN SHACK: This particular SCOLA,  
21 you would still try to jam into the four-phase  
22 approach --

23 MR. BERGMAN: Yes.

24 CHAIRMAN SHACK: -- or you would -- that's  
25 a risky one.

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1 MR. BERGMAN: We will still come to phase  
2 three on --

3 CHAIRMAN SHACK: I could find this a whole  
4 lot more palatable for subsequent SCOLAs and RCOLAs.

5 MEMBER CORRADINI: I guess maybe I  
6 misinterpreted one you had standard. I will just ask  
7 the question differently. So are you saying that  
8 there is a possibility that we would see an SER with  
9 no open items on Summer before we would see a whatever  
10 the hell phase it is with open items on Bellefonte?

11 MR. BERGMAN: No because you're getting to  
12 Bellefonte. The standard portion you would see at  
13 Bellefonte first, the site-specific later. But you  
14 will definitely -- I think I can --

15 CHAIRMAN SHACK: I see what you're saying.  
16 Because you can give us the standard portion, this  
17 really will look like other SCOLAs.

18 MEMBER BLEY: And you really need to  
19 finish that because you can't use it on the next one  
20 unless you finish the --

21 MR. BERGMAN: Correct. We have this  
22 bookkeeping kind of exercise to go through.

23 MEMBER APOSTOLAKIS: Is this where we are  
24 going to have an opportunity to raise issues?

25 MR. BERGMAN: Yes, that is the issues.

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1 MEMBER APOSTOLAKIS: This phase stuff is  
2 theirs. So there is an issue at the end, and there is  
3 a delay and so on.

4 MEMBER SIEBER: Okay.

5 MEMBER APOSTOLAKIS: But other than that,  
6 there is --

7 MEMBER BROWN: I think it is at the risk  
8 of theirs and the applicants more than ours.

9 MEMBER APOSTOLAKIS: Yes.

10 MEMBER BROWN: I mean, we are going to  
11 have an opportunity.

12 MEMBER APOSTOLAKIS: We are going to have  
13 an opportunity anyway.

14 MEMBER SIEBER: We haven't been shy about  
15 asking questions. But you are guaranteed a  
16 three-month delay if you go to the six-step all the  
17 way through. There is a time-saver.

18 MEMBER APOSTOLAKIS: It's okay. I mean,  
19 it's not --

20 MEMBER CORRADINI: Do other people have  
21 questions? I don't want to --

22 MEMBER BROWN: Yes, I've still got another  
23 question.

24 MEMBER CORRADINI: Go ahead.

25 MEMBER BROWN: I guess I went back to your

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1 little chart. You keep talking about the standard  
2 portion or whatever. I noticed there were a number of  
3 SER sections, 152 percent of them, of the total SERs,  
4 matched DCD. Then you talk about 46. Twenty-four  
5 percent are standard.

6 I guess STD means standard. There are  
7 other things STD can mean, but I won't go into it.

8 MR. BERGMAN: Standard.

9 MEMBER BROWN: But it says "identical."

10 MR. BERGMAN: Correct.

11 MEMBER BROWN: Now, what is the difference  
12 between a standard and a DCD? Are they different?

13 MR. BERGMAN: The DCD means it's derived  
14 from the design certification and it has finality in  
15 the review. The standard portions are identical, but  
16 they do not have finality.

17 MEMBER BROWN: So they are standard? They  
18 are parts of the DCD?

19 MR. BERGMAN: No, no. Standard indicates  
20 it is in the license application. It's a reference  
21 COL, but it is not part of the DCD. But all the  
22 applicants in the design center have agreed to do it  
23 the same. And they mark their application in the  
24 sidebar to indicate that.

25 MEMBER BROWN: Okay. I am almost there.

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1 MR. BERGMAN: Okay.

2 MEMBER BROWN: This thing is for a  
3 reference.

4 MR. BERGMAN: It's just an example. It's  
5 a specific example, but it is a referenced combined  
6 license applicant.

7 MEMBER BROWN: So when you say match DCD,  
8 you said it matches the DCD word for word for the  
9 reference COLA?

10 MR. BERGMAN: It actually says in the  
11 combined license application. It says, "This section  
12 incorporated by reference from DCD rev." This is no  
13 replication of text. It's a one-line --

14 MEMBER BROWN: No. That's fine. That's  
15 okay.

16 MR. BERGMAN: There is the standard --

17 MEMBER BROWN: But for the subsequent  
18 COLA, this one would say, "These parts of the DCD,  
19 they match the DCD." Then I am still trying to grasp  
20 the --

21 MEMBER CORRADINI: The only other part,  
22 though, Charlie, I think, is that if you just compare  
23 Bellefonte to Summer, they would just have the same  
24 words. It wouldn't be --

25 MR. BERGMAN: Of the standard portions.

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1 MEMBER CORRADINI: You would just  
2 literally have the same words.

3 MEMBER SIEBER: Same reference.

4 CHAIRMAN SHACK: For portions that aren't  
5 covered in the DCD but aren't site-specific.

6 MEMBER RAY: The license applications that  
7 are not covered in the DCD.

8 MEMBER POWERS: And are not site-specific.

9 MEMBER BROWN: Okay. Well, that's fine.  
10 Thank you very much. I appreciate that.

11 MEMBER APOSTOLAKIS: What did he say?

12 MEMBER BROWN: He put it to me in English,  
13 engineering English, balance of plant. Since Otto  
14 gave me total calibration on what balance of plant  
15 totally encompasses, I am now fully on board. How  
16 about that?

17 MR. BERGMAN: Okay. This shows the Summer  
18 schedule under both approaches. And this is where I  
19 said, when you use the term "phase," normally it means  
20 something specific in project management that, again,  
21 the plan was you would do phase one, complete it.  
22 Then you would begin phase two, complete it. Then you  
23 would begin so on.

24 As you can see, under the six-phase model,  
25 we don't follow that approach. We're beginning phase

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1 two in certain portions of the review while phase one  
2 is going on. And if the applicant actually addresses  
3 the RAIs, right, and closed the issue, we can go right  
4 to phase four in portions of the application. In the  
5 middle of all of that, we plan to meet with the ACRS.

