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UNITED STATES OF AMERICA

NUCLEAR REGULATORY COMMISSION

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ADVISORY COMMITTEE ON REACTOR SAFEGUARDS (ACRS)

536<sup>th</sup> MEETING

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WEDNESDAY,

OCTOBER 4, 2006

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ROCKVILLE, MARYLAND

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The Committee met at the Nuclear  
Regulatory Commission, Two White Flint North,  
Room T2B3, 11545 Rockville Pike, at 8:30 a.m.,  
Graham B. Wallis, Chairman, presiding.

COMMITTEE MEMBERS PRESENT:

- GRAHAM B. WALLIS                      Chairman
- WILLIAM J. SHACK                      Vice Chairman
- SAID ABDEL-KHALIK                    Member
- GEORGE APOSTOLAKIS                Member
- J. SAM ARMIJO                        Member
- MARIO V. BONACA                     Member
- MICHAEL CORRADINI                  Member
- THOMAS S. KRESS                     Member

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1 COMMITTEE MEMBERS PRESENT: (cont'd)

2 OTTO L. MAYNARD Member

3 DANA A. POWERS Member

4 JOHN D. SIEBER Member-At-Large

5

6 ACRS STAFF PRESENT:

7 MICHAEL SNODDERLEY, Designated Federal Official

8 JIM PULSIPHER

9 ROBERT DENNIG

10 STEVE KOENICK

11 JOHN MONNINGER

12 STEVE O'CONNOR

13 BILL RALEIGH

14 TONY CHAU

15 SYED SHAUKAT

16 RICHARD BARRETT

17 KURT COZENS

18 JOHN TAPPERT

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## I-N-D-E-X

	<u>AGENDA ITEM</u>	<u>PAGE</u>
1		
2		
3	Opening Remarks by the ACRS Chairman	4
4	Draft Final Revision 3 to Regulatory	8
5	Guide 1.7 "Control of Combustible	
6	Gas Concentrations in Containment"	
7	Proposed Updates to Regulatory Guides	40
8	and Standard Review Plan (SRP)	
9	Sections in Support of New Reactor	
10	Licensing	
11	Master Integrated Plan for New Reactor	93
12	Licensing Activities	
13		
14		
15		
16		
17		
18		
19		
20		
21		
22		
23		
24		
25		

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

(8:32 a.m.)

CHAIRMAN WALLIS: Good morning. The meeting will now come to order.

This is the first day of the 536th meeting of the Advisory Committee on Reactor Safeguards. During today's meeting, the Committee will consider the following: the Draft Final Revision 3 to Regulatory Guide 1.7 entitled "Control of Combustible Gas Concentrations in Containment," Proposed Updates to Regulatory Guides and Standard Review Plan Sections in Support of New Reactor Licensing, Master Integrated Plan for New Reactor Licensing Activities, Draft Report on the Quality Assessment of Selected NRC Research Projects, Plant License Renewal Subcommittee Report, and the Preparation of ACRS Reports.

This meeting is being conducted in accordance with the provisions of the Federal Advisory Committee Act. Mr. Michael Snodderley 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 sessions.

A transcript of portions of the meeting is

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1 being kept, and it is requested that the speakers use  
2 one of the microphones, identify themselves, and speak  
3 with sufficient clarity and volume so that they can be  
4 readily heard.

5 I have a few items of current interest to  
6 the Committee. Mr. Gary Hammer joined the ACRS staff  
7 on October 2nd. He has a B.S. in Mechanical  
8 Engineering from the University of Tennessee. He has  
9 nine years of experience as a design engineer of  
10 piping systems, including design of safety-related  
11 nuclear powerplant piping. When he came to the NRC in  
12 1982 he was a reviewer of safety issues associated  
13 with mechanical components and systems.

14 He has reviewed numerous plant-specific  
15 licensing actions regarding operation and testing of  
16 pumps and valves, and has been involved in the  
17 identification and resolution of several generic  
18 issues. He has also reviewed several issues involving  
19 seismic and fluid dynamic loads on safety components,  
20 including valves, piping, and vessel internals.

21 He has assisted the regions with plant  
22 inspection activities regarding mechanical design  
23 issues. He has also assisted RES in resolution of  
24 issues regarding severe accident response of reactor  
25 coolant system components and other issues. And more

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1 recently he has worked on development a basis for the  
2 transition brake size selection for risk-informing  
3 10 CFR 50.46, and has reviewed several safety  
4 component issues for the new passive reactor designs.  
5 In other words, he is a typical worker from Tennessee.

6 (Laughter.)

7 He has also participated in ASME Code  
8 Committee activities. Please welcome Gary.

9 (Applause.)

10 I have some other information for the  
11 Committee. Ralph Caruso at lunch today will provide  
12 a slideshow of the sump screen tests.

13 VICE CHAIRMAN SHACK: You promised us a  
14 video.

15 CHAIRMAN WALLIS: Well, it is an animated  
16 presentation conducted in Switzerland during lunchtime  
17 today.

18 (Laughter.)

19 These were tests conducted in Switzerland.  
20 The presentation will be here during lunchtime today.

21 The members are requested to provide --  
22 this is an important point -- their papers and  
23 presentation slides to Mugay by close of business  
24 Thursday. This is for the quadripartite meeting,  
25 because they will be sent for printing on Friday. So

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1 any corrections or anything like that that you need to  
2 make to slides or presentations or papers need to be  
3 made today or tomorrow.

4 The other items that members should pay  
5 attention to is that we all have to propose a course  
6 of action with regard to our review of the regulatory  
7 guides and SRP sections. And some of these have been  
8 assigned to you individually, and we're going to  
9 discuss that this evening, so please be ready to  
10 discuss the guides that were assigned to you.

11 MEMBER POWERS: I got the assignment. I  
12 just don't have the guides.

13 MEMBER KRESS: Yes, I have the same  
14 problem.

15 CHAIRMAN WALLIS: Well, there's an  
16 administrative matter which will have to be taken care  
17 of.

18 MEMBER ARMIJO: They've got now. I think  
19 they will --

20 CHAIRMAN WALLIS: So we'll attempt to take  
21 care of that, Sam, somehow appropriately?

22 MEMBER ARMIJO: Yes.

23 CHAIRMAN WALLIS: Please note in the items  
24 of interest which have been handed out that the  
25 Commissioners have made several speeches. I note that

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1 on the title page here Dale Klein spoke to the Women  
2 in Nuclear Washington, whatever that is.

3 So let's move on to the meeting here. The  
4 first item of business is the Draft Final Revision 3  
5 to Reg. Guide 1.7, "Control of Combustible Gas  
6 Concentrations in Containment." And my esteemed  
7 colleague and co-chair, Bill Shack, is going to take  
8 care of this for us.

9 VICE CHAIRMAN SHACK: Okay. This is --  
10 the purpose of the meeting is to review and comment on  
11 the proposed Revision 3 to Reg. Guide 1.7, "Control of  
12 Combustible Gas Concentrations in Containment  
13 Following a Loss of Coolant Accident." And this  
14 really follows up on the -- essentially the risk-  
15 informed revision of 50.44.

16 The currently active version of the guide  
17 is dated November 1978, and so it really reflects  
18 essentially the old 50.44. There was a revised  
19 version of the reg. guide that was included in the  
20 rule package when we reviewed 50.44. And although we  
21 reviewed and essentially approved the changes in the  
22 risk-informed 50.44, we didn't really comment on the  
23 reg. guide at that time. So in a way this is kind of  
24 a catch-up for us on the reg. guide.

25 This Revision 3, you know, is a complete

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1 rewrite of the old 1978 version of the guide, again,  
2 because we've gone from something that was now a  
3 design basis consideration to essentially a severe  
4 accident consideration is obviously a substantial  
5 revision. But that hasn't been finalized, and so the  
6 version you have, the markup, you know, doesn't look  
7 like there's very much change. But if you really  
8 compare it against the 1978 version, then there are  
9 substantial revisions.

10 And we're just going to discuss the review  
11 guide now, and Mr. Pulsipher will be leading us  
12 through that.

13 MR. PULSIPHER: Good morning, gentlemen.  
14 I'm Jim Pulsipher, and this is Brian Lee, and we're --  
15 we work in the Containment and Ventilation Branch in  
16 NRR. And my Branch Chief, Robert Dennig, is over at  
17 the side table there. And we're here this morning at  
18 your invitation to talk about the revision of  
19 Regulatory Guide 1.7, and also Standard Review Plan  
20 6.2.5, which is the same subject, combustible gas  
21 control and the containment.

22 The objectives we have today is to give  
23 you a quick recap of the 2003 revision of 10 CFR  
24 50.44, to discuss the final -- draft final revisions  
25 of these two guidance documents, and to request

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1 approval of the revisions.

2 Some background -- the staff met with the  
3 ACRS on April 10, 2003, to discuss the risk-informed  
4 revision to 50.44, and the final regulatory guide,  
5 SRP, and technical specifications were in the review  
6 package. As you said, there was not much discussion  
7 of the reg. guide during that meeting.

8 The ACRS issued a letter on April 23rd of  
9 that year recommending approval of the rule. It  
10 didn't specifically mention the reg. guide or the SRP.

11 SECY paper 03-127 transmitted the final  
12 rule package to the Commission, which the Commission  
13 approved, and the rule was published and became  
14 effective on October 16, 2003.

15 A summary of the changes or the provisions  
16 in 50.44, it's divided into three main sections -- one  
17 covering currently operating plants; a second one  
18 covering future plants, requirements for future plants  
19 that are substantially like today's plants, meaning  
20 water-cooled with typically zirconium cladding; and  
21 then a third section for future plants that are not  
22 like current plants. For example, pebble bed reactor  
23 and such things where there's not even -- we're not  
24 even certain there will be a hydrogen or a combustible  
25 gas problem with such plants. So that's covered in a

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1 separate section.

2           The requirements for current plants and  
3 future plants that are similar to current plants are,  
4 not surprisingly, much alike. And we'll go through a  
5 quick summary of the changes that were made from the  
6 old rule. The new rule eliminated the design basis  
7 accident as a source of significant combustible gas  
8 and concentrates on beyond design basis accidents,  
9 which, of course, produce much more hydrogen gas in a  
10 much -- much more quickly than the old design basis  
11 accident.

12           We eliminated the requirement for  
13 recombiners or purge or repressurization systems to  
14 control combustible gas, insofar as they operated much  
15 too slowly to be able to handle the rapid production  
16 of hydrogen during a beyond design basis accident.

17           We retained requirements for oxygen and  
18 hydrogen monitors, but they don't have to be safety  
19 grade at this -- anymore. And we structured the rule  
20 applicability based on containment type rather than on  
21 the fuel type or the cladding type. We don't  
22 specifically mention zirconium in the rule anymore,  
23 for example.

24           MEMBER POWERS: You seem to equate  
25 combustible gas and hydrogen.

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1 MR. PULSIPHER: Well, not completely of  
2 course. There are other forms of combustible gas that  
3 can be produced during beyond design basis accidents  
4 certainly. I mean, I mentioned hydrogen in this case  
5 because the rules talk about, you know, a reaction of  
6 water with the fuel cladding, typically zirconium, of  
7 in the case of current plants 75 percent, and future  
8 plants 100 percent reaction. So that's a major  
9 source, clearly, of the combustible gas. Oh, yes, we  
10 primarily talk about hydrogen.

11 CHAIRMAN WALLIS: Well, the other --

12 MEMBER POWERS: Well, what I'm struggling  
13 with is the -- even in a modern PWR, you've got boron,  
14 carbide control rods that react from carbon monoxide.  
15 Certainly, if you go on and say you're going to  
16 actually look at advanced reactors, you're talking  
17 about the options for carbon monoxide, etcetera,  
18 etcetera.

19 MR. PULSIPHER: Certainly.

20 MEMBER POWERS: So, I mean, does the reg.  
21 guide accommodate something other than hydrogen? The  
22 problem with hydrogen -- problem -- the advantage of  
23 hydrogen, it has an extraordinarily high diffusivity,  
24 so it's very difficult to maintain a combustible  
25 concentration locally. Not the case for other

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1 combustible gases.

2 MR. PULSIPHER: Yes, sir.

3 CHAIRMAN WALLIS: So what's the answer?

4 MR. PULSIPHER: I don't have a good answer  
5 for that at this particular point, since that is part  
6 of the rule that was put in place three years ago. If  
7 Mr. Snodderley is in the room, he is actually -- he  
8 was our technical expert at this --

9 MEMBER POWERS: Ah ha. Now we understand  
10 more about this.

11 CHAIRMAN WALLIS: Mr. Snodderley has taken  
12 his cue and left.

13 (Laughter.)

14 MEMBER POWERS: As well he should.

15 MR. PULSIPHER: Well, as I remember the  
16 discussion that occurred at the previous Committee  
17 meeting on this, I believe that we -- we think that  
18 specifying a certain amount of fuel cladding coolant  
19 reaction ultimately encompasses or envelopes the kind  
20 of expected production of combustible gas that occurs  
21 during beyond design basis accidents.

22 VICE CHAIRMAN SHACK: But there are  
23 requirements for mixing systems, too, which I think --

24 MR. PULSIPHER: Oh, certainly.

25 VICE CHAIRMAN SHACK: -- goes more

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1 directly to Dana's concern that things can localize.

2 MR. PULSIPHER: One of the major tenants  
3 of the new rule is that the atmosphere in the  
4 containment needs to be well mixed during an accident,  
5 regardless of the design.

6 VICE CHAIRMAN SHACK: Right. I think that  
7 was sort of addressing his issue.

8 MR. PULSIPHER: Right.

9 MEMBER POWERS: When I look at things like  
10 the AP 1000 or the ACR 700, and probably a number of  
11 other reactors, I see cooling up in the dome space.  
12 And when I think about hydrogen and steam mixtures  
13 going up into the dome space where the steam component  
14 of it can condense out, I think perhaps a  
15 stratification of hydrogen and don't see typically  
16 active systems to assure that there is mixing.