6 So now for the reference COLs and the  
7 design certs, this is going to be the same. You are  
8 going to be talking to us of an application where  
9 certain chapters may have been reviewed against one  
10 revision and other chapters --

11 MEMBER CORRADINI: We understand that.

12 MR. BERGMAN: Right. This is just the  
13 reality of trying to get it done. The phasing has  
14 nothing really to do with that, but in the four-phase,  
15 again, we'll go kind of right in.

16 Where everything has to come together,  
17 though, is that ACRS review with advanced SE. At that  
18 point everything has to be the same revision, right?  
19 It's a complete SER. Nothing can be in different  
20 portions.

21 That will be the meeting on the entire  
22 document ready to go because if you give us the  
23 go-ahead, we go right into hearing or rulemaking  
24 depending on the applications.

25 VICE CHAIRMAN BONACA: Do we have a formal

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1 review after phase four?

2 MR. BERGMAN: You would only review it  
3 again if you identified issues so substantial we  
4 needed to come back to you. And that would be part of  
5 your letter coming out of that meeting.

6 VICE CHAIRMAN BONACA: How do we find out?  
7 I mean, you have to have phase three for advanced SE  
8 with no open items, whatever that means.

9 MR. BERGMAN: Advanced SE with no open  
10 items is basically the draft final safety evaluation.

11 VICE CHAIRMAN BONACA: Yes.

12 MR. BERGMAN: If we have done our job  
13 right when we meet with you at phase five under the  
14 six-phase approach, phase three under the four-phase  
15 approach, you guys say, "Staff, great job." We  
16 support the staff's review. And we go forward with  
17 hearing or rulemaking.

18 If in that meeting you said, "Could the  
19 staff consider this?" and we said, you know, "Oops"  
20 and it was such a large issue, we might have to come  
21 back to you, right?

22 VICE CHAIRMAN BONACA: No. I'm --

23 MR. BERGMAN: You don't know that until  
24 you get there.

25 VICE CHAIRMAN BONACA: -- thinking more in

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1 terms of we review the advanced SE with open items.

2 We say that's fine.

3 MEMBER POWERS: With no open items.

4 VICE CHAIRMAN BONACA: With no open items.

5 And then now you go back and you finalize the FSER,

6 and there are some issues we haven't seen.

7 MR. BERGMAN: No. There wouldn't be

8 changes at that point.

9 VICE CHAIRMAN BONACA: There would not be

10 changes.

11 MR. BERGMAN: Unless they were driven by

12 you.

13 VICE CHAIRMAN BONACA: Okay. So --

14 MR. BERGMAN: If we came out of that  
15 meeting and you said, "It's good," pretty much phase  
16 six consists of hit and print.

17 VICE CHAIRMAN BONACA: So the advanced SER  
18 is identical with the FSER?

19 MR. BERGMAN: Right.

20 CHAIR SHACK: Unless we make changes.

21 VICE CHAIRMAN BONACA: Unless we make the  
22 changes.

23 MR. BERGMAN: Unless you identify issues.

24 MEMBER ARMIJO: One of the things I don't  
25 understand, in the reference COLA, we review your

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1 closure of the open items. In the subsequent COLAs,  
2 there may be different open items that you close out  
3 before we see the advanced SER.

4 So we will never get a chance to look at  
5 whether we determine whether we agree with the way you  
6 closed out the open items and they're different from  
7 the ones that were in the reference.

8 MR. BERGMAN: You know, in the advanced  
9 SE, it doesn't describe how we closed open items.  
10 It's a stand-alone document.

11 MEMBER ARMIJO: We will never see how you  
12 closed the open items.

13 MR. BERGMAN: Regardless of which  
14 approach, right?

15 MEMBER ARMIJO: We saw it in the first  
16 one. In the six-phase, you had the open items.

17 MR. BERGMAN: But now they're just gone.  
18 They're just replaced with new text.

19 MEMBER CORRADINI: We have not seen yet,  
20 Sam, that second phase, but my guess is with -- at  
21 least we haven't. Bill and others have.

22 MEMBER ARMIJO: Yes.

23 MEMBER CORRADINI: But when we get to that  
24 phase, we would just say, "No open items." We would  
25 have to essentially understand what was staff's

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1 thinking that they were satisfied, but I am not going  
2 to be necessarily in the SER.

3 MEMBER STETKAR: It's the same thing that  
4 we have now. I mean, there are hundreds and hundreds  
5 of RAIs that are resolved by the staff that unless we  
6 go back and read the RAI specifically with its  
7 resolution, we don't know about that.

8 MEMBER CORRADINI: Right. That's right.

9 MEMBER STETKAR: So there's no difference  
10 in a process from that perspective.

11 MR. BERGMAN: Right. The document doesn't  
12 explain how --

13 MEMBER STETKAR: The only thing, in the  
14 interim, there are things that are still flagged that  
15 at this point in time, it's open.

16 MR. BERGMAN: And now those would be what  
17 we call the supplemental RAIs, instead of the open  
18 items. So you wanted to see a subset of what we  
19 looked at. But that doesn't mean -- I mean, you can't  
20 look at either the open items or the supplemental RAIs  
21 as necessarily the big technical issues. It's just  
22 the issues that the applicant didn't satisfactorily  
23 resolve.

24 The biggest technical issues could be  
25 there were no RAIs generated potentially by the staff

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1 or they resolved them in response to the first RAIs.

2 I mean, those are your biggest risks,  
3 either the staff doesn't even notice it, right?  
4 That's the one that is going to cost us if that ever  
5 happens, is we didn't notice it. No RAI was  
6 generated. Therefore, no open item got generated.

7 MEMBER CORRADINI: And the burden now  
8 falls even more on you.

9 MEMBER ARMIJO: Or us. We never saw it.

10 MR. BERGMAN: It's the staff's  
11 responsibility to do the job right. But there are  
12 many checks. You are a check. The ASLB is a check.  
13 There are many checks on this.

14 MEMBER ABDEL-KHALIK: Now, in the  
15 subsequent COLAs, you indicated that the standard  
16 material that is identical in all plants is subject to  
17 review, correct? How would issues in that part of the  
18 application bubble up, rather than, you know, you  
19 essentially for subsequent COLAs just focusing on the  
20 site-specific issues?

21 MR. BERGMAN: We won't expect them to.  
22 What I'm saying is they don't have finality like we do  
23 under a design center. But right now if it's the  
24 standard portion, the staff confirms that the standard  
25 portion is the same as the reference COLA, but we do

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1 not rereview it.

2 So we rely on that review done for the  
3 reference COLA to be right. The review on the  
4 reference COLA, if the review on the reference COLA is  
5 wrong, made a bad conclusion, we are unlikely to catch  
6 it in the subsequent COLAs.

7 MEMBER ABDEL-KHALIK: But that would be a  
8 matter of concern because, I mean, your review is just  
9 a matter of checking that the material is identical,  
10 rather than checking that your earlier review of that  
11 material was thorough and complete and correct. That  
12 does not warrant for you to bring up any additional  
13 reviews of any material within that part of the  
14 application.

15 MR. BERGMAN: Correct, but that is the  
16 decision made to go with the design center review.  
17 It's not unlike the finality given the design cert.  
18 Still the review was done once, right? If we erred in  
19 the design cert, it is carried forever. With the  
20 reference -- and it's much harder to change if it's in  
21 the design cert. If it's in the reference COLA, we're  
22 just not going to do a detailed technical review to  
23 rejustify all the findings.

24 So if you make the mistake on the  
25 reference COLA, you are taking a risk that it won't be

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1 noticed in the subsequent --

2 MR. JOSHI: Can I make one point?

3 MR. BERGMAN: Sure.

4 MR. JOSHI: Just a practical example that  
5 we did recently. Bellefonte being RCOLA, we were  
6 reviewing the standard content of the RCOLA. We  
7 reviewed it. The review was completed. We started  
8 reviewing the re-SCOLA. And suddenly we found  
9 ourselves that we were asking a question. We should  
10 ask the same question to the RCOLA.

11 So as a part of the review process, we  
12 actually caught ourselves to see whether we missed.  
13 And on one occasion, we actually found out that we  
14 should have picked up that question on RCOLA, not on  
15 SCOLA.

16 So as part of the review process, the  
17 staff had actually expected the one that you're  
18 talking about right now.

19 MEMBER ABDEL-KHALIK: But this is  
20 fortuitous because of the timing of one versus the  
21 other.

22 MR. JOSHI: Yes, right.

23 MEMBER ABDEL-KHALIK: I am just asking  
24 whether the review of that part of the application is  
25 totally perfunctory.

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1 MR. BERGMAN: It is. I don't want to say  
2 it's nothing, but it is not a substantive review.  
3 Right? I am looking at this.

4 MEMBER BROWN: You can't keep plowing over  
5 this same old turf all the time.

6 CHAIRMAN SHACK: We are running late here.  
7 If we can --

8 MR. COLACCINO: This is Joe Colaccino. I  
9 am the Chief of the EPR Projects Branch. I was also  
10 involved in the development of the review process.  
11 And one of the things that you all should understand  
12 is that it's not what we're asking the staff to do.  
13 And I am, unfortunately, going to probably confuse you  
14 again because when we developed this, we were assuming  
15 a six-phase process.

16 And so in the phase one and phase two for  
17 the standard sections, they confirm, as you had seen  
18 in a slide that is in your package someplace, that  
19 that information is identical. If that is identical,  
20 then they move that DAC to phase four.

21 In our phase four review, the review is  
22 not detailed, but it is not perfunctory either. What  
23 they are going to do is they are going to look and see  
24 if any of the decisions that were made in the RCOLA  
25 impact the SCOLA. And if it does, then they will

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1 ensure that those decisions have been carried forward.

2 So it's not a detailed technical review to  
3 rereview everything that was in the RCOLA, but at the  
4 same time, it is to ensure that there is consistency,  
5 not a light test but ensuring the decisions that the  
6 staff made in the RCOLA review carry over to the  
7 SCOLAs. So hopefully that helps.

8 MR. BERGMAN: Now, what complicates right  
9 now is everybody is in house at the same time, I mean,  
10 sometimes within a month of each other. If you look  
11 at an SCOLA coming in two years from now, the most  
12 likely time where you are going to have to look at the  
13 standard content again is we are going to change our  
14 regulations.

15 And those could impact standard portions,  
16 right? Then you are going to have to see a new review  
17 in those areas because, again, they don't have  
18 finality.

19 MEMBER CORRADINI: Why don't we move on?

20 MR. BERGMAN: Sure. In terms of the  
21 timing and resource savings, it is really the tail end  
22 of phase two is where that all occurs right now. And  
23 it is the PM and OGC review, as I mentioned.

24 I can speed this up because I think we  
25 have covered a lot of this. We're doing it. We plan

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1 to expand it to all subsequent COLAs. There may be a  
2 couple that they are so far in the review it is just  
3 not worth changing the approach. We will look at that  
4 on a case basis.

5 But we did want to begin putting it in  
6 place with just getting a lot of applications  
7 in-house. We wanted to put them under the four-phase  
8 schedule to begin with.

9 But, as we go through the ones that are  
10 currently in a six-phase, if the conversion effort is  
11 too high, we will just proceed. So there is going to  
12 be a little bit of a mix going forward.

13 Challenges. We had basically four, bend  
14 them four ways: planning, resolving staff issues,  
15 ensuring you all are involved early, and then how to  
16 measure the success of this approach.

17 In planning, which is where we spent most  
18 of our time so far, there is still a lot of  
19 implementation details to work out. The planning is  
20 very detailed, regardless of four/six. And it's just  
21 a lot of work to figure out how to effect all the  
22 changes.

23 Again, the ones that have just come in, we  
24 want to initially put in in a four-phase. And then  
25 we'll go back, and we'll look through the others.

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1           There is also the possibility that down  
2 the road, even though we have committed to do  
3 four-phase in the future, that an applicant could be  
4 either -- there have been so many rule changes the  
5 reference we know isn't applicable or there are some  
6 site-specific features that we say we want to stick  
7 with the six-phase.

8           So it isn't a permanent commitment to  
9 industry. We still need to look at each application  
10 and make sure it is not so unique it drives us into  
11 something else.

12           MEMBER ARMIJO: So you might choose on  
13 your own to say, "This one has got so much uncertainty  
14 that we would rather do the six-phase"?

15           MR. BERGMAN: Correct.

16           MEMBER ARMIJO: And you have that option?

17           MR. BERGMAN: Yes. We always have that  
18 option.

19           MEMBER ARMIJO: Okay.

20           MR. BERGMAN: Resolving the staff's  
21 issues, you know, this is one of the things that we  
22 are very concerned about. And it is that we still  
23 need the staff both to be disciplined and that the  
24 generation of the initial RAIs is very comprehensive.