17 I encounter rigorous arguments of esoteric  
18 nature about the natural tendencies for mixing that I  
19 don't pretend to understand, and I'm sure that they  
20 misrepresent the momentum equation, since no one seems  
21 to get it quite right.

22 Is your role demanding that I'm not going  
23 to have to look at that anymore?

24 MR. PULSIPHER: Well, the rule -- the rule  
25 requires that the atmosphere be well mixed. It

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1 doesn't -- the rule itself doesn't go into much of a  
2 discussion about exactly what this means.

3 MEMBER POWERS: So what you're saying is  
4 somebody could come along and appeal to natural  
5 convective processes, naturally occurring, to achieve  
6 this mixing. It doesn't have to be an active system.

7 MR. PULSIPHER: I think that the -- I  
8 mean, that would be part of what they would probably  
9 propose. We do consider the spray systems and the --  
10 you know, some design's fan cooler systems to be  
11 mixing systems, although that's not their primary  
12 function. Their function is to cool the containment.

13 MEMBER POWERS: Yes. And I would think  
14 that they would be marvelous at assuring that we would  
15 get a hydrogen stratification. If a licensee appeals  
16 to the gods of Navier and Stokes to achieve mixing,  
17 does the agency have the capability to validate and  
18 confirm those arguments?

19 MR. PULSIPHER: I believe we do, yes.

20 MEMBER POWERS: How would they do that?

21 MR. PULSIPHER: Well, I'm not the one who  
22 would be figuring that out, unfortunately. We have --

23 MEMBER POWERS: Who would do that for us?

24 MR. PULSIPHER: We have some technical  
25 experts in NRR who discuss such -- have discussed such

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1 terms as diffusivity and some other things that I  
2 don't -- also don't really understand well, who can --  
3 we can perform those.

4 MEMBER POWERS: Yes. It would certainly  
5 be interesting for us to understand better this,  
6 because I, quite frankly, don't think they have the  
7 capability. I think they would rely on the contain  
8 code that doesn't solve the momentum equation at all.  
9 They might appeal to some of the CFD capabilities,  
10 which we've seen which are impressive, but I don't  
11 know that they've addressed the peculiar issues of  
12 multi-component diffusion of hydrogen.

13 MEMBER CORRADINI: Can I ask Dana's  
14 question? I'm not sure where -- I know what he's  
15 asking, but I'd ask it slightly differently, which is,  
16 is the limit you said you've encapsulated by -- in  
17 future license -- future plants as 100 percent,  
18 another way to ask this is, has anybody done a  
19 calculation, say, if you did that with a certain set  
20 of conditions, that you actually wouldn't approach  
21 some sort of boundary where you'd actually get  
22 stratification?

23 Because I think what his point is  
24 physically is you could get a high enough hydrogen  
25 concentration that you'd essentially distill out the

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1 steam. And this just sits up there as a cap. And I  
2 don't -- I think he is correct that you're not going  
3 to get natural forces to stir it. Just the opposite.  
4 The old HDR experiment showed just the opposite.  
5 You'd probably pocket it, and it would just stay there  
6 nice and -- nice and pocketed.

7 So I think --

8 CHAIRMAN WALLIS: And stratification tends  
9 to kill turbulence anyway, so that some of your  
10 turbulence models don't work, even if you put in your  
11 momentum equation.

12 MEMBER POWERS: Oh, my God, don't tell me  
13 that, Graham.

14 MEMBER CORRADINI: But I guess the way I  
15 would ask -- the way I would phrase the question I  
16 think he is asking is: does the cap at 100 percent  
17 get you in a regime where you actually -- one of the  
18 physical forces you're expecting to occur essentially  
19 has shut itself down? And has somebody looked at it?  
20 That's what I heard him ask potentially.

21 MEMBER POWERS: A fair assessment, Mike.

22 CHAIRMAN WALLIS: Interesting. We're sort  
23 of down the road here. We should have asked these  
24 questions in 2003 maybe when the --

25 MEMBER POWERS: I'm slow on the uptake,

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1 Graham.

2 CHAIRMAN WALLIS: Well, maybe we did. I'm  
3 trying to remember what we asked in 2003.

4 MEMBER POWERS: Well, you know, you can  
5 argue that in 2003 in the rule you can say you have to  
6 have mixed. Basically, the reg. guide still says you  
7 just have to have mixed, and that's about as much  
8 guidance as you get.

9 MEMBER KRESS: Well, as best I remember,  
10 we didn't worry about the inerted containments,  
11 because there's no oxygen. And for the other types of  
12 containments, they're requiring to have igniters. And  
13 there was some discussion that these igniters would  
14 intercept the hydrogen, or what other combustible gas  
15 came down, at the correct points to both dissipate it  
16 and get rid of it and promote the natural circulation.

17 Now, that's my recollection of how we  
18 dealt with it back then. And I'm not sure that we  
19 hadn't anything other than just judgment on that. I  
20 don't think we ever saw any calculations at all.

21 MEMBER ARMIJO: Well, aren't there  
22 igniters even on inerted containments?

23 MR. PULSIPHER: No, sir.

24 MEMBER POWERS: How would you have an  
25 igniter in an inerted containment?

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1 MEMBER ARMIJO: Because sometimes the  
2 inertion -- inerted containments don't work.

3 MEMBER POWERS: Yes, but the igniter isn't  
4 going to work either.

5 MEMBER ARMIJO: Well, if you get oxygen --

6 CHAIRMAN WALLIS: Yes, you make hydrogen  
7 and oxygen.

8 MEMBER KRESS: But I think Dana has a  
9 really good point, because we've never seen any  
10 definitive analysis that shows you don't concentrate  
11 hydrogen somewhere in some of these -- particularly in  
12 some of these new plants like the AP 1000.

13 I think I agree with him. I think the  
14 sprays would tend not to -- would tend to exacerbate  
15 the --

16 CHAIRMAN WALLIS: Are we suggesting the  
17 rule should be revisited? Because this reg. guide has  
18 to go along with the rule, whatever it is, as it is.

19 MEMBER CORRADINI: I guess, if I could  
20 just suggest -- I guess what Dana's -- the way I read  
21 Dana's question to you guys is that if you're going to  
22 think through well mixed, you're essentially going to  
23 have to have an analytical path to decide whether it's  
24 well mixed or not, given the conditions.

25 And my own personal prejudice is not to

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1 rely on a computer code to tell you that; rather, to  
2 rely on some sort of physical limits. And that's why  
3 I was asking, with 100 percent oxidation, are you with  
4 certain designs at a physical limit that you're still  
5 potentially well mixed because of the laws of it  
6 rather than the calculation?

7 But I guess what I'm saying is I -- I'm  
8 too new to all of this. Assuming the reg. guide --  
9 assuming the rule has changed and this is your reg.  
10 guide to help decide it, you've got to have a plan of  
11 action when some new geometry and new levels pop up  
12 and you're going to have to analyze. That's all I'm  
13 -- that's what my concern is.

14 MR. DENNIG: This is Bob Dennig. What we  
15 have is the significant amount of work that was done  
16 at the time the rule was written. There was a task  
17 force or task group. So science-wise that's what we  
18 have.

19 Now, in terms of the checking that gets  
20 done, if you will, vis-a-vis the reg. guide, likely to  
21 go into more detail would mean diving back into that  
22 stuff at this time and pulling out some of that  
23 detail. And I don't know personally how definitive  
24 that is, but we can certainly take your comment.

25 MEMBER POWERS: It seems to me that a reg.

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1 guide that simply doesn't provide much guidance, it  
2 didn't provide guidance in the areas that are  
3 contentious and difficult, yet there are areas that  
4 come up routinely. And as we evolve cores and what  
5 not, you're going to encounter these more often, and  
6 we've got to get both licensees and the staff help to  
7 know what to -- what snake exists in this woodpile.

8 MR. DENNIG: Yes. I think we should just  
9 take your point and move on, if we could.

10 MEMBER POWERS: That would be great.

11 MR. PULSIPHER: All right. To go back to  
12 a summary of the changes that were made in 50.44 for  
13 future reactor licensees, we did consolidate into the  
14 -- into 50.44 the various other parts of the  
15 regulations that had things to say about combustible  
16 gas controls, such as 50.34, and there was something  
17 in 50.46, and the last part of this slide talks about  
18 the conforming changes that were made to those other  
19 regulations to, in essence, remove those requirements  
20 from there and to put them into 50.44, so that all of  
21 the requirements would be in one place.

22 CHAIRMAN WALLIS: That's a good point.

23 MR. PULSIPHER: Regulatory Guide 1.7,  
24 Revision 3, as has been pointed out, is very different  
25 from Revision 2. However, the version that we're

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1 looking at here today is virtually identical to the  
2 version that was included in the SECY paper back in  
3 2003. It provides detailed guidance on implementing  
4 the rule, although not a whole lot in terms of mixed  
5 atmosphere.

6 A few of the provisions in the reg. guide  
7 actually are taken from the old 50.44 rule -- for  
8 example, the guidelines on calculating containment  
9 structural integrity, which were from the old rule.  
10 The regulatory guide has five regulatory positions --  
11 combustible gas control systems, which is -- generally  
12 talks about hydrogen igniters, combustible gas  
13 igniters; discussion of oxygen and hydrogen monitors;  
14 atmosphere mixing systems; hydrogen gas production;  
15 and containment structural integrity.

16 There was one non-editorial change that we  
17 made to the reg. guide compared to what was in the  
18 SECY paper. It was a clarifying footnote for  
19 regulatory position 2. We added it in response to a  
20 comment that came to us after the rule was revised  
21 from the Nuclear Utility Group on equipment  
22 qualification.

23 Their concern was that, although the rule  
24 does not require environmental qualification as per  
25 50.49 for oxygen monitors, it appeared that the

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1 regulatory guide was saying that they had to be  
2 qualified in accordance with 50.49.

3 CHAIRMAN WALLIS: Could you go back over  
4 something for me?

5 MR. PULSIPHER: Yes, sir. CHAIRMAN WALLIS:

6 CHAIRMAN WALLIS: As I remember it, this  
7 was at the time said to be one of the successes of  
8 risk-informed regulation.

9 MR. PULSIPHER: Yes, sir.

10 CHAIRMAN WALLIS: Now, you haven't said  
11 anything about the risk-informed side of it. But  
12 maybe that has something to do with the way in which  
13 decisions were made to consider or not consider some  
14 of the physics? Or ways in which the probabilities of  
15 various kinds of physics were evaluated or something?  
16 Or how did the risk-informed part come into this?

17 MR. PULSIPHER: Well, risk-informed  
18 insights were used as really the basis for the whole  
19 rule change, which was, I mean, they old 50.44 --

20 CHAIRMAN WALLIS: Was it that certain  
21 kinds of situations were highly unlikely, or that led  
22 to the rule change?

23 MR. PULSIPHER: The thought was that the  
24 old design basis hydrogen control accident was found  
25 not to be very risk-significant. Hydrogen was

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1 produced on a slow pace over a period of days by such  
2 things as corrosion of zinc, paint, and aluminum,  
3 metal in the containment, and radiolysis, and hydrogen  
4 recombiners were turned on sometimes a day or two into  
5 the accident and they slowly brought the hydrogen  
6 concentration back down.

7 Risk calculations showed that that  
8 sequence didn't contribute much to the risk. That, in  
9 fact, beyond design basis accident sequences ended up,  
10 because of their consequences and the much larger  
11 amounts of hydrogen that could be produced, to be more  
12 risk-significant.

13 So the -- it was on the basis of these  
14 risk calculations that the rule was changed to  
15 eliminate, in essence, the old design basis hydrogen  
16 control accident, and address these beyond design  
17 basis accidents where there can be large amounts of  
18 reaction between zirconium and water, producing large  
19 amounts of hydrogen.

20 CHAIRMAN WALLIS: And then, what was the  
21 argument, then, about the lack of need for recombiners  
22 in that case?

23 MR. PULSIPHER: The combustible gas is  
24 produced so quickly in those --

25 CHAIRMAN WALLIS: It wouldn't have any

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1 effect?

2 MR. PULSIPHER: That's right. They  
3 wouldn't have a significant effect on controlling the  
4 concentrations.

5 CHAIRMAN WALLIS: No matter where the gas  
6 was.

7 MR. PULSIPHER: That's true. Yes, sir.

8 MEMBER POWERS: What's curious to me is  
9 that I see lots of activity, both in Canada and in  
10 Europe, where people appeal to passive catalytic  
11 hydrogen recombiners in containment, and seem very  
12 happy with them to control hydrogen accumulation in  
13 any variety of accidents, be they design basis or  
14 beyond design basis.

15 I don't see much interest in that in the  
16 United States, and I wondered why that was.

17 MR. PULSIPHER: In the Federal Register  
18 notice for the publication of the 50.44 revision,  
19 there are several paragraphs addressing that very  
20 point. I think to summarize them, although we  
21 recognize the European approach with large numbers of  
22 passive hydrogen recombiners to control these events,  
23 we determined that our -- that the approach that we  
24 were using and had been using for some time in terms  
25 of hydrogen igniters and the ice condensers and the

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1 MARK III BWRs, and so on, and inerting of the MARK I  
2 and MARK II containment BWRs, was sufficient, and that  
3 the large dry PWR containments were robust enough to  
4 withstand the consequences of combustion during a  
5 beyond design basis accident.

6 CHAIRMAN WALLIS: I think we went through  
7 these arguments in 2003. So you're sort of recapping  
8 them.

9 MR. PULSIPHER: Yes. Yes, sir.

10 MEMBER KRESS: The large dries don't have  
11 to have anything.

12 MR. PULSIPHER: Other than a mixed  
13 atmosphere and hydrogen monitors, that's correct.

14 MEMBER KRESS: I guess that's where we  
15 need to worry about stratification.

16 MR. PULSIPHER: They just don't have a  
17 requirement to have a mixed atmosphere during an  
18 accident.

19 MEMBER KRESS: They can stand a full  
20 combustion, but I'm not sure they can stand a  
21 detonation. That's where we'd have to worry about  
22 stratification.