25           And then the applicant needs to take the

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1 initial round of RAIs as seriously as they do now and  
2 be fully responsive so that the subsequent or whatever  
3 we call the second one, the second round of RAIs is  
4 similar to open items. If we get into three, four,  
5 five round of RAIs, then there is no point to the  
6 four-phase. It won't achieve what we wanted. So the  
7 applicants need to be as responsive as we expect them  
8 to be today.

9 I think we spent a lot of time talking  
10 about this. Some of the things that currently happen,  
11 your staff does attend what we call our status  
12 meetings, our weekly status meetings, where we do  
13 bring up issues. Certainly they go to a lot of our  
14 public meetings, including the design-centered working  
15 group meetings, where a lot of applicant issues are  
16 addressed. As we noted, you are on distribution for  
17 all of our correspondence, both to and from  
18 applicants, and today's meeting.

19 We do want to try to develop a way to make  
20 sure we are engaging you early enough and potentially  
21 earlier than we do today. And we will work with your  
22 staff on that. When that has matured enough, of  
23 course, we are happy to come back.

24 MEMBER CORRADINI: I guess, just to make  
25 sure that you see where my concern is, at least my own

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1 personal concern is that in these sorts of things, I  
2 think we have got to come up with a mechanism so that  
3 we are not put in a position that something is a  
4 concern and we are the last one between you and  
5 between the applicant and the door.

6 MR. BERGMAN: Correct.

7 MEMBER CORRADINI: And I don't want to be  
8 there. So I would hope we could come up with a  
9 mechanism by which if our staff sees something in  
10 either what you call your status meetings or your  
11 design center things, that there are subcommittee  
12 meetings to deal with these things early.

13 MR. BERGMAN: Yes. And we have been  
14 talking in-house. For example, after the first round  
15 of RAIs is issued, is that where we sit down with the  
16 staff to say, you know, here is where we see the  
17 issues because, really, the bulk of our technical  
18 review is done at that point. We believe we have  
19 identified all of the issues. So that is probably a  
20 good point for us to interact with your staff and say  
21 which of these do they want to start scheduling with  
22 the ACRS.

23 And, last, measuring success. When we  
24 just thought we were going to do the VC Summer  
25 application, we said, well, great. You can compare it

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1 to all the others and if there were fewer issues  
2 identified late in the game or the same amount, then  
3 we could declare a success.

4 Now that they're all going in there, we  
5 lost that easy comparison. You know, we may be able  
6 to compare it to the site-specific portion of the  
7 RCOLs, but obviously that is a small set.

8 So we have some work to do there because,  
9 again, we know, I know that if you guys are finding a  
10 lot of issues in your meeting on the advanced SE with  
11 no open items, that is not success. But that is too  
12 late to figure that out. So we would like to get some  
13 measures that have a bit more lead to them than the  
14 staff failed measure.

15 So, with that, if there are any other  
16 questions? We are a little over but happy to answer  
17 them.

18 MEMBER CORRADINI: Questions from the  
19 members?

20 (No response.)

21 MEMBER CORRADINI: Thank you very much.  
22 I appreciate the time. Mr. Chairman, by Jack's watch,  
23 we're on time.

24 CHAIRMAN SHACK: What I am thinking of is  
25 to hold the P&P after the Commission meeting. We are

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1 going to close the meeting now. We can go off the  
2 record. Thank you very much.

3 (Whereupon, the above-entitled matter  
4 went off the record at 11:35 a.m.)  
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# ACRS Brief – Subsequent Combined License (SCOL) Review Process