23 MEMBER CORRADINI: So just for my own  
24 edification, where could I go -- could you point me,  
25 not now, but after maybe we're done, pointing me to

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1 the -- some at least talking points that the staff is  
2 using to think through criteria for well mixed versus  
3 not well mixed?

4 MR. PULSIPHER: We'll have to get back to  
5 you on that, yes.

6 MEMBER KRESS: This I remember was  
7 temperature gradients and temperature differences  
8 driving natural convection.

9 MEMBER CORRADINI: But I think just so you  
10 understand why I'm siding with the young man over  
11 there is that it may not be temperature-driven. It  
12 may be essentially the -- what I'll call the mixture  
13 molecular weight. If I have this room, and I throw up  
14 a mixture of steam and air and hydrogen, and I allow  
15 condensation up here, I could get stratification  
16 because the mixture molecular weight up here at the  
17 top of the room is different than the mixture  
18 molecular weight down here.

19 And it has nothing to do with -- except  
20 for the fact that I'm cooling it, it has nothing to do  
21 with the temperature gradient within the room. It  
22 could be just the compositional differences. That's  
23 what I think. That's what I hear what Dana is  
24 thinking.

25 MEMBER KRESS: Unless the temperature

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1 gradients are strong enough to override that.

2 MEMBER CORRADINI: Right. Right.

3 CHAIRMAN WALLIS: The temperature  
4 gradients are proposed in that.

5 MEMBER CORRADINI: Right.

6 CHAIRMAN WALLIS: If you have a big steam  
7 leak in a lab, which we have had, what tends to happen  
8 is that there's a level of steam from here, say to the  
9 roof, and down below it's all clear. There's a very  
10 clear stratification if you have a big steam leak in  
11 a lab.

12 MEMBER CORRADINI: I'd just be curious to  
13 see what criteria you guys are thinking about relative  
14 to that, so I understand your thinking process.

15 MR. PULSIPHER: We will certainly take  
16 that comment and try to address it.

17 CHAIRMAN WALLIS: But, essentially, this  
18 guy is just responding to decisions already --

19 MEMBER CORRADINI: Right.

20 CHAIRMAN WALLIS: -- made in the rule.

21 MEMBER CORRADINI: Yes. So this is just  
22 my own edification.

23 MR. DENNIG: If I could just read from the  
24 statement of consideration for the rule. "Mixed  
25 atmosphere -- the requirement for capability ensuring

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1 a mixed atmosphere in all containments is consistent  
2 with the current requirement and does not require  
3 further analysis or modification by current licensees.

4 "The intent of this requirement is to  
5 maintain those plant design features -- for example,  
6 availability of active mixing systems or open  
7 components that promote atmospheric mixing. The  
8 requirement may be met with active or passive systems.  
9 Active systems may include a fan, a fan cooler, or a  
10 containment spray.

11 "Passive capability may be demonstrated by  
12 evaluating the containment for susceptibility to local  
13 hydrogen concentration." That sounds like the  
14 important sentence. "Passive capability may be  
15 demonstrated." These evaluations have been conducted  
16 for currently licensed reactors as part of the IPE  
17 program.

18 So, in theory, the technology that was  
19 used in the IPE program would translate over into the  
20 passive crediting for keeping away from a hydrogen  
21 concentration. And I am sure that somewhere there is  
22 a guidance document for IPE methodology. But what we  
23 will -- what we will do in response to the comments is  
24 go back to that and see if there's a finer level of  
25 detail that should be entertained for guidance

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1 purposes.

2 MEMBER CORRADINI: My only thought is that  
3 eventually we'll all go away, and somebody else is  
4 going to have to understand this. And somewhere in  
5 there is some basic physical laws that one ought to  
6 look at.

7 CHAIRMAN WALLIS: You want to look at as  
8 the way in which containment models work out.

9 MEMBER CORRADINI: Right.

10 CHAIRMAN WALLIS: They are capable of  
11 predicting.

12 MEMBER ABDEL-KHALIK: And perhaps also  
13 what the meaning of the word "well mixed" is. Is it  
14 a one percent gradient or a 10 percent variation?

15 MR. PULSIPHER: The definition of that  
16 that we have in the rule is -- or in the reg. guide is  
17 that no -- no concentration or local concentration of  
18 combustible gas is greater than 10 percent, presumably  
19 to prevent a detonable mixture.

20 MEMBER CORRADINI: Yes.

21 MR. PULSIPHER: That's the way it's  
22 defined.

23 MEMBER CORRADINI: Okay.

24 CHAIRMAN WALLIS: Okay. And your next one  
25 is simply what the review plan -- which sort of goes

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1 along with the guide.

2 MR. PULSIPHER: Yes. The standard review  
3 plan revision -- in this case, we've written it to  
4 address -- not to address current plants, since  
5 current plants don't have to conform to the new SRP  
6 revision. And since the future -- I'll call them --  
7 non-LW -- non-light water reactor plants are  
8 potentially so different from current plants that we  
9 didn't feel it was worthwhile trying to put that in a  
10 standard review plan.

11 The standard review plan addresses only  
12 future plants that are like current plants, and for  
13 the other types of plants we are -- they are referring  
14 to the guidance in the regulatory guide and in --

15 CHAIRMAN WALLIS: This is perhaps where  
16 the problem is, because you may have a non-light water  
17 reactor plant which produces no hydrogen at all. It  
18 produces something else.

19 MR. PULSIPHER: Indeed. And not really  
20 knowing at the time that the rule was written what  
21 kind of --

22 CHAIRMAN WALLIS: The guidance in reg.  
23 guide 1.7, then, doesn't help them at all, because it  
24 talks all about hydrogen.

25 MR. PULSIPHER: That is true. The --

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1 CHAIRMAN WALLIS: What's the use of  
2 referring them to that guidance?

3 MR. PULSIPHER: Well, we refer them to the  
4 reg. guide and the rule itself. The rule has a very  
5 general statement that for those kinds of plants they  
6 first have to determine if they even have a potential  
7 combustible gas problem or vulnerability.

8 And then, if they do, that they have to  
9 take necessary steps to -- I think the words are to  
10 protect public health and safety. I mean, it's very  
11 general. We didn't want to start putting in  
12 percentages of concentrations or any of that sort of  
13 thing.

14 MEMBER POWERS: I think I have some  
15 understanding of the concentrations of hydrogen  
16 necessary to sustain both deflagration and detonation  
17 at room temperature. I have some understanding of how  
18 those deflagration limits vary with temperature.

19 I don't have any feeling about how the  
20 detonation limits vary with temperature. And it seems  
21 to me that containments under accident conditions  
22 might not be at room temperature.

23 MR. PULSIPHER: Certainly.

24 MEMBER POWERS: I guess what I'm asking  
25 is, when we set those temperatures -- those

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1 concentrations, whether we set them quantitatively or  
2 think about them qualitatively, do we recognize that  
3 the limits probably have some temperature dependence?

4 MR. DENNIG: Yes. Once again, Dr. Powers,  
5 I think we're going to have to -- in order to answer  
6 your question precisely, we would have to go back into  
7 the supporting basis for that turns into  
8 generalizations in a rule to understand what was or  
9 was not considered at the time and got left by the  
10 side and was not considered something that needed to  
11 be cited in and of itself in the rule.

12 It may very well be that the kinds of  
13 things that you're raising were considered by the  
14 people that did the research, and somehow they roll up  
15 into some conclusion, because they're covered or  
16 they're bounded. But in order to see if they actually  
17 were on the checklist, we'd have to go back and look  
18 through what they -- what they catalogued.

19 MEMBER POWERS: Perfectly well understand  
20 that.

21 CHAIRMAN WALLIS: Well, we have some more  
22 time if you wanted to ask more questions.

23 MEMBER KRESS: Well, I think Dana's  
24 questions about the detonation limit as a function of  
25 temperature is a good one. As best I remember, that

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1 was one of the unanswered questions back when we were  
2 doing containment reviews. And as best I remember,  
3 there was some speculation that it -- that  
4 concentration with detonation varied as a square root  
5 of the temperature. And I don't know where that came  
6 from.

7 MEMBER CORRADINI: Those are from -- I  
8 thought those are from the experiments done in -- up  
9 in --

10 MEMBER KRESS: Up in --

11 MEMBER CORRADINI: I was going to say at  
12 -- I was going to think of Lee at McGill, I thought.

13 MEMBER KRESS: Oh, yes.

14 MEMBER CORRADINI: Had done some small-  
15 scale detonation experiments. I'm pointing to you,  
16 because I remember it was the Sandia group that  
17 actually found that work, and then proceeded to expand  
18 upon it, if I remember correctly.

19 MEMBER POWERS: Since I wasn't involved,  
20 I don't know, Mike. I know that the deflagration  
21 limits vary approximately linearly with temperature.

22 MEMBER CORRADINI: Okay.

23 MEMBER POWERS: But, so, I mean, the truth  
24 of the matter is you go from a chain to a free radical  
25 kind of mechanism. So I don't know. And a square

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1 root of two would say that it's basically a  
2 diffusivity --

3 MEMBER KRESS: Yes, it's a diffusivity  
4 limit.

5 MEMBER POWERS: -- process, which is not  
6 beyond the explanation. I simply don't know.

7 And, you know, the only thing I'm raising  
8 a lot of detailed questions here -- but in designing  
9 reg. guides, you know, how much guidance do you  
10 provide? And where do you send people to look? And  
11 things like that.

12 And I see lots and lots of stuff coming  
13 out on especially the advanced reactors, which were,  
14 quite frankly, very cavalier in these combustion  
15 areas, and I presume a lot of confidence that I simply  
16 don't have.

17 MEMBER KRESS: Yes, I thought the  
18 combustion or detonation limit at room temperature was  
19 deemed to be like 12 percent, and then they dropped it  
20 down to 10 because of uncertainties of --

21 MEMBER POWERS: I have seen detonations,  
22 experimentally determined detonations, as low as 10.5  
23 percent. They are very, very dependent upon the level  
24 of turbulence in the geometry that exists. And I  
25 think that's -- I mean, lots and lots of these

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1 detonation limits and things like that were set up by  
2 the United -- the Bureau of Mines back in the '40s,  
3 '30s and '40s. And the accomplishment that has  
4 occurred since then has been really to recognize a  
5 couple of things -- the importance of a third  
6 component in a gas base, and the geometry dependent.

7           If you look at the old Bureau of Mines  
8 stuff, they'd say 18 percent, but they did all the  
9 work in a tube that was one inch in diameter. As soon  
10 as you go up to four inches in diameter, you drop down  
11 to the 11-1/2 or 12 percent. You can up to a foot in  
12 diameter and put some obstacles in, you get these  
13 deflagration to detonation transitions, depending on  
14 the level of turbulence that you have, that can drop  
15 your -- your concentrations down.

16           Now, having said all that, so what?  
17 Because the configurations that are concerned never  
18 have all these obstacles and things like that, except  
19 possibly in the ice condenser beds. But the dome  
20 regions -- there are not a whole lot of obstacles.  
21 There are closed rooms and things that you had in the  
22 HDR experiments. You don't have that sort of stuff.

23           On the other hand, what you do find is the  
24 threat is higher, because, you know, instead of having  
25 nice spheres where most of the experiments were done,

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1 you have these god awful geometries where you get  
2 reflecting and reinforcing waves, things like that.  
3 So it gets all very complicated.

4 My concern is that before we provide reg.  
5 guides that we explore -- we need to explore these  
6 further as we go into more exotic kinds and less  
7 familiar designs. I think we're in very good shape  
8 with the existing plants with the igniter systems that  
9 we have imposed on the weaker plants, and big, strong  
10 horse containments in the large dries, things like  
11 that.

12 But we've got other kinds of plants coming  
13 along, and we need to provide the guidance, both to  
14 the licensee and staff, and we're going to explore  
15 this in fairly close detail, because there's a lot of  
16 stuff that, quite frankly, gets into the Navier or  
17 Stokes equations and gets Professors Wallis and  
18 Corradini really excited.

19 (Laughter.)

20 CHAIRMAN WALLIS: Which way are we going  
21 here? Are we going to say that this reg. guide, as it  
22 is now, is appropriate for now, but in the future that  
23 we foresee changes that are necessary in it, or are we  
24 going to say it's not adequate now and needs some  
25 changes now? Which sort of conclusion are we coming

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1 down on?

2 MEMBER CORRADINI: Personally, I think  
3 it's the former for me, the first one that you were  
4 saying, that there might be additional things.

5 CHAIRMAN WALLIS: We may write a letter  
6 that says it's great now, but these are things to  
7 watch out for.

8 MEMBER CORRADINI: I think you really do  
9 want to give the staff and the licensee more guidance  
10 on certain things, so that there's some rational  
11 methods being done to determine it. And I think the  
12 area of mixing that Dana had brought up is important.

13 CHAIRMAN WALLIS: Do any other members of  
14 the Committee --

15 MEMBER KRESS: Well, I would add the  
16 detonation limit to that importance as a function of  
17 temperature.

18 CHAIRMAN WALLIS: Got it. Bill, it's  
19 your --

20 VICE CHAIRMAN SHACK: Yes. If there are  
21 no further questions, I think, you know, we will have  
22 to come to some decision on these things, although,  
23 again, I would have thought that some of these would  
24 have come up when we considered the rule in the first  
25 place, but --

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1 MEMBER KRESS: Well, they probably did.

2 CHAIRMAN WALLIS: They probably did. I  
3 think they did, yes.

4 VICE CHAIRMAN SHACK: You know, but I  
5 can't reconstruct the history in my mind.

6 CHAIRMAN WALLIS: So are we ready?

7 VICE CHAIRMAN SHACK: I think we're ready  
8 on -- at least on the reg. guide. We'll have to come  
9 to some decision as to how we want to proceed.

10 CHAIRMAN WALLIS: Okay. So we have  
11 another item which is coming up at 9:30. We will then  
12 take -- we'll take a break until 9:30.

13 Thank you very much for your presentation,  
14 and for response to questions.

15 MR. PULSIPHER: Thank you.

16 CHAIRMAN WALLIS: We have a little time to  
17 research these assignments that I mentioned earlier  
18 before we start. Be back here at 9:30.

19 (Whereupon, the proceedings in the  
20 foregoing matter went off the record at  
21 9:19 a.m. and went back on the record at  
22 9:34 a.m.)

23 CHAIRMAN WALLIS: Please come back into  
24 session.

25 We'll move on to the next item on the

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1 agenda, Proposed Updates to Reg. Guides and Standard  
2 Review Plan Sections in Support of New Reactor  
3 Licensing. The cognizant member is Otto Maynard.

4 We've already had a break. I'm wondering  
5 if -- you know, there's a break scheduled during this.  
6 But if things go well enough, we might be able to get  
7 through this without a break. Just see how things go.

8 Anyway, I will now pass over the  
9 proceedings to Otto, and --

10 MEMBER MAYNARD: Thank you very much, Mr.  
11 Chairman. And I agree that with the break we've just  
12 had, we may not need one during this. But we'll see  
13 that -- we'll see as we proceed here.

14 This next agenda item is directly related  
15 to our individual assignments we've been given for  
16 reviewing certain reg. guides. And for the new  
17 licensing processing, the staff has had to review and  
18 revise as necessary all of the applicable reg. guides  
19 and standard review plans.

20 In this meeting today, the staff is going  
21 to be discussing their process for that, and, more  
22 specifically, their rationale and process they've gone  
23 through for their recommendation as to which ones of  
24 these need to be reviewed by the ACRS and which ones  
25 don't.

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1                   This is an informational meeting. There  
2 is no decision expected out of this particular  
3 meeting. But, again, it is directly applicable to our  
4 assignments on reg. guides we've been given to review,  
5 and we will be deciding as the ACRS as to which ones  
6 that we will ultimately ask to be brought before us  
7 and which ones not.

8                   So with that, I'd like to turn it over to  
9 Mr. Steve O'Connor and Steve Koenick to present the  
10 staff's presentation.

11                   MR. KOENICK: Thank you, Otto. My name is  
12 Steve Koenick, and I'm from the Office of Nuclear  
13 Reactor Regulation, NRR, and I'm working on the  
14 standard review plan update. I'm joined by Steve  
15 O'Connor. He's my counterpart working on the  
16 regulatory guide update effort from the Office of  
17 Research.

18                   In the crowd we have Tom Bergman, Deputy  
19 Director for the Division of New Reactor Licensing,  
20 and John Monninger, the Deputy Director for the  
21 Probabilistic Risk Assessment Directorate in the  
22 Office of Research.

23                   At this time I'd like to ask if you all --  
24 gentlemen, if you have anything to add.

25                   MR. MONNINGER: This is John Monninger

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1 from the Office of Research. First of all, I just  
2 want to say we very much appreciate the efforts of the  
3 ACRS in accommodating this project. We recognize that  
4 the project and delivering the reg. guides and SRP to  
5 the committee is coming on a very tight time schedule,  
6 and your efforts are very much appreciated in that  
7 regard.

8 You know, big picture-wise, the agency is  
9 preparing and updating its infrastructure in support  
10 of the new reactor applications that are expected to  
11 be coming in next year, next September. But other  
12 than that, we just do very much appreciate your time  
13 and effort, and we do recognize the increased demands  
14 and trying to work within and revising our processes  
15 to accommodate this project.

16 Thank you.

17 MR. KOENICK: Okay. Let me get started.  
18 On slide 2, really what we want to do is provide you  
19 with a -- the plans and schedule associated with these  
20 two infrastructure -- key infrastructure components,  
21 and that's the standard review plan and the reg.  
22 guides that are referenced by the standard review  
23 plan.

24 We do think, while this is an information  
25 briefing, we would like the ACRS to endorse this

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1 approach of how we plan to engage the types of SRP  
2 sections and the reg. guides in which you will  
3 consider, and for you to develop waiver letters as  
4 appropriate. Okay.

5 CHAIRMAN WALLIS: So this endorsement  
6 you're asking for could just be in the form of verbal  
7 endorsement of everyone around the table saying it  
8 looks okay, rather than a letter from us?

9 MR. O'CONNOR: That would be okay.

10 CHAIRMAN WALLIS: That would be okay.

11 MR. O'CONNOR: As a start. We would  
12 certainly need a letter on the -- on the waivers at  
13 least.

14 CHAIRMAN WALLIS: You need a letter. But  
15 that's as appropriate, as we come to it.

16 MR. KOENICK: That's correct.

17 CHAIRMAN WALLIS: Okay.

18 MR. KOENICK: That's correct.

19 CHAIRMAN WALLIS: But the overall plan --  
20 I mean, I don't think you need a letter saying you  
21 guys have a good plan.

22 MR. KOENICK: Right.

23 CHAIRMAN WALLIS: Okay.

24 MR. KOENICK: No, just a verbal that --  
25 yes.

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1 CHAIRMAN WALLIS: All right.

2 MEMBER MAYNARD: And I believe at this  
3 point it is our plan to -- the ones that we determine  
4 that we need to or don't need to review, that we will  
5 be more formally communicating to that --

6 MR. KOENICK: Yes.

7 MEMBER MAYNARD: -- to you about that.

8 MR. KOENICK: That's correct.

9 MEMBER MAYNARD: Thank you.

10 MR. KOENICK: So we'll quickly provide  
11 background, and then we'll go into the proposed scope  
12 of the ACRS review, and then we'll break it down into  
13 specifics between the SRP plans and the reg. guide  
14 plans. So that's the quick --

15 CHAIRMAN WALLIS: You've just said it's  
16 the scope of ACRS review. Once you get into ACRS  
17 review, you can never be quite sure what will happen.

18 (Laughter.)

19 MR. KOENICK: That's correct. Right. I  
20 guess earlier today we were revisiting something that  
21 from 2003, which really hasn't changed, so interesting  
22 discussion earlier today.

23 Let me present this background slide.  
24 Really, it starts with the Energy Policy Act of 2005.  
25 That's really what gave the driver that it's for real

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1 this time to get ready, and we've undertaken the --  
2 several key activities, the primary one being the  
3 Part 52 rulemaking, which is to go to the Commission  
4 by the end of this month.

5 It has already been made -- a preliminary  
6 version of that has been made publicly available, and  
7 then you also have the SRP and the reg. guides,  
8 including DG-1145, which is the combined license  
9 application guide.

10 Now, I would say I definitely start here.  
11 This isn't the first time that we've tried to update  
12 our infrastructure. I believe back in 2003 when I  
13 first started becoming cognizant of this project ACRS  
14 talked to the Commission about the need to really  
15 update the standard review plan, and I believe that  
16 was the first SRM back in 2003 that I had under my  
17 cognizance of working on the standard review plan.

18 Next slide, please.

19 So basically, we're going to focus on the  
20 standard review plan and the referenced reg. guides  
21 that by -- that are referenced by the standard review  
22 plan. And this update really is to promote efficiency  
23 and effectiveness of the review and to provide  
24 regulatory stability for this class of applicants that  
25 are -- that are lining up beginning with

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1 September/October timeframe of 2007.

2 The requirement -- there is a regulatory  
3 requirement. Right now it's 10 CFR 50.34(h), and  
4 that's conformance with standard review plan. And  
5 that requires an applicant to do an evaluation of  
6 conformance against the SRP acceptance criteria of the  
7 revision in effect six months prior to the docket date  
8 of the application. So if you back off the six months  
9 from September, that's how you get to the March  
10 timeframe.

11 And I do want to clarify, though, that the  
12 SRP is not a substitute for regulations and compliance  
13 with them. It's not required, so this evaluation is  
14 against the acceptance criteria. Where there are  
15 differences, they have to provide their justification  
16 of an acceptable alternative to meeting our  
17 regulations.

18 MEMBER POWERS: Frequently, a licensee  
19 will come in and say, "Okay, here's your regulation.  
20 Here's your acceptance criteria. Here's my analysis.  
21 I've gone through all this." And lo and behold, sure  
22 enough, I meet with margin your acceptance criteria.  
23 And clearly those analyses are based on the physics  
24 and chemistry and metaphysical understanding that we  
25 have now. And they're usually paper analyses.

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1                   When does the staff say -- I mean, what  
2 criteria does the staff have that says, gee, I'm sure  
3 analysis is quite correct, but, gosh, you know,  
4 they're just an off chance that maybe our physics and  
5 chemical and metaphysical understanding is not  
6 complete and we really ought to have experimental  
7 validation of that. Is there a criterion the staff  
8 uses that relegated to something called "engineering  
9 judgment"?

10                   MR. KOENICK: I think there's two -- I can  
11 answer this two ways. There is first-of-a-kind  
12 engineering in which applicants do have to provide a  
13 certain amount of testing to support that new feature.

14                   MEMBER POWERS: Very good.

15                   MR. KOENICK: I believe that's 50 -- I  
16 don't know the specific -- I think it's 47, 50.47.

17                   MEMBER POWERS: I think it is, too.

18                   MR. KOENICK: Okay. And then, there is  
19 the engineering judgment, and that's determined on the  
20 license-specific basis. When an applicant comes in to  
21 provide an alternative, the staff uses whatever is in  
22 his means to do that evaluation.

23                   MEMBER POWERS: We have an evolving  
24 workforce. And when we have wisened and experienced  
25 engineers looking at things, you know, we derive some

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1 confidence in their engineering judgments, simply  
2 because they've seen so many things and developed a  
3 healthy skepticism.

4 When we have less experienced people come  
5 in who have seen fewer things, had their fingers  
6 burned fewer times, how do we take their engineering  
7 judgment?

8 MR. KOENICK: Well, this isn't necessarily  
9 the part of this briefing that I want to get into.

10 MEMBER POWERS: I understand.

11 MR. KOENICK: But we are going through an  
12 effort, the Office of NRR, and I believe it's going to  
13 carry over to new reactor -- the new reactor  
14 organization. But qualification plans, to have the  
15 reviewers go through a qualification program, that's  
16 currently underway. And there is also knowledge of  
17 management transfer activities that are trying to --

18 VICE CHAIRMAN SHACK: Those things only  
19 teach them the things that we already know. And the  
20 reason you do experiments is --

21 MR. KOENICK: Right.

22 VICE CHAIRMAN SHACK: -- you don't think  
23 you know everything.

24 MR. KOENICK: Sure. And then, I would  
25 also --

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1 VICE CHAIRMAN SHACK: And you don't  
2 know --

3 MR. KOENICK: Enough.

4 VICE CHAIRMAN SHACK: I mean, I don't have  
5 an answer.

6 MR. KOENICK: Sure. And then, the other  
7 component is that in the Office of Research part of  
8 their research is beyond -- there is two types of  
9 research. It's to support the licensing process and  
10 then beyond the licensing process. So --

11 MEMBER POWERS: Those are good answers.  
12 I like those.

13 MR. KOENICK: Thank you. Okay. So  
14 50.34(h) requires that an analysis -- again,  
15 conformance against the SRP in effect six months prior  
16 to the application. That is going to be pulled  
17 forward into Part 52 in the rulemaking under Contents  
18 of Application. So it will be for early site permits  
19 for design certifications and for combined license  
20 applications.

21 Next slide, please.

22 Because of that provision to be in effect  
23 six months prior, we have undertaken a -- or we have  
24 greatly accelerated this schedule to have it issued by  
25 March of 2007. The reg. guides fall in line with that

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1 schedule, because they are referenced by standard  
2 review plans in large part as acceptance criteria. So  
3 that's how the referenced reg. guides come into that  
4 schedule as well.

5 Next slide.

6 Given that large number of sections of  
7 this update effort, given the accelerated schedule,  
8 staff recognized the need that we had to -- had to  
9 revisit the way we -- we were engaging ACRS. I know  
10 the original -- when we met with ACRS back in 2004, we  
11 had a verbal agreement from you that we would provide  
12 you every SRP section, and we would make a  
13 recommendation that you didn't need to review it.

14 And we had proceeded along onesies and  
15 twosies, and we're making progress but we're making  
16 progress in terms of the schedule that was originally  
17 sought, which was five to seven years. Well, we've  
18 accelerated that down to make it in effect by March,  
19 so that has really necessitated the need for us to  
20 reengage on how we plan to give -- or which sections  
21 we plan to give to you for consideration.

22 CHAIRMAN WALLIS: Now, if this is  
23 accelerated, maybe we can accelerate our review, but  
24 how about the production? Does that mean that these  
25 have been rushed into production in a quick time? Are

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1 they mature? I mean, these SRPs take some time to  
2 mature. There's a significant change.

3 MR. KOENICK: Right. And I guess the  
4 basis on -- I guess the most significant aspect of why  
5 we can do this is because in large part these  
6 revisions merely incorporate up-to-date guidance. We  
7 are not introducing new staff positions.

8 CHAIRMAN WALLIS: Right.

9 MR. KOENICK: We are baselining off the  
10 1996 draft, which the technical staff is confirming or  
11 affirming the content that was introduced there. And  
12 when they have exceptions, they're taking exceptions,  
13 too, so the staff as part of this update is -- is  
14 taking ownership of the content and --

15 CHAIRMAN WALLIS: If it was just sort of  
16 mechanically incorporating something which should be  
17 there, then we may well have nothing to say about it.

18 MR. KOENICK: That's correct. And that's  
19 really a large aspect of how we plan to tailor the  
20 scope of review. We want to get over 250 sections in  
21 place by March of 2007, but, really, only a small  
22 subset of that really warrant consideration in the  
23 terms of being a new significant technical position.  
24 Okay?

25 We documented our plans. NRR had

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1 forwarded a memo to you on September 5th identifying  
2 24 SRP sections, and the Office of Research had  
3 submitted their plans to you in an August 24th memo.  
4 And that's what we're following up on today.

5 A little bit of the SRP process -- we are  
6 going to issue these SRP sections as final -- final  
7 revisions. We are not issuing them for public  
8 comment. We don't have enough time to issue them for  
9 public comment. And given the fact that the majority  
10 of these updates are just incorporating up-to-date  
11 guidance, we didn't feel it was necessary.