**Thomas Bergman, Deputy Director for Licensing Operations, NRO/DNRL**  
**Ravi Joshi, Project Manager, NRO/DNRL/NWE1**

**November 7, 2008**

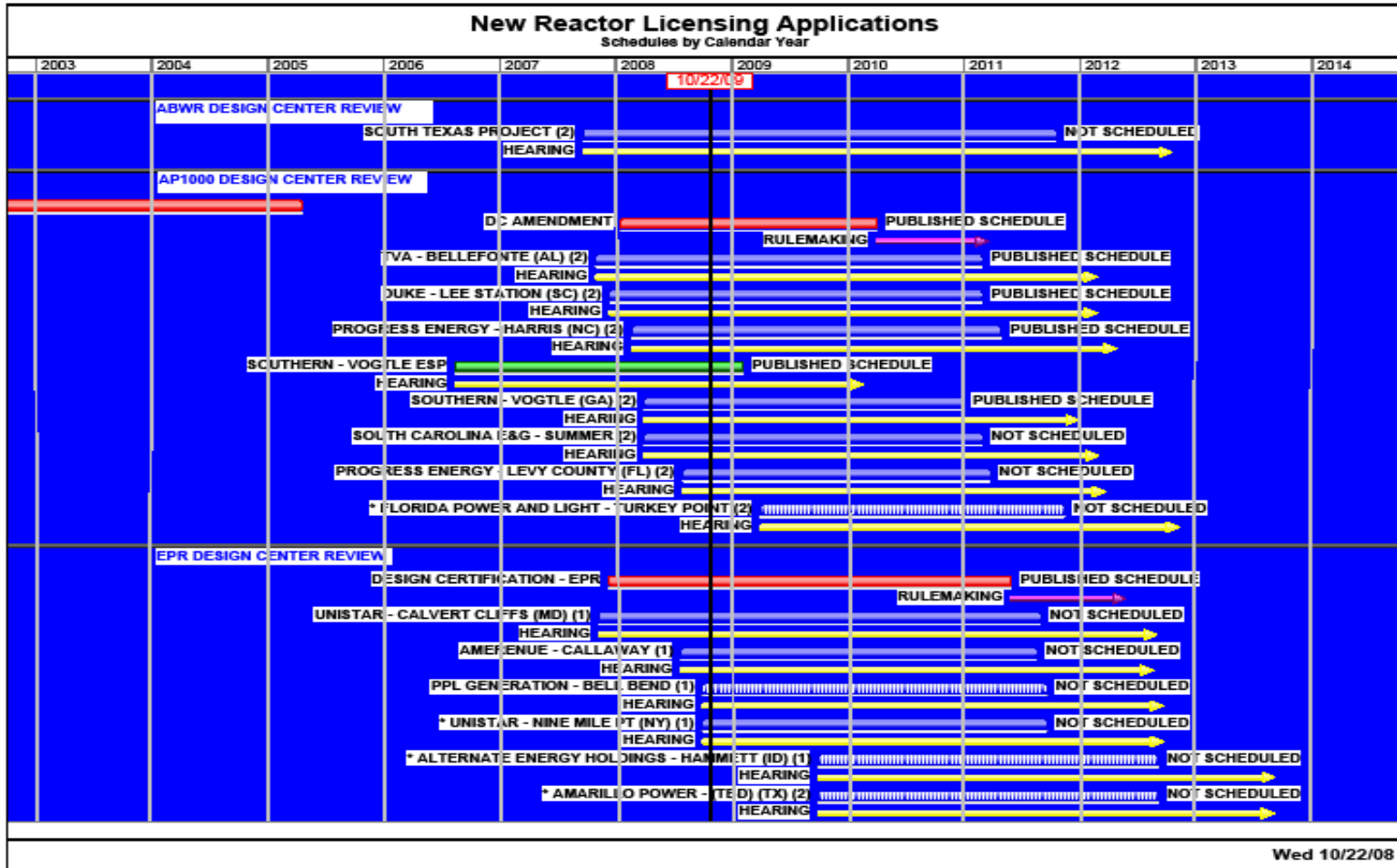
# Agenda

- Design-Centered Review Approach
- Application Review Process
- 4-Phase COL Application Review Process
- Expansion of 4-Phase Review Process to SCOLs

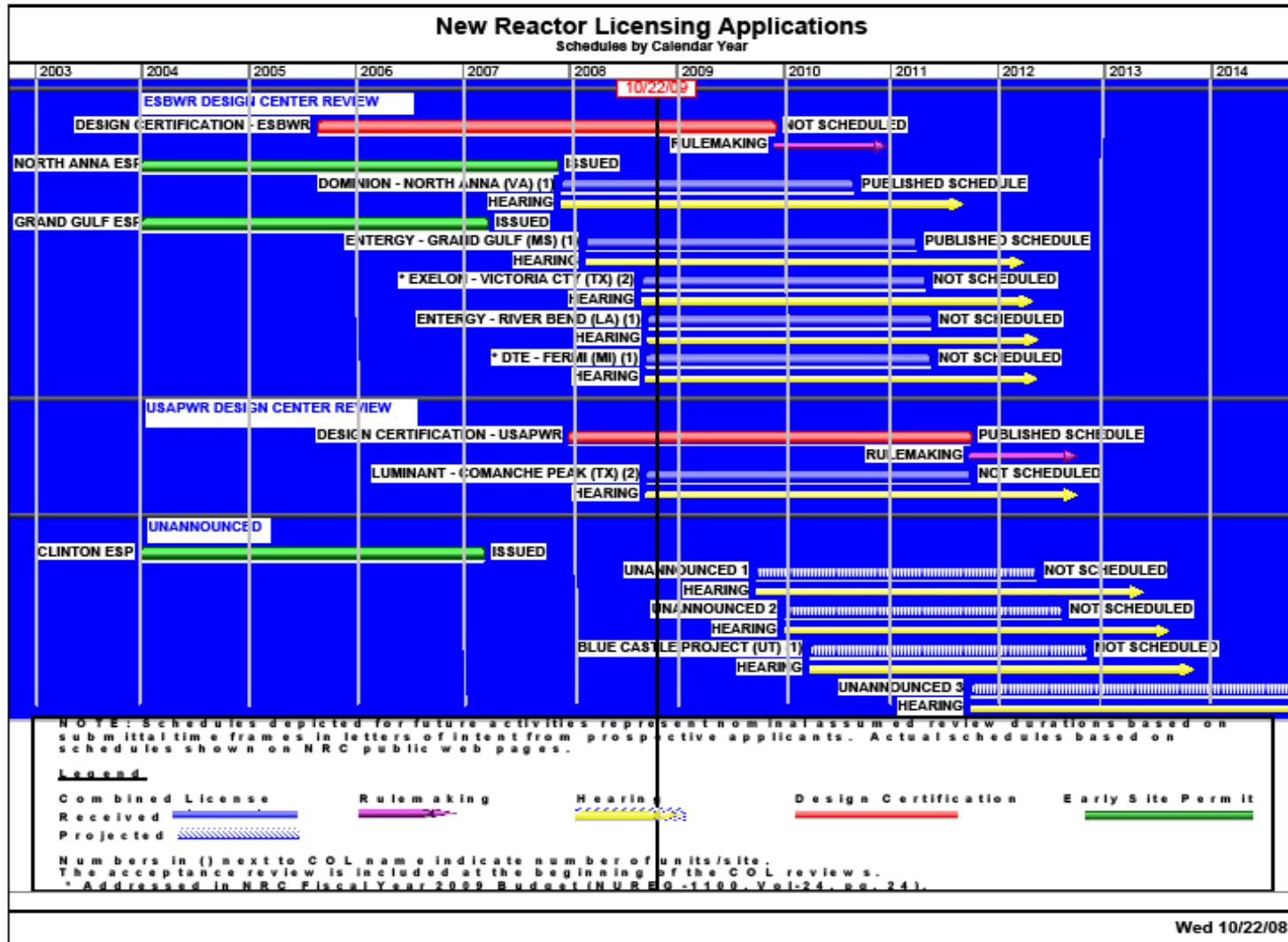
# Design-Centered Review Approach (DCRA)

Problem: How are we going to review all those applications?