12 MEMBER MAYNARD: Wouldn't you expect to  
13 get comments after they're issued? I mean, you're  
14 going to issue them that way.

15 MR. KOENICK: Yes.

16 MEMBER MAYNARD: And how do you intend to  
17 handle that if there are some valid public comments  
18 that come in after they're --

19 MR. KOENICK: Absolutely. If you want to  
20 skip ahead a couple --

21 MEMBER MAYNARD: I'll wait until you get  
22 there, if you're going to get to that.

23 MR. KOENICK: Okay. Yes. Okay. And  
24 then, what we want to do is as these become available  
25 through the appropriate concurrence change, we're

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1 making these preliminary drafts publicly available, so  
2 our stakeholders who are in the middle of preparing  
3 their sealed applications have as much time to see and  
4 digest what has changed.

5 But we're not going to formally issue  
6 these until the March timeframe after we do a  
7 significant reconciliation -- I shouldn't say  
8 "significant." Hopefully not significant, but  
9 reconciliation against the Part 52 rulemaking, the  
10 comments received on the draft guide, DG-1145, which  
11 is the front end of the standard review plan, and then  
12 the concurrent regulatory guide update efforts.

13 So after we do that reconciliation, that's  
14 when we're going to go to that publication, in March  
15 of 2007.

16 MEMBER MAYNARD: Okay.

17 MR. KOENICK: Slide 9. The first bullet  
18 is reaffirming that the majority of these updates do  
19 not represent new staff positions. They represent  
20 just an incorporation to make these things -- these  
21 revisions up to date.

22 We did, however, identify 24 sections  
23 which may be of interest to ACRS. Some of those we  
24 had -- 10 of those were related to regulatory guides  
25 being updated. And in the case of some of them, you

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1 have a case where we had a Category 3 reg. guide,  
2 which the Office of Research -- which Steve will  
3 address in his presentation -- but the Category 3 reg.  
4 guides will not be available by March 2007. But we  
5 are providing interim guidance and a standard review  
6 plan revision.

7 One of those is SRP Section 42, which is  
8 going to address reactivity-induced accidents, which  
9 was provided in Reg. Guide 1.77. So that is one that  
10 is of interest to the ACRS, as well as the others that  
11 are -- that will relate to a reg. guide that's being  
12 updated.

13 CHAIRMAN WALLIS: These new staff  
14 positions are usually the points where you get public  
15 comment, and you get public comment which says you are  
16 now regulating by reg. guide instead of by rule, or  
17 something, the reg. guide goes beyond the rule, and  
18 that sort of thing. Are you careful to avoid that in  
19 these changes?

20 MR. KOENICK: That's why it goes through  
21 our counsel for review. It goes through our  
22 management review, yes.

23 There are 14 other SRP sections that are  
24 not related to standard -- to reg. guides being  
25 updated. I would say six or seven of those SRP

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1 sections are related to 10 CFR 20.1406, which is  
2 minimization of contamination. There will be a reg.  
3 guide, but that won't be available by March. We are  
4 incorporating interim guidance in the standard review  
5 plan in SRP Sections 11 and 12.

6 The staff is -- we are working with the  
7 ACRS staff to identify which additional SRP sections  
8 you would be interested in reviewing and working out  
9 when we can provide those to you.

10 I would also like to provide another  
11 example of an SRP section which is not in the list of  
12 24 which is of interest to the ACRS. And that's SRP  
13 Section 3.6.2, which has to do with -- there is an  
14 issue that ACRS had identified on a jet impingement  
15 model potential -- non-conservative in a jet  
16 impingement model. And the standard review plan  
17 that's going to be issued in March will not have  
18 resolved that issue.

19 There is still not enough technical  
20 information necessary to complete that as an  
21 outstanding item. There is currently some requests  
22 for additional information to the ESBWR design  
23 certification rule -- design certification, and we  
24 want to proceed with issuing the SRP in March with  
25 that as an outstanding item. So that's why that is

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1 not on the list of 24 that you would be -- that we  
2 would think you would consider.

3 Next slide.

4 CHAIRMAN WALLIS: The staff will -- okay.  
5 I'm sorry.

6 MR. KOENICK: Okay. This gets to your  
7 question, Otto. Some of these sections -- some of  
8 these sections won't be technically complete until the  
9 January timeframe. We are going to work with your  
10 staff to provide these to you at the earliest  
11 opportunity that we can in a -- in more of a draft as  
12 opposed to being vetted through our review process.

13 So we're going to provide these to you at  
14 the earliest possibility, but we are still going to  
15 publish these in March. So what do we do if ACRS has  
16 an issue or if a member of the public has an issue?  
17 It gets identified as a comment that may help inform  
18 a technical basis of an acceptable alternative to an  
19 acceptance criteria to meeting a regulation.

20 And that's a process that will be -- we  
21 haven't formally set an interim staff guidance  
22 process, but it will be something the resolution of  
23 any outstanding issues would be vetted and documented  
24 in such a way that it could be used to help inform or  
25 be used in a license application, or it would be

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1 addressed in a license-specific application.

2 Okay. That's really all that I had on the  
3 standard review plan process. If there's any  
4 questions on standard review plan or specifics, I can  
5 address them to the best of my knowledge now, or I  
6 could turn it over to Steve.

7 MEMBER MAYNARD: A question a little bit  
8 related to both reg. guides and the standard review  
9 plan. Do you envision this process, for the ones that  
10 the ACRS reviews, that are identified for review, to  
11 be presented individually at full committee meetings,  
12 or just get feedback from the -- that's about the only  
13 way that we could make a comment or to do it -- what  
14 you would envision as the process?

15 MR. KOENICK: Well, the early interaction  
16 would be to provide you the sections for your  
17 consideration. If you determine the need to have a  
18 full committee meeting, then we'll plan them -- we do  
19 have already certain reg. guides that are planned for  
20 November and December meetings. And to the extent  
21 practical that we can package the standard review plan  
22 section with them, we will as well as if we need  
23 another separate meeting for an SRP section that  
24 wasn't related to a reg. guide, yes.

25 CHAIRMAN WALLIS: Okay. It seems to me

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1 you need some interaction, then, with the -- our  
2 staff. That if the ACRS has some concern, then you're  
3 going to present this thing to the full committee. We  
4 don't have all that much time. You have to focus on  
5 the areas of concern.

6 MR. KOENICK: Yes.

7 CHAIRMAN WALLIS: And that has to be sort  
8 of communicated to you ahead of time, because we don't  
9 have subcommittee meetings.

10 MR. KOENICK: Yes. We're working with  
11 your staff to work out the -- to provide the  
12 information when it becomes available, and as well as  
13 which -- which sections you'd be interested in.

14 MEMBER MAYNARD: I think we have options  
15 available to us. We could have subcommittee meetings  
16 if we needed it for specific ones, or we could handle  
17 -- there's a number of options we have. I'm just  
18 trying to understand what they envision as a process.

19 I think the key, from what I'm  
20 understanding, it's going to be up to us to identify  
21 what we need to see and what forum that we need to do  
22 it in, whether it be individual review, a subcommittee  
23 that's an ad hoc -- established for a specific one --  
24 or something that we want them to come to a full  
25 committee meeting for.

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1 MR. SNODDERLEY: That's exactly our  
2 understanding. This is Mike Snodderley from the ACRS  
3 staff. So now the ball is in our court, otto. We  
4 have received the 20-some-odd reg. guides that the  
5 staff has identified that are relevant to COL action  
6 items, or COL applications.

7 And then, we had the SRP sections that  
8 Steve -- now, we haven't received as many of the SRP  
9 sections yet, but what we've received we'll discuss  
10 this evening, and also for those sections that people  
11 have just received we'll -- I'm envisioning on Friday  
12 morning we'll make decisions on what we will review in  
13 November and December.

14 We also have to make decisions at that  
15 time. If we feel that there's enough questions that  
16 it can't be covered in the full committee meeting, and  
17 we think there's a subcommittee meeting that's needed,  
18 then we need to communicate that back to the staff.  
19 So that's the main thing that has to be accomplished  
20 here in the October timeframe.

21 The other thing we have to decide is --  
22 and give feedback to the staff is on that Enclosure 2  
23 that we provided last month from the document that  
24 Steve was referencing, where it identifies here are  
25 SRP sections, some of which we don't plan to provide

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1 to you unless you tell us.

2 And so already Steve mentioned one of the  
3 key ones -- the SRP Section -- Chapter 11, which  
4 relates to some of the things to address, guidance to  
5 address tritium. So there may -- that's something we  
6 have to consider.

7 Obviously, 3.6.2, with the GSI 191 issue,  
8 which we know is evolving and that that position  
9 hasn't been -- probably have a firm staff position by  
10 March 2007. So what is the interim guidance going to  
11 be? And so those are all the kinds of things that we  
12 have to make a decision on this month.

13 And yet -- and also, I want to take this  
14 opportunity to say we really appreciate the support  
15 that we've received from the Office of Research and  
16 NRR -- John Monninger, Jimmy Urokin, Steve O'Connor,  
17 Steve Koenick. All those guys have been -- you know,  
18 we've been meeting weekly and updating the status, and  
19 so it -- it has been a challenge, but we appreciate  
20 their support.

21 MEMBER MAYNARD: Go ahead.

22 MR. O'CONNOR: Okay. First off, I want to  
23 apologize for the difference you're seeing on the  
24 overhead here and what you have in your hands there.  
25 We had some last-minute changes this morning, and

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1 obviously we had the version control issue here. So  
2 you probably saw some differences in the slides and  
3 the -- versus what was on the overhead. But hopefully  
4 from here on out we don't have those issues.

5 For the reg. guides, during the agency  
6 review of infrastructure needs to support new reactor  
7 licensing, we found that we needed to put some  
8 resources on the upgrade and revision to reg. guides  
9 to support the new reactor licensing. We found during  
10 this review that many of the reg. guides hadn't been  
11 revised since the '70s, so we looked at all reg.  
12 guides to determine whether revision was necessary,  
13 and also to look for any new reg. guides that needed  
14 to be developed.

15 We reviewed about 480 reg. guides and  
16 draft guides with a focus on their applicability to  
17 the new reactor licensing. This covered all the  
18 divisions, with primary focus on Divisions 1, 4, and  
19 8 of the reg. guide series. And we went and  
20 prioritized the reg. guides from high to low based on  
21 which ones needed to be completed first to support the  
22 license applications.

23 We initially identified 58 reg. guides as  
24 a high priority to be addressed by March '07. But as  
25 we looked into it further and, you know, technical

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1 staff would identify reg. guides that they said, hey,  
2 this one maybe should be a high priority also. The  
3 number increased to 63, and that's where we stand  
4 right now.

5 We reviewed the 63 reg. guides to  
6 determine which ones needed to be issued by March, and  
7 which ones would be okay as is for March, or, you  
8 know, could maybe be updated after that. We found  
9 that 31 of them needed to be updated by March in order  
10 to support the applications, 28 that did not need to  
11 be updated by March, but some of those may need to be  
12 updated, you know, after that, and then four without  
13 sufficient technical bases to support development at  
14 this time and not by March '07.

15 So what we're doing in some of those cases  
16 is addressing the information, some of the information  
17 that will be in the reg. guide in the SRP section.  
18 And the remaining medium and low priority reg. guides  
19 will be addressed over the next three years and  
20 assessed for the revisions required.

21 MEMBER POWERS: Are you going to tell us  
22 what the four without sufficient technical basis are?

23 MR. O'CONNOR: We can get into that, yes.  
24 I mean, one is for -- it's a new guide, plastic  
25 piping. There's another new guide on 20.1406. And

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1 the revision to Reg. Guide 1.99 for radiation  
2 embrittlement, reactor vessel materials, and --

3 CHAIRMAN WALLIS: I would think this is --

4 MEMBER POWERS: I can't imagine there's  
5 not enough data on that, but I can be corrected.  
6 We've been hammering away on that issue since the dawn  
7 of time, or the dawn of the agency anyway.

8 MR. O'CONNOR: Yes, and that one is tied  
9 to the rule, the 50.61 rule.

10 CHAIRMAN WALLIS: It's not as if it  
11 doesn't need revision.

12 MR. O'CONNOR: Exactly.

13 (Laughter.)

14 MR. KOENICK: On Reg. Guide 1.77, which I  
15 discussed earlier, which is reactivity-induced  
16 accident and the rod injection accident, and that will  
17 be incorporated into SRP Section 4.2, and then the  
18 fourth one was the reg. guide for 20.1406, which is  
19 the minimization of contamination. And there again,  
20 we're going to incorporate the information into  
21 standard review plan section -- Chapters 11 and 12, as  
22 appropriate.

23 MEMBER POWERS: Can I come back to 1.77,  
24 reactivity-induced accidents, rod ejection?

25 MR. KOENICK: Yes, that's correct.

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1 MEMBER POWERS: Once again, we've been  
2 kind of looking at that. Don't we understand that?  
3 What is it we don't understand?

4 MR. KOENICK: I think it's really the  
5 vehicle to updating the guidance and getting it into  
6 a written form, and the technical staff --

7 MEMBER POWERS: Okay. So you're just hung  
8 up over how you're going to draw out this curve around  
9 these four points extending down to 36 gigawatt days  
10 per ton or something like that.

11 MR. KOENICK: Not being a technical expert  
12 on the subject, I don't want to -- I just know that  
13 the path on this one was to incorporate the guidance  
14 into the standard review plan.

15 MEMBER POWERS: Okay. I'm going to be  
16 fascinated to see 1.99.

17 MR. O'CONNOR: Yes. At the conclusion of  
18 our presentation, we can see if the technical lead is  
19 available to discuss some of those -- those  
20 particulars with you a bit more on the -- those four  
21 reg. guides or 1.77 in particular, if you'd like,  
22 Dana.

23 So moving on to slide 12, we developed an  
24 expedited review process, development process, for the  
25 reg. guides. The typical process takes about a year

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1 to develop the reg. guides. We had about nine months  
2 from the time that we began this effort, and that we  
3 -- when we took the March date and moved backwards  
4 from there we found that we needed to develop an  
5 expedited process.

6 So to do this, we've shortened the  
7 internal review times and dedicated a staff, a team,  
8 to getting these reg. guides issued by March. We're  
9 using concurrent office reviews and, like I say,  
10 shortened timeframes, which is pushing everybody. We  
11 published a generic Federal Register notice that  
12 informs the public of our intent to issue the reg.  
13 guides for public comments in the next several months.

14 And, again, what this does is allows us to  
15 not have to issue a Federal Register notice for each  
16 one of these reg. guides, and so it simplifies the  
17 process a little bit more and gets the information up  
18 on the web much quicker to members of the public. And  
19 so we're trying to use the agency web electronic age  
20 to our advantage here.

21 MEMBER POWERS: The public should applaud  
22 you.

23 MR. O'CONNOR: That's right.

24 MEMBER POWERS: For the quality of the  
25 information that's available on the web.

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1 MR. O'CONNOR: One would think.

2 MEMBER POWERS: Yes. It's -- I mean, it's  
3 just -- I was hitting it this weekend, as a matter of  
4 fact, and could -- found I could navigate very easily  
5 around that and find stuff.

6 MR. O'CONNOR: Oh, yes.

7 MEMBER POWERS: The people should be  
8 complimented on providing that kind of information to  
9 the public.

10 MR. O'CONNOR: Yes. The rule forum is a  
11 mechanism we're using to put this up, and that's a  
12 valuable location on the public website for getting  
13 this kind of information.

14 MEMBER POWERS: Much better than Federal  
15 Register notices.

16 MR. O'CONNOR: Yes. Or ADAMS.

17 MEMBER POWERS: Yes, much better than --  
18 that goes without saying.

19 MR. O'CONNOR: We provided early drafts of  
20 the reg. guides to ACRS for information. We're  
21 providing these to Mike Snodderley, and I heard  
22 several people mentioning earlier they haven't gotten  
23 all the reg. guides yet. So you should have them  
24 today, I would expect, at a minimum.

25 And what -- the plan is to provide final

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1 drafts to ACRS as we send them out for public comment.  
2 So as we post them to the website, we'll also provide  
3 you with a final draft. Basically, what you have in  
4 hand now is a working draft, pre-office concurrence  
5 draft and pre-OGC review.

6 And for most of the reg. guides we're  
7 doing a 45-day public comment period, and we're  
8 evaluating the need for a public workshop in late  
9 November and December. And we've vetted this with  
10 industry representatives at a meeting last week I  
11 believe it was --

12 MR. KOENICK: September 21st.

13 MR. O'CONNOR: -- 21st, and we asked for  
14 their input as to maybe what the scope of this  
15 workshop would be -- you know, if we should cover all  
16 reg. guides or certain reg. guides and we're waiting  
17 to hear back from them at this point.

18 CHAIRMAN WALLIS: The timing of the work  
19 -- how does the workshop fit into this process here?

20 MR. O'CONNOR: Well --

21 CHAIRMAN WALLIS: It looks as if it's at  
22 the end, but that doesn't make much sense to be toward  
23 the end.

24 MR. O'CONNOR: Based on our schedule, the  
25 latest that these reg. guides will be going out for

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1 public comment would be the middle of November. And  
2 so we figured, you know, we'd get them out for public  
3 comment and then set the workshop up a couple of weeks  
4 after that to give -- you know, we've got Thanksgiving  
5 in there --

6 CHAIRMAN WALLIS: So the workshop is to  
7 inform or is it to get comments or --

8 MR. O'CONNOR: A little bit of both  
9 actually.

10 MEMBER POWERS: So the answer to that is  
11 yes.

12 CHAIRMAN WALLIS: We may be reviewing  
13 these documents before we know what these public  
14 comments are.

15 MR. O'CONNOR: That's right. You will be.

16 CHAIRMAN WALLIS: And if the public  
17 comments are really significant, you may want to come  
18 back to us.

19 MR. O'CONNOR: That's right. And I'll be  
20 addressing that in a little bit here, that -- the way  
21 the process is working. Yes, we're -- this is not the  
22 typical process as you see this. We're giving you  
23 early drafts, and then going out for public comment at  
24 the same time. And this is, like I say, not the  
25 typical process where we would brief you before going

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1 out for public comment and then after.

2 And we'll inform you of any substantial or  
3 significant comments during the public comment period,  
4 or if we do receive any comments, and then, you know,  
5 discuss them with your staff and, if need be, full  
6 committee.

7 Now, we met with the ACRS staff -- John  
8 Larkins, Mike Snodderley -- discussed the method of  
9 allowing the committee members to review all of the  
10 reg. guides and decide whether a full committee  
11 meeting is desired or whether the revised reg. guide  
12 changes could be discussed in subcommittee meetings or  
13 whether ACRS review could be waived entirely.

14 And we agree that ACRS review could be  
15 deferred and done concurrently with the public comment  
16 period, and that we would recommend to the committee  
17 to waive the reviews for those reg. guides the staff  
18 felt could be waived from ACRS reviews. As of last  
19 Friday, we provided all of the reg. guides to be  
20 completed by March '07 to Mike Snodderley.

21 And in our August 24th memo that Steve  
22 mentioned earlier from Farouk Eltawila to John Larkins  
23 we listed 14 reg. guides that we felt could be waived  
24 from ACRS review, because the changes were minor or  
25 editorial in nature, and for the other reg. guides we

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1 felt the committee may be interested in reviewing. We  
2 await your feedback from today's meeting regarding  
3 which ones of the reg. guides you'd like to be briefed  
4 on in committee meetings in November or December.

5 Some of the reg. guides have been  
6 tentatively scheduled in the November/December  
7 committee meetings, and, if necessary, subcommittee  
8 meetings could also be used to discuss the reg. guide  
9 meetings. These were some of the agreements we've  
10 made with the staff.

11 Two of the reg. guides are being briefed  
12 in this meeting -- 1.7 as you just heard and 1.200  
13 tomorrow. The February committee meeting could be  
14 used to address any remaining reg. guide issues is  
15 what the plan is.

16 We were looking at the tentative schedule  
17 earlier, and we saw that we may need to revisit some  
18 of the tentatives that were on for November, because  
19 we would need to be providing those to you now  
20 essentially, almost immediately, to get them in front  
21 of you for review for November.

22 So we will have to work with the ACRS  
23 staff to revisit that tentative schedule. Based on  
24 what we have now on the reg. guides in process, we  
25 have a much better understanding now where things are

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1 on the schedule and the process.

2 And as a status, at this point, of the 31  
3 high priority reg. guides that are to be completed by  
4 March of '07, three have been published, two have been  
5 made available to the public for public comments, and  
6 four have completed a public comment period and are  
7 moving toward a final publication, and 22 will be made  
8 available to the public over the next month and a  
9 half. That completes my portion of today's briefing,  
10 and we'll try to address any questions you may have.

11 MEMBER POWERS: I wonder if any effort is  
12 expended by the agency to make sure that those  
13 responsible for the Energy Act understand what a  
14 heroic effort you're going to to comply with its  
15 provisions.

16 MR. O'CONNOR: Let it be noted.

17 (Laughter.)

18 MEMBER POWERS: Yes, I think it's very  
19 admirable what you're trying to do here and to be  
20 responsive to Congress. It's a heck of a lot of work,  
21 and you're working very hard at it I can tell.

22 MR. O'CONNOR: Oh, yes.

23 MEMBER MAYNARD: Does this conclude the  
24 staff's presentation overall? Are you not going into  
25 any of the specifics for the reg. guides or only if we

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1 have questions on that? Is that the --

2 MR. O'CONNOR: Yes. The plan was to give  
3 you an overview of the process and the status, to some  
4 extent the schedule of when we plan to do things. And  
5 if you'd like to get into some specific questions on  
6 the various 31 reg. guides or SRP sections, we've  
7 asked the technical staff, some of the technical leads  
8 -- and that's why the audience has so many people out  
9 here -- the two to step up and address any particular  
10 questions you may have on --

11 MEMBER MAYNARD: Ready, willing, and able.

12 MR. O'CONNOR: -- reg. guides -- ready,  
13 willing, and able. On reg. guides that we've proposed  
14 as being waived, if you have some concerns about that,  
15 this is a good point to bring them up possibly. Or if  
16 you'd like to discuss the four that will not be  
17 completed by March --

18 MEMBER POWERS: Yes. Two of them -- 1.99  
19 and 1.77 -- I think that a person of your demeanor  
20 could move these and keep them on the March schedule,  
21 as I understand the technical understanding right now.  
22 I could be wrong about these things, but I think they  
23 could be moved forward.

24 MR. O'CONNOR: Sure. And as Steve said,  
25 I think we really have to defer to the technical leads

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1 to get a little more information.

2 MEMBER POWERS: Well, I know that we, for  
3 instance, will be having a meeting on reactor fuels in  
4 November, and I will fully ask about 1.77 and why it  
5 is not off the dime, because in our research report we  
6 have now said twice we think this research has reached  
7 a point that they can move forward to something that  
8 could at least go to public comment.

9 MR. O'CONNOR: Right.

10 MEMBER POWERS: I'm not sure that it would  
11 come out of public comment with -- unscathed, but it  
12 could be moved forward to at least public comment.

13 MR. KOENICK: Now, in the case of 1.77, by  
14 using the SRP 4.2, in that update we will provide that  
15 interim guidance that you're talking about. So it  
16 will be in the public domain. It will be provided as  
17 SRP acceptance criteria. Sort of if you go through  
18 the history of what's an SRP acceptance criteria  
19 versus what's a reg. guide versus how we reference  
20 reg. guides as acceptance criteria, I think that line  
21 has been somewhat blurred over time.

22 MEMBER POWERS: Well, it's always blurred.  
23 I mean, it is never clear, nor should it be. I mean,  
24 I wouldn't go to any effort to make it --

25 MR. KOENICK: Right. So, and the way this

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1 process will work is DG-1145, the contents of the  
2 application, will articulate which reg. guides should  
3 be referenced in a COL application, and the standard  
4 review plan will reference those reg. guides as  
5 appropriate. And where there is not a reg. guide, the  
6 staff will provide that guidance in the standard  
7 review plan.

8 So there are cases where -- there is a  
9 reg. guide, I believe 1.56, on chemistry control.  
10 Instead of using -- updating Reg. Guide 1.56, we're  
11 referring to EPRI water chemistry guideline series of  
12 reports. So in DG-1145, we will remove reference to  
13 Reg. Guide 1.56.

14 MEMBER POWERS: Sure.

15 MR. KOENICK: Right.

16 MEMBER POWERS: Because the water  
17 chemistry reports are very good and very  
18 comprehensive.

19 MR. KOENICK: Right. So rather than go  
20 through the effort to update Reg. Guide 1.56, we're  
21 simply changing that reference. And we're going to  
22 tailor that list through DG-1145 and the SRP update.  
23 So in --

24 VICE CHAIRMAN SHACK: Are you actually  
25 going to get rid of some obsolete reg. guides?

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1 MR. KOENICK: I think the plan will be to  
2 sunset some of those reg. guides.

3 MEMBER POWERS: Fantastic.

4 MR. KOENICK: Yes.

5 MEMBER POWERS: Okay.

6 MR. KOENICK: But that doesn't -- that  
7 doesn't have to occur by March, if we inform the  
8 applicants which set of reg. guides and it's contained  
9 as a reference to the SRP acceptance criteria. That's  
10 how you tailor the scope for this series of  
11 applicants.

12 MEMBER POWERS: Okay.

13 MEMBER MAYNARD: One thing that may be  
14 beneficial before we talk some of the specific ones  
15 here -- just give us all a common understanding. The  
16 standard review plan reg. guide, what is the  
17 difference, and how do they apply to the rule?

18 MR. KOENICK: Okay.

19 MEMBER MAYNARD: If you can just kind of  
20 briefly put us all on the same playing field here.

21 MR. KOENICK: Okay. The standard review  
22 plan is staff guidance document on how to conduct a  
23 review. It wasn't until 50.34(g) was introduced where  
24 they provided that criteria for conformance against  
25 the standard review plan.

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1 I believe that happened after this whole  
2 fleet of current applicants, so we've never exercised  
3 that provision in the context of an OL. In the  
4 context of a DC, we have used it.

5 MEMBER CORRADINI: Can you repeat what you  
6 just said without the abbreviations?

7 MR. KOENICK: Sorry about that.

8 MEMBER CORRADINI: Say it again, but --

9 MR. KOENICK: Okay.

10 MEMBER CORRADINI: -- slower.

11 MR. KOENICK: We have not exercised this  
12 evaluation of conformance with the standard review  
13 plan for an operating license submitted under Part 50.

14 MEMBER CORRADINI: Okay.

15 MR. KOENICK: We have used it in the  
16 design certification submitted under Part 52.

17 MEMBER CORRADINI: But in the -- but if I  
18 understand, there's three pieces. One piece is the  
19 early site permit. That's to the side. The other  
20 piece is design certification. That's to the side.  
21 And they have now used the standard review plan  
22 guidance, right? Which any standard review plan may  
23 reference a design -- or a reg. guide or a group of  
24 reg. guides.

25 MR. KOENICK: That's correct.

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1 MEMBER CORRADINI: Okay. And never has  
2 anybody used the standard review plan for an operating  
3 license, or now a COL.

4 MR. KOENICK: And this -- this version of  
5 the standard review plan. It was -- it was used, but  
6 there was no provision -- there was no provision to do  
7 your evaluation.

8 MEMBER CORRADINI: It was ad hoc. It was  
9 not used by rule or by recommendation.

10 MR. KOENICK: There was no siting of the  
11 rule, yes. It was an internal staff review document.

12 MEMBER MAYNARD: As I recall, a lot of  
13 those were being developed --

14 MR. KOENICK: Yes.

15 MEMBER MAYNARD: -- after many of the  
16 plant license applications were being prepared and  
17 submitted.

18 MR. KOENICK: That's correct. It was a  
19 collection of our engineering judgment, a collection  
20 of all the decisions that we made in those original  
21 licenses.