- DCRA is the key to making this work
  - Developed by NRC Staff -- Endorsed by Commission
  - Consistent with NRC Policy on Standardization
  - Embraced by Industry
- One issue-one review-one position for multiple applications







## Design-Centered Review Approach (DCRA)

No. of FSAR Sections	Percent of FSAR Sections	Section Type*
100	52%	Match DCD
46	24 %	STD (identical)
9	5 %	STD with a limited amount of site-specific info
9	5 %	STD with a moderate amount of site-specific info
27	14 %	Site-specific
191	100 %	Total

\*Matrix provided by Dominion with the North Anna COL Application

# Design-Centered Review Approach (DCRA)

- Design Certification (DC) Reviews
  - NRC approval of a final standard design for a nuclear power facility
  - Codified as Appendix to 10 CFR 52
  - Majority of safety issues resolved through DC review process
- Reference COL (RCOL) Application Reviews
  - Staff ensures the “incorporation by reference” of the DC is adequate and appropriate
  - Staff reviews standard material that applies to the entire design center (e.g., operational programs)
  - Staff reviews site specific material (e.g., emergency planning, hydrology)
- SCOL Application Reviews
  - Staff ensures SCOL application conforms to RCOL application
  - Staff reviews site specific material

## **Application Review Process**

- Phase 1: Issue Requests for Additional Information (RAIs)
- Phase 2: Review RAI responses and develop Safety Evaluation Report with Open Items (SER w/ OIs)
- Phase 3: ACRS Review of SER w/ OIs
- Phase 4: Develop Advanced SER with no open items
- Phase 5: ACRS Review of Advanced SER
- Phase 6: Develop Final SER
- Rulemaking (for design certifications) OR Hearings (for COLs)

## 4-Phase COL Application Review Process

- Near Term Goal
  - Reduce staff resources without affecting the quality of staff review
- Long Term Goal
  - Reduce SCOL application review time without affecting the quality of staff review

## **4-Phase COL Application Review Process**

- Phase 1: Issue RAIs and supplemental RAIs
  - Combination of “old” phases 1 and 2
- Phase 2: Develop Advanced SER with no Open Items
  - Identical to “old” phase 4
- Phase 3: ACRS review of Advanced SER
  - Identical to “old” phase 5
- Phase 4: Develop Final SER
  - Identical to “old” phase 6

**Pilot on AP1000 SCOL (Summer site)**

**Staff to brief ACRS on any significant issue**

ID	Task Name	Q3 '08	Q4 '08	Q1 '09	Q2 '09	Q3 '09	Q4 '09	Q1 '10	Q2 '10	Q3 '10	Q4 '10	Q1 '11	Q2 '11	Q3 '11	Q4 '11	Q1 '12
1	<b>AP 1000 SUMMER SCOL - Six Phase</b>	[Redacted]														
2	<b>Safety Review</b>	[Redacted]														
3	Phase 1 - PSER and RAIs	[Blue bar: Q3 '08 - Q2 '09]														
4	Phase 2 - SER with Ois	[Blue bar: Q1 '09 - Q2 '10]														
5	Phase 3 - ACRS Review of SER with OI	[Blue bar: Q1 '10 - Q2 '10]														
6	Phase 4 - Advanced SER with No OI	[Blue bar: Q2 '09 - Q4 '10]														
7	Phase 5 - ACRS Review of Advanced SER with No OI	[Blue bar: Q4 '10 - Q1 '11]														
8	Phase 6 - FSER with No OI	[Blue bar: Q1 '11 - Q2 '11]														
9																
10																
11																
12																
13																
14																
15	<b>AP 1000 SUMMER SCOL - Four Phase</b>	[Redacted]														
16	<b>Safety Review</b>	[Redacted]														
17	Phase 1 - PSER and RAIs	[Blue bar: Q3 '08 - Q2 '09]														
18	Phase 2 - Advanced SER with No OI	[Blue bar: Q1 '09 - Q2 '10]														
19	Phase 3 - ACRS Review of Advanced SER with No OI	[Blue bar: Q2 '10 - Q3 '10]														
20	Phase 4 - FSER with No OI	[Blue bar: Q3 '10 - Q4 '10]														

# Expansion of 4-Phase Review Process to SCOLs

- NRO has decided to expand the pilot to potentially include all SCOLs currently submitted to the NRC:
  - Improvements of an existing process with little downside
  - Reduces resources required for SCOL reviews without affecting quality
  - Enhances NRO's ability to accomplish our work with the current budget and continuing resolution environment
  - Enhances NRO's ability to manage workload peaks
  - With recent receipt of many SCOLs, it is beneficial to develop their initial schedules on the 4-Phase model
- As with original pilot (Summer), schedule for the expanded pilot SCOLs reviews are not expected to have shortened durations



# Expansion of 4-Phase Review Process to SCOLs

## Challenges

- Planning
- Resolving staff issues
- Ensuring ACRS involved early
- Measuring success

# Expansion of 4-Phase Review Process to SCOLs

## Challenge: Planning

Will be phased in incrementally in the following sequence

- Applications that have been recently submitted will have their initial schedule as a 4-phase review
- Applications currently under a 6-phase review will be converted as scheduling resources allow
- Some SCOL schedules may not be converted to a 4-phase review, depending on the status of the current review (expected to be a small number)

# Expansion of 4-Phase Review Process to SCOLs

## Challenge: Resolving Staff's Issues

- Ability of applicants to resolve safety issues in two rounds of RAIs
- Completion of the Advanced SER with no OIs will be impacted

# Expansion of 4-Phase Review Process to SCOLs

Challenge: Ensuring ACRS involved early

- Currently ACRS interacts with staff
  - By attending NRO status meetings
  - By attending Design Centered Working Group public meetings
  - Receiving correspondence between staff and applicants
  - Meeting with ACRS to discuss the impacts of 4-phase review on planned interactions with ACRS
- Developing process and criteria to ensure that issues are identified that would benefit from early interaction with ACRS

# Expansion of 4-Phase Review Process to SCOLs

Challenge: Measuring success

- Developing measures for effectiveness and efficiency of the 4-phase program
- The measures developed for the Summer-only pilot compared results on that review to other SCOL reviews

# Questions?



Daniel Frumkin

Fire Protection Team Leader

*Fire Protection Branch*

*Division of Risk Assessment*

*Office of Nuclear Reactor Regulation*

## Fire Protection Closure Plan

*November 7, 2008*



# Background

- In July 2008, the Commission directed the staff to provide a Fire Protection Closure Plan to address milestones and deliverables for a number of fire protection activities (Staff Requirements Memorandum M080717).
- The closure plan is intended to stabilize fire protection regulatory infrastructure
- The staff will update the Commission semiannually on the implementation status of the Closure Plan.