22 MEMBER CORRADINI: So, then, one last  
23 question since I'm partly to blame for wanting to get  
24 on -- normalize us all. So the DG-1145 is not a reg.  
25 guide, not a standard review plan. It looks to me

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1 like a phantom FSAR.

2 MR. KOENICK: No.

3 MEMBER CORRADINI: So help me.

4 MR. KOENICK: It is -- it replaces the  
5 Reg. Guide 1.70, which was the standard format and  
6 content --

7 MEMBER CORRADINI: Oh, okay.

8 MR. KOENICK: -- of an application.

9 MEMBER CORRADINI: Okay.

10 MR. KOENICK: So that it's that and it  
11 goes beyond that, because it tailors the information  
12 necessary for, like you said, whether they -- whether  
13 a combined license applicant references an early site  
14 permit, a design certification, both, or neither.

15 MEMBER CORRADINI: But as I've been  
16 starting to read this on my weekend, since I'm pretty  
17 -- have a pretty useless life on weekends, I -- some  
18 pieces of this actually tell them the units and the  
19 scale that they have to plot things, which struck me  
20 as a tad on a bizarre side. But it gets to that level  
21 of specificity. Am I off base there, or am I reading  
22 this right?

23 MR. KOENICK: It is -- a reg. guide is a  
24 product for an applicant. It is what is represented  
25 as an acceptable approach of meeting a regulation.

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1 That's where a reg. guide comes in. And the SRP,  
2 which is a review document, contains acceptance  
3 criteria, often which are referenced positions in  
4 regulatory guides.

5 MEMBER MAYNARD: The regulatory guide is  
6 not a requirement until the applicant commits to it as  
7 part of their --

8 MR. KOENICK: Part of their license.

9 MEMBER MAYNARD: -- license basis.

10 MR. KOENICK: Yes.

11 MEMBER ARMIJO: What we've been receiving  
12 are DGs, draft guides.

13 MR. KOENICK: Yes. DGs are --

14 MEMBER ARMIJO: It will replace the reg.  
15 guide when it's -- the reg. guide is issued? For  
16 example, Reg. Guide 1.20, we -- I received Design  
17 Guide 1163. Are they equivalent?

18 MR. KOENICK: What will happen is the reg.  
19 guide -- the draft reg. guide is the identifier that  
20 it's issued for comment. When it gets final, it will  
21 become Reg. Guide 1.20 Rev, the next Rev.

22 MEMBER ARMIJO: Got it.

23 MR. KOENICK: And if you look at the reg.  
24 guide page on the website, it contains all the  
25 references of all the DGs and the revisions to the

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1 reg. guides, all maintained on our external web page.

2 MEMBER MAYNARD: I'd ask the members at  
3 this point, for the reg. guides that you have received  
4 to review, now would be the chance if you had any  
5 questions that have come up that the staff may be able  
6 to address. I'll ask one. I don't know if you've got  
7 the right people here or not.

8 One of them I had was on 1.128 and 1.129  
9 on the installation and design of large batteries into  
10 maintenance and testing. And I forget which one of  
11 those, but references -- I think it's an IEEE standard  
12 that apparently was not -- the later version did not  
13 incorporate anything for nuclear powerplants. So it  
14 ended up putting a number of staff positions in to add  
15 back in the quality requirements for nuclear  
16 application.

17 And my real question was: do you know why  
18 those quality requirements had been dropped out of the  
19 industry standard?

20 MEMBER POWERS: I think -- I don't know if  
21 I'm the right person -- Bill?

22 MEMBER MAYNARD: Could you go to a  
23 microphone, please?

24 MR. RALEIGH: Bill Raleigh. The reg.  
25 guide is 1.128. There was no reason. We talked to

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1 the Committee Chairman, and what they did was to just  
2 generalize that for batteries in general, for  
3 switching stations, substations, and generating  
4 stations. So whereas before there was a page  
5 basically that integrated a lot of nuclear  
6 requirements, that they deleted that just to make it  
7 general. And what we did was roll that stuff back in.

8 MEMBER MAYNARD: Okay. So there wasn't  
9 any evaluation on their part that showed that there's  
10 no longer a need for these. They just omitted it,  
11 probably because they didn't think anybody would be  
12 building any new --

13 MR. RALEIGH: That's true. That change  
14 was initially made back in 1995, and it's been carried  
15 forward with each of the subsequent revisions.

16 MEMBER MAYNARD: Okay. All right. Thank  
17 you.

18 Okay. Do any of the other members, for  
19 any of the reg. guide that you've reviewed, have any  
20 questions that the staff may be able to answer?

21 MEMBER CORRADINI: Well, I guess I have a  
22 logistical question. I just received one, which  
23 according to the status it has to be considered this  
24 month. So given the fact that either I'm super rapid  
25 or I may have issues, what's the -- what's the

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1 ramifications of delaying it a month, other than just  
2 putting the load to a future month, if we have  
3 questions? I'm just trying to understand it, maybe  
4 from the --

5 MEMBER MAYNARD: Let Mike address --

6 MEMBER CORRADINI: Yes. Mike, what I'd  
7 like to suggest is to hold off on this.

8 MR. SNODDERLEY: Well, no, no, don't --  
9 no, don't want to hold off. What I'd like to suggest  
10 is that today we'll talk about those that people have  
11 reviewed, and those that have just come in or that you  
12 just have gotten.

13 MEMBER CORRADINI: Okay.

14 MR. SNODDERLEY: We have time Friday  
15 morning. And so what I would say is we have -- and,  
16 again, this is where I think John was acknowledging  
17 that we've put a large load on the Committee. But  
18 what I'd like to really try to do is ask you to try to  
19 be prepared by Friday morning to -- and, again, it's  
20 not -- you know, we don't have to make a decision on  
21 how good or bad it is, but just whether we want to  
22 review it or not, because --

23 MEMBER CORRADINI: Want to know a path  
24 forward.

25 MR. SNODDERLEY: Exactly.

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1 MEMBER CORRADINI: Fine.

2 MR. SNODDERLEY: So that we can either  
3 schedule it for November or December. If you think  
4 for that particular one on 13.3 on emergency planning,  
5 you know, that could be something that we say right  
6 now let's schedule it for December --

7 MEMBER CORRADINI: Okay, fine.

8 MR. SNODDERLEY: -- and maybe it has to  
9 come off.

10 MEMBER CORRADINI: Okay.

11 MR. SNODDERLEY: But we're all obviously  
12 going to have to do a lot of prioritization, because,  
13 you know, we're also going to have to -- we obviously  
14 can't look at all 23 in November and December. There  
15 is some time, as was mentioned, in possibly February.  
16 But that -- that's really the objective of this  
17 month's meeting.

18 If we get to the point on Friday morning  
19 that you haven't had enough time, let's -- we'll have  
20 to cross that bridge when we get there.

21 CHAIRMAN WALLIS: Quickly, could Mike's  
22 conclusion be that we don't need to review it?

23 MR. SNODDERLEY: Of course, yes. And  
24 that's what also I -- you know, I've realized the  
25 dangers of thanking people, because you always -- you

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1 always forget, and I know I have. But I also -- I did  
2 want to mention John Ridgely and Rob Tregoning,  
3 because they have been instrumental in this.

4 But I think what else I'd like to ask the  
5 staff is, this evening I envision we're going to go  
6 through the reg. guide list, we're going to go through  
7 the SRPs that we've gotten, and we'll try to knock out  
8 as many as we can.

9 And then, as Mike said, for some of those  
10 where the members haven't had enough time, let's get  
11 together, I would suggest on Friday morning. And if  
12 the staff can be there to help answer questions, I  
13 think that will be helpful, because, quite frankly, I  
14 think if -- if members are struggling the inclination  
15 would be to say, "Let's review it."

16 So if I could ask you guys to help us  
17 Friday morning also. I think that will -- and then,  
18 also, if we have questions, we'll try to relay that to  
19 you and maybe you can have some answers for us by  
20 Friday morning. But my objective would be that by  
21 Friday we would have -- either have made one of three  
22 decisions on all the submitted reg. guides and SRPs,  
23 that we either don't want to review it, we want to  
24 review it and when, or perhaps there are some  
25 questions to clarify that we can firm it up in

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1 November.

2 CHAIRMAN WALLIS: Now, some of these  
3 decisions we intend to make this evening.

4 MR. SNODDERLEY: Exactly.

5 CHAIRMAN WALLIS: The, whatever is left  
6 over that we can't handle this evening, we will push  
7 over to Friday morning.

8 MR. SNODDERLEY: That's my vision. And  
9 then, also, the other thing that I wanted to make sure  
10 was clear to you is that -- and also, there's SRP  
11 sections that Steve has mentioned that they don't plan  
12 to provide us. They will provide us if we ask for it,  
13 but we have to -- we have to try to get that on their  
14 radar screen now. So that's kind of my vision for the  
15 next three days.

16 MR. CHAU: Mike, this is Tony Chau from  
17 Office of Research. I have a request, because some of  
18 the staff members may be on leave Friday. So it would  
19 be a great help if we have some -- at least some  
20 inclination as to whether you may be interested in  
21 perhaps having the staff be here on Friday. Then, we  
22 can try to make arrangements.

23 MEMBER CORRADINI: No, I think we -- at  
24 least for the -- my little question -- my individual  
25 one I want to kill it in some fashion and have a

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1 decision before then.

2 MR. CHAU: Okay. Thank you.

3 MEMBER ARMIJO: I've got a question on  
4 1163, the draft guide, that's real simple. So whoever  
5 can answer it is -- this looks like just an update for  
6 steam dryer cracking in BWRs. And if that's all  
7 you're trying to do, then that's -- that answers my  
8 question. Because there's a lot of changes, but --  
9 anybody from the staff on that?

10 MR. KOENICK: I believe the answer to your  
11 question is yes, that, yes, this is to do with steam  
12 dryer cracking. The staff has not -- is not present,  
13 but I can -- I can get an answer for you.

14 MEMBER ARMIJO: Yes, because it gives a  
15 list of all the things you've got to worry about for  
16 a BWR, but there seems to be no equivalent list for a  
17 PWR. And it's a general vibration assessment program  
18 on reactor internals.

19 MR. KOENICK: Your question is focused on  
20 the BWR.

21 MEMBER ARMIJO: Yes. So --

22 MR. KOENICK: Okay. And I can get with  
23 you at break, and we can get you an answer.

24 MEMBER POWERS: Yes. I have a question on  
25 1159, which is the concrete containments. There just

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1 seem to be a large number of exceptions to the code  
2 requirements, and I just wondered, you know, how come  
3 there are so many exceptions? You know, in some  
4 cases, you know, you're bringing ACI comments as well  
5 as ASME. Normally, when one tries to resolve these,  
6 and it just -- I just have a question of why there  
7 were apparently so many exceptions taken.

8 MR. O'CONNOR: Okay.

9 MR. SHAUKAT: I am Syed Shaukat. 1159,  
10 there are some exceptions taken from the code, but  
11 most of them were already in the previous reg. guide,  
12 and --

13 MEMBER POWERS: You know, since 1981, you  
14 and the code haven't gotten any closer.

15 MR. SHAUKAT: Yes. I don't think there  
16 are too many exceptions.

17 MEMBER POWERS: Okay. You know, the  
18 question is: how many are too many?

19 MR. SHAUKAT: But there are some  
20 exceptions, yes. And primarily these exceptions are  
21 that subsequent codes, for example ACI code, has taken  
22 those exceptions and some of the exceptions are  
23 because staff did not feel that we have substantial  
24 testing results that could -- we could use. So in  
25 absence of test results, we are taking exceptions.

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1 MEMBER MAYNARD: Are there any other  
2 questions on your reg. guide?

3 (No response.)

4 Mr. Chairman, I believe that we've gained  
5 quite a bit of time here, and, you know, a couple of  
6 possibilities. I don't know that it would be  
7 productive to try to go into discussion on individual  
8 reg. guides at this point. But maybe some of this  
9 time could be used for individual review.

10 CHAIRMAN WALLIS: I was going to suggest  
11 individuals.

12 MEMBER MAYNARD: Individual review.

13 CHAIRMAN WALLIS: Professor Corradini  
14 maybe can do the work on this reg. guide you've just  
15 received and come back with some recommendation this  
16 evening. That's --

17 MEMBER CORRADINI: Dr. Powers is over  
18 there, and I'm going to ask him --

19 CHAIRMAN WALLIS: I think this is time for  
20 the individual members to get prepared, and maybe we  
21 can make decisions on most of these by this evening  
22 without having to bring the staff in on Friday.

23 MEMBER MAYNARD: So I'll turn the meeting  
24 back over to you, Mr. Chairman.

25 CHAIRMAN WALLIS: Of course, I've got a

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1 lot to give you to do now.

2 (Laughter.)

3 MR. SNODDERLEY: I'd like to give you two  
4 options, Graham.

5 CHAIRMAN WALLIS: Yes.

6 MR. SNODDERLEY: One would be to take a  
7 short break and let Dave Fisher -- Dave Fisher has put  
8 together a table that's going to allow us to track  
9 everything this weekend for us. And so make sure  
10 everybody has that, and then we would literally start  
11 to go through those and see which ones we can start  
12 knocking out, and, you know, where we've made  
13 decisions, and then also identify where we need --  
14 where we need to make decisions.

15 CHAIRMAN WALLIS: Now, this is what we  
16 were going to do this evening?

17 MR. SNODDERLEY: Yes, we could do that --  
18 I'm just saying that that's an option. The other  
19 thing is is --

20 CHAIRMAN WALLIS: We would, then, go into  
21 some sort of closed -- no, this would still be an open  
22 meeting? We wouldn't be able to --

23 MR. SNODDERLEY: It would still be an open  
24 meeting. I mean, I -- my feeling is that we have --  
25 we have the staff here with us now, you know, and that

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1 way we can take the advantage, if someone has any  
2 questions --

3 CHAIRMAN WALLIS: I might sort of defer to  
4 Otto. Otto, you're going to make this thing happen.  
5 And if you think that's the way to do it, or we can do  
6 it the other way, whatever you think is the best here.