# Closure Plan Objectives

- The Closure Plan identifies those staff actions necessary to:
  - Establishing regulatory foundation
  - Structuring enforcement discretion
  - Developing implementation guidance
  - Validating the implementation
  - Define final closure
- The Closure Plan also identifies milestones and deliverables for a variety of fire protection activities

# Closure Plan Topics

- National Fire Protection Association Standard 805 transition implementation
- Electrical raceway fire barrier systems
- Fire-induced circuit failures
- Post-fire operator manual actions

## Closure Plan Topics (cont.)

- Recommendations made by the U.S. Government Accountability Office (GAO) in GAO 08-747 and Commission direction
  - Assessing effectiveness of fire protection improvements
  - Staff training on key fire protection historical lessons
  - Database of fire protection exemptions
- Perform a survey to establish that reasonable assurance that past regulatory infrastructure instabilities are identified.



Alex Klein

Chief

*Fire Protection Branch*

*Division of Risk Assessment*

*Office of Nuclear Reactor Regulation*

## Fire Protection Activities

*November 7, 2008*



# Discussion Topics

- Recent Commission Staff Requirement Memoranda
- Government Accountability Office (GAO) report recommendations and planned staff actions
- Fire protection closure plan
- National Fire Protection Association (NFPA) Standard 805 pilot plant license amendment request reviews
- NFPA 805 Regulatory Guide and Standard Review Plan work



A large, stylized graphic of an atomic symbol, consisting of a central sphere and three intersecting elliptical orbits, is positioned on the left side of the slide. It is rendered in shades of blue and white against the blue background.

Alex Klein

Chief

*Fire Protection Branch*

*Division of Risk Assessment*

*Office of Nuclear Reactor Regulation*

## Anticipated Next Steps

*November 7, 2008*

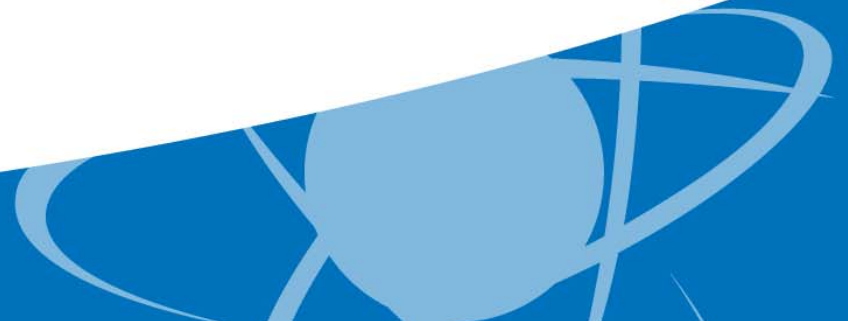


# Anticipated Next Steps

- Conduct periodic fire protection briefings on specific technical issues – early 2<sup>nd</sup> Quarter 2009
  - Fire-induced circuit failures
  - Resolution of electrical raceway fire barriers
- Present NFPA 805 guidance documents after resolution of public comments – early 3<sup>rd</sup> Quarter 2009
  - Revised regulatory guide 1.205
  - New standard review plan



Thank You







Charles Moulton

Fire Protection Engineer

*Fire Protection Branch*

*Division of Risk Assessment*

*Office of Nuclear Reactor Regulation*

## GAO Recommendations and Planned Staff Actions

*November 7, 2008*



# GAO Report

- The GAO review focused on three areas:
  - Recent fire events
  - Use of interim compensatory measures and the extent to which these measures promote fire safety
  - Extent to which plants that adopt a risk-informed approach to fire safety are safeguarded against fire emergencies



# GAO Recommendations

- Develop a central database of exemptions, compensatory measures, and manual actions
- Address safety concerns related to long term compensatory measures
- Address concerns about the effectiveness of fire wraps
- Commit to a date to develop circuit failure guidance



# NRC Planned Actions

- Develop a centralized database of fire protection exemptions
- Develop a metric and monitoring methodology to assess the regulatory effectiveness of ongoing improvements to the regulatory framework which will capture long term compensatory measures and unapproved manual actions
- Close Hemyc/MT related issues via inspections
- Issue guidance on circuit failures by early FY 2009



Harold Barrett, PE

Fire Protection Engineer

*Fire Protection Branch*

*Division of Risk Assessment*

*Office of Nuclear Reactor Regulation*

# NFPA 805 Pilot Plant LAR Reviews

*November 7, 2008*



# Discussion Topics

- Background
- NFPA 805 Pilot LAR Status
- Detailed Review of NFPA 805 Pilot LARs
- NFPA 805 LAR Review Schedule
- NFPA 805 Related Issues
- Summary



# Background

- NRC has designated two licensees as NFPA 805 Pilots
  - Duke Energy's Oconee Nuclear Site
  - Progress Energy's Shearon Harris Nuclear Plant
- Both Licensees submitted NFPA 805 License Amendment Requests (LARs) in May 2008



# NFPA 805 Pilot LAR Status

## Shearon Harris

- NRC staff completed the Acceptance Review of the Harris LAR on 8/5/08
- Acceptance Review identified 8 major issues with the LAR content
- Progress Energy committed to provide supplemental information by 11/15/08





# NFPA 805 Pilot LAR Status

## Oconee

- Duke provided a partial submittal in May, with the remainder of the submittal to be provided by 10/31/08
- NRC staff have performed a limited acceptance review of supplied material and communicated the results to Duke
- Acceptance review will be completed upon receipt of LAR supplement



# Detailed Review of NFPA 805 Pilot LARs

- The NFPA 805 Pilot LAR review teams have been established
  - Multi-disciplinary team
- Technical review of the LAR material is ongoing



# NFPA 805 LAR Review Schedule

- Generate draft RAIs by 1<sup>st</sup> Quarter 2009
- Pilot plant Site audit shortly after generating draft RAIs (1<sup>st</sup> Quarter 2009)
- Submit RAIs to licensee upon completion of site audit (1<sup>st</sup> Quarter 2009)
- Receive RAI responses from licensee (2<sup>nd</sup> Quarter 2009)
- Complete review of LAR and generate Safety Evaluation Report (3<sup>rd</sup> Quarter 2009)

# NFPA 805 Related Issues

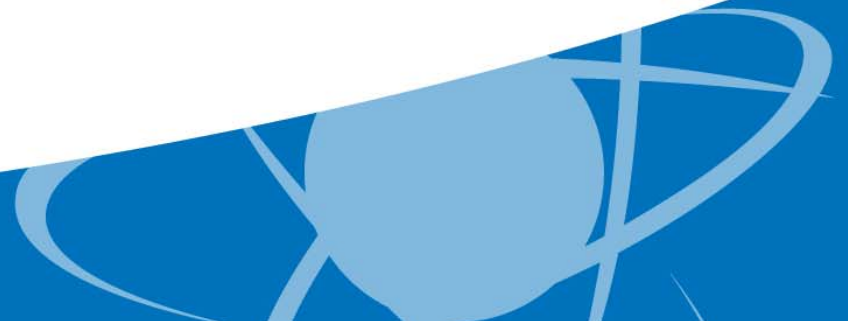
- Frequently Asked Question (FAQ) Process
- Implementation Guidance
  - NRC Infrastructure – SRP Chapter, Reg Guide 1.205
  - NEI Guidance – NEI 04-02, NEI 00-01, NEI 07-12
  - EPRI/NRC-RES Fire PRA Guidance
    - NUREG/CR 6850
- Non-Pilot Enforcement Discretion Extension



# Summary

- We received the NFPA 805 LARs from the pilots
- We performed a Staff Review of the pilot Fire PRAs
- We completed acceptance review of the Harris LAR
- We are performing technical review of the pilot LARs
- We will be generating draft RAIs, visiting the pilot plant sites and then issuing formal RAIs in 1<sup>st</sup> Qtr '09
- We expect to receive RAI responses in 2<sup>nd</sup> Qtr '09
- We expect to complete NFPA 805 pilot SERs in 3<sup>rd</sup> Qtr '09

Thank You



# Fire PRA Quality

- The ANS Fire PRA Standard (ANS 58.23) was approved for use late last year (November 2007)
- Industry held a peer review at Diablo Canyon to pilot the new standard in January 2008
  - NRC staff observed
- The ANS Fire standard was absorbed into the combined ASME/ANS Level 1 PRA standard. RG 1.200 will endorse this combined standard
- NRC staff performed a “Staff Review” of both NFPA 805 pilot plant Fire PRAs
  - Shearon Harris – week of 2/4-8/2008
  - Oconee – week of 3/17-21/2008



Mark Cunningham

Director

*Division of Risk Assessment*

*Office of Nuclear Reactor Regulation*

## Fire Protection Activities

*November 7, 2008*





# Briefing Objectives

- To provide ACRS a status report on key fire protection program activities
- To propose a set of future interactions on topics such as:
  - Resolution of fire barrier issues
  - Regulatory guidance on treatment of fire-induced circuit failures
  - Regulatory guidance related to 10CFR50.48(c) [NFPA-805]





Naeem Iqbal

Fire Protection Engineer

*Fire Protection Branch*

*Division of Risk Assessment*

*Office of Nuclear Reactor Regulation*

Commission Direction

*November 7, 2008*



# Commission SRMs

**SRM-M080717, Issued on July 29, 2009**

**Briefing on Fire Protection Issues, 2:00 P.M., Thursday,  
July 17, 2008**

The Commission directed the staff to provide a Fire Protection Closure Plan. The plan should include following:

- Milestones and deliverables
- Options for accelerating the completion of the various fire protection issues and the applicable budget implications
- Training to appropriate staff on the important historical lessons learned from the fire protection issue resolution activities since 10 CFR 50 Appendix R was established
- A plan to assess the effectiveness of the ongoing improvements to the fire protection regulatory framework, using recent plant data to establish a baseline. Such a baseline could be, for example, the number and general type of all open fire protection deficiencies that were compensated and the manner of compensation used in CY2007

# Commission SRMs

**SRM-COMSECY-08-022, Issued on August 19, 2008**  
**Request for an Extension of Discretion for the Interim Enforcement Policy for Fire Protection Issues on 10 CFR Section 50.48(c), “National Fire Protection Association Standard NFPA 805”**

The Commission approved proposed NRC Enforcement Discretion Policy. This revision will extend the existing enforcement discretion period for a period of six months beyond the date of the safety evaluation approving the second pilot plant license amendment request to transition to NFPA 805. The extension is not automatic, would be granted on a case-by-case basis, and only after a licensee demonstrates substantial progress in its NFPA 805 transition efforts.

# Commission SRMs

**SRM-SECY-08-0093, Issued on September 3, 2008**

## **Resolution of Issues Related to Fire-Induced Circuit Failures**

The Commission has approved the staff's proposed changes to the enforcement discretion guidance regarding fire-induced circuit failure violations for licensees who choose not to utilize the risk-informed approach contained in 10 CFR 50.48(c) – National Fire Protection Association Standard 805. The new enforcement discretion guidance will provide six months for licensees to identify noncompliances, implement compensatory measures and place the noncompliances in the licensee's corrective action program.



Steve Laur, PE

Senior Technical Advisor, Risk-  
Informed Initiatives

*Division of Risk Assessment*

*Office of Nuclear Reactor Regulation*

# NFPA 805 SRP and Regulatory Guide

*November 7, 2008*



# Briefing Objective

- For the Office of Nuclear Reactor Regulation (NRR) Division of Risk Assessment (DRA) to provide ACRS:
  - Status of development of new Standard Review Plan (SRP) Section
  - Status of Regulatory Guide (RG) 1.205 rev. 1
  - Overview of other infrastructure work in progress
- Staff is not seeking ACRS review or endorsement at this time.



# Discussion Topics

- New SRP Section 9.5.1b drafted
  - Specific to NFPA 805 license amendment requests (LARs)
  - Draft shared with stakeholders at public meeting (10/3/08)
- RG 1.205, “Risk-Informed, Performance-Based Fire Protection for Existing Light-Water Nuclear Power Plants” (May 2006)
  - Initial version reviewed and approved by ACRS
  - Revision 1 to incorporate lessons learned from pilot plants
- Plan to bring both SRP 9.5.1b and RG 1.205 revision 1 to ACRS after receiving public comments



# Discussion Topics (cont'd)

- Other infrastructure activities:
  - Acceptance review matrix per LIC-109, “Acceptance Reviews”
  - Regulatory audit template to support NFPA 805 LAR review
  - Safety evaluation template
  - NFPA 805 inspection procedures, inspector qualification plans, and training material
- For ACRS information only; no plans to present these to ACRS