7 MEMBER MAYNARD: Well, it depends -- I get  
8 the feeling there's a number of the members that just  
9 now received their reg. guides.

10 MR. SNODDERLEY: Okay.

11 MEMBER MAYNARD: And we could also get  
12 quite confused as to what -- which ones we've talked  
13 about, or which ones we haven't. I think it would be  
14 worthwhile to hand out -- make sure we have our  
15 current matrix.

16 MR. SNODDERLEY: I agree.

17 MEMBER MAYNARD: But I think that --

18 CHAIRMAN WALLIS: That would make sense.

19 MEMBER MAYNARD: -- time would probably be  
20 better spent for those who have just received the reg.  
21 guide to be spending time reviewing that right now.  
22 And this evening when we get together, we can still --

23 CHAIRMAN WALLIS: Yes. Then, we'll all be  
24 prepared this evening, and maybe this evening then can  
25 go very much quicker, because we'll all be prepared.

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1 MR. SNODDERLEY: Sounds good.

2 CHAIRMAN WALLIS: Let's do that.

3 MR. SNODDERLEY: All right.

4 CHAIRMAN WALLIS: We are going to take a  
5 very long break. We will not be back here until  
6 12:45.

7 MEMBER ABDEL-KHALIK:: Graham?

8 CHAIRMAN WALLIS: Yes.

9 MEMBER ABDEL-KHALIK:: Maybe we can get  
10 Ralph's presentation done.

11 CHAIRMAN WALLIS: That's it.

12 MEMBER ABDEL-KHALIK:: Oh, you're still  
13 doing --

14 CHAIRMAN WALLIS: They're still doing --

15 MEMBER ABDEL-KHALIK:: -- doing it at  
16 lunch time?

17 CHAIRMAN WALLIS: -- Ralph's presentation.

18 MR. MONNINGER: Mr. Chairman?

19 CHAIRMAN WALLIS: No, because they're  
20 doing work now, so we'll have our presentation at  
21 lunch.

22 MR. MONNINGER: If I may just make one  
23 last -- or one additional remark. Although the  
24 typical interface with the ACRS has been with the  
25 project staff, I would just like -- really like to

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1 recognize the engineering staff who has supported this  
2 group. I mean, there are multiple divisions within  
3 both NRR and Research. I mean, your geophysical  
4 scientists, your thermal hydraulics, etcetera.

5 So, you know, the majority of the  
6 interactions occur with the project organizations.  
7 But, really, the backbone of this effort is with the  
8 hard core staff within the technical division. So  
9 they also deserve the recognition, because without  
10 them we could not get this job done.

11 CHAIRMAN WALLIS: So what we're going to  
12 do, then, is the individual members will make sure  
13 that they have these reg. guides, be prepared for this  
14 evening. You probably have time to have a quick  
15 lunch, because we have a report by Ralph Caruso  
16 scheduled for 11:45. We'll keep it at that time.

17 He's going to report on our visit to see  
18 some sump tests. That's at 11:45. Maybe you can get  
19 a quick lunch at 11:30 or something, or bring your  
20 lunch here, whatever is best for you. We convene at  
21 12:45, and attendance will be taken. We'll take a  
22 break until 12:45.

23 (Whereupon, at 10:38 a.m., the  
24 proceedings in the foregoing matter went  
25 off the record.)

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1 A-F-T-E-R-N-O-O-N S-E-S-S-I-O-N

2 (12:55 p.m.)

3 CHAIRMAN WALLIS: Please come back into  
4 session.

5 The next topic is New Reactor Planning  
6 Activities. Our cognizant member on this topic is Dr.  
7 Tom Kress, and I'll hand it over to you, Tom.

8 MEMBER KRESS: I don't know if "cognizant"  
9 is the right word or not. But as we are all well  
10 aware, we and the staff are facing a daunting workload  
11 on new reactor licensing activities, like 18 or 19 new  
12 sites, with the units associated with them. The units  
13 might be any of AP 1000, ESBWR, ABWR, and even the  
14 EPR, and maybe some that haven't even yet been  
15 designated.

16 And workload also includes continuing to  
17 certify the ones we haven't certified yet, early site  
18 permit reviews, the COL applications and inspections,  
19 plus the staff, as we just talked about earlier, was  
20 attempting to update all their guidance, the  
21 regulatory guides, and standard review plans, in order  
22 to make this process more effective and efficient.

23 So in order to effectively deal with this  
24 kind of workload, the staff has developed what they  
25 call a master integrated plan. It includes

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1 comprehensive activity list, a master schedule,  
2 detailed project management plan, and things like  
3 that. So what we're going to do today I think is get  
4 briefed on this plan and see where we fit into it, and  
5 how we need to adjust our plans and schedules to  
6 accommodate theirs. So with that, I'll turn it over  
7 to Rich.

8 MR. BARRETT: Thank you, Tom. My name is  
9 Richard Barrett. I'm in the Office of New Reactors.  
10 By this time next year, the Office of New Reactors  
11 will be well on its way to nearly 500 people, but at  
12 the moment there are only two of us. Bill Borchardt  
13 is the Office Director, and I'm his assistant for  
14 transition planning.

15 MEMBER KRESS: Do you plan on hiring a lot  
16 of new people for this office?

17 MR. BARRETT: Well, there are a lot of new  
18 people who are being brought in through NRR primarily.  
19 And we're in the process now of dividing the currently  
20 available staff between the NRR and NRO through a  
21 process that we hope is not at all like hijacking,  
22 actually. It's a process that will involve the staff  
23 stating their preferences, but, of course, there are  
24 many other factors that will be involved in that.

25 We've selected the Division Directors and

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1 Deputy Division Directors for both offices. We're in  
2 the final stages of selecting the Branch Chiefs, the  
3 first-line supervisors. And once that's completed,  
4 we'll begin to focus on the existing staff. But we  
5 have a long way to go.

6 There are probably 250 to 350 additional  
7 people who will be hired into the reactor program for  
8 NRR to keep NRR operating effectively to oversee the  
9 safe operation of operating reactors, and to support  
10 the new reactor licensing as well.

11 What we want to do this morning primarily  
12 is to discuss with you the master project management  
13 plan. And there has been some confusion about various  
14 master plans, but it's the master project management  
15 plan that we want to talk to you about primarily this  
16 morning. And Kurt Cozens on my left is going to give  
17 that presentation.

18 The master project management plan is a --  
19 is our way of managing this enormous workload to make  
20 sure that we're making optimum use of our resources  
21 and that we're keeping up with the scheduling, the  
22 very challenging schedules that we will have starting  
23 this next calendar year.

24 But I think you've probably also heard  
25 about the master integrated schedule, and that's a

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1 separate thing and it's -- and we're planning to  
2 change the name of that very soon to remove the  
3 confusion about it. So before Kurt gets started on  
4 the main presentation, I want to spend a few minutes  
5 just telling you about what the master integrated  
6 schedule is all about.

7           And what it relates to primarily is  
8 business process integration. And if you've followed  
9 the high-level waste business at all, you're probably  
10 somewhat familiar with this. But if you haven't, it's  
11 a relatively simple concept, and I want to spend a few  
12 minutes talking to you about it.

13           Business process integration in the new  
14 reactor arena grows out of a concern about the  
15 numerous development activities that are needed to  
16 make new reactor licensing a successful enterprise.  
17 Human capital, space, information technology,  
18 contracting, training, the list goes on and on.

19           There is a lot of activity underway. And  
20 for myself, speaking as one who has just recently  
21 joined this effort, I have to say that I'm very  
22 impressed with the efforts so far and the progress  
23 that has been made.

24           So what is the role of business process  
25 integration? Well, there are a number of things we're

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1 going to try to accomplish through this mechanism.  
2 First, we want to examine the possibility that there  
3 are -- there might be disconnects among the various  
4 organizations that are involved in getting this thing  
5 going.

6 For instance, in fiscal year '08, NRO will  
7 place approximately 1,000 contract actions. That's  
8 four per working day. Now, NRO is preparing for this  
9 challenge, and the Division of Contracts is preparing  
10 for this challenge. The role of BPI is to ask the  
11 question of whether the efforts of these two offices  
12 will mesh, and, if not, what can we do to make sure  
13 that they come together through a seamless process  
14 that can serve this enterprise?

15 We're also looking for topics that may  
16 have been totally overlooked. I'm sure there are no  
17 major topics that have been totally overlooked, but  
18 there may be some minor ones. For instance, yesterday  
19 we had a meeting in which we were reminded that we  
20 need to identify adjudicatory employees -- employees  
21 who can support the hearing process, employees who  
22 have not been tainted by participation in the initial  
23 review.

24 So we want to make sure there aren't a lot  
25 of examples like that where things have fallen through

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1 the cracks.

2 We want to look for areas where there are  
3 major opportunities for process improvements. We know  
4 that our staff is looking at process efficiencies, and  
5 that's the primary purpose I think of the briefing  
6 today is to look at the way in which the processes  
7 have been laid out and to try to identify areas where  
8 efficiencies can be gained.

9 But in addition to that, we're going to be  
10 meeting at the office level with all of the major  
11 offices, including the management of ACRS, to see if  
12 there are major process improvements that can be  
13 identified and implemented to make this -- all of this  
14 work go more smoothly.

15 In the coming weeks and months we are  
16 going to be putting together interoffice working  
17 groups to deal with the overall issue of business  
18 process --

19 MEMBER POWERS: Can I come back to -- you  
20 said you were looking for ways to make this whole  
21 process work more smoothly. You're looking to prevent  
22 somebody from coming along and saying, "Gee, I think  
23 this is a bad design," or something like that?

24 MR. BARRETT: Well, I think --

25 MEMBER POWERS: I mean, it's "smoothly"

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1 that I'm worried about. What does "smooth" mean?

2 MR. BARRETT: Well, I think if there's a  
3 bad design it's a bad design. We're not going to try  
4 to make a bad design look like a good design. We're  
5 really more looking at the business processes. For  
6 instance, we know that in the process of going from an  
7 application to a completed license there are many  
8 people who have to touch the documents -- NRO  
9 Projects, NRO technical people, Office of the General  
10 Counsel, the ACRS, and others.

11 You know, do we -- have we looked at the  
12 optimal way in which to sequence these things? Do all  
13 of these things have to go in series or sequence, or  
14 are there -- are there things that can be done in  
15 parallel?

16 CHAIRMAN WALLIS: This is quite  
17 independent of looking at the steps that you have to  
18 go through in order to achieve a successful outcome,  
19 which would be sort of outcome-oriented. And what do  
20 you have to do, in what order, and so on? That's  
21 quite different. You seem to be addressing how the  
22 people interact. That's a different question than --

23 MR. BARRETT: I think they're related  
24 questions. You have to know, what are the steps?  
25 There are steps that need to be accomplished.

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1 CHAIRMAN WALLIS: None of this seems to be  
2 outcome-oriented in terms of making sure we do a good  
3 job.

4 MR. BARRETT: You start by laying out in  
5 the master -- in the master project management plan,  
6 you lay out all the steps that are necessary to do a  
7 good and complete job. And that -- and you're going  
8 to be hearing a lot about that today and in the  
9 future. Once you've laid all of that out in a -- in  
10 the context of some project management software, for  
11 instance, you can then begin to look at whether --  
12 how things can be sequenced.

13 For instance, I think for the first time  
14 we'll be making major use of electronic submittals,  
15 and that's going to be absolutely necessary for the  
16 success of this thing. And we -- our information  
17 technology people are already working on that. Does  
18 that -- we could raise the question, does that present  
19 us with an opportunity for a more -- for more parallel  
20 reviews rather than sequential reviews? Because  
21 schedule is going to be very important here.

22 Nothing is as important as quality and  
23 safety, and those are -- that's our effectiveness.  
24 But the question here is one of efficiency and  
25 schedule.

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1                   MEMBER MAYNARD: Well, I would contend  
2                   that the efficiency and the effectiveness of the  
3                   process is very important to the quality. You cannot  
4                   get a good quality product if your process is  
5                   inefficient and disorganized, and so I would say this  
6                   is a critical element to have the opportunity to come  
7                   out with a quality product.

8                   MR. BARRETT: I would agree. I would  
9                   agree. And I --

10                  MEMBER BONACA: Rich, I just had a  
11                  question. You're talking about up to 500 people by  
12                  the end of next year?

13                  MR. BARRETT: Yes.

14                  MEMBER BONACA: Are you looking at the  
15                  cascading effects from other areas of NRC that will be  
16                  drained, because I'm sure this group will offer  
17                  opportunities and you have -- and yet you need the  
18                  support groups to help --

19                  MR. BARRETT: Yes.

20                  MEMBER BONACA: -- with this.

21                  MR. BARRETT: We are looking at the  
22                  potential effects. You know, up until now we've -- I  
23                  don't have the exact numbers, but the reactor program  
24                  here in headquarters has gone from approximately 500  
25                  people to well over 700 people, which means that we've

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1 hired a lot of people from outside -- primarily from  
2 outside of the agency, people who are at all stages of  
3 their careers -- junior people, mid-career people,  
4 senior people.

5 Up until now, I would say -- I think it's  
6 fair to say that we have not had a major adverse  
7 impact on the other technical offices, for instance  
8 the Office of Research. But we are meeting with the  
9 Office of Research to talk about just this issue,  
10 because we don't want to have a situation where we  
11 drain all of the -- for instance, all of the junior  
12 people out of the Office of Research. That would be  
13 very counterproductive to the long-term health of the  
14 agency.

15 MEMBER BONACA: I will be very worried  
16 about that. I was thinking just for Research.

17 MR. BARRETT: Yes.

18 CHAIRMAN WALLIS: Has any one of these  
19 utilities raised the money for these plants?

20 MR. BARRETT: I'm sorry. I can't talk to  
21 -- I really can't speak to that. I don't know.

22 CHAIRMAN WALLIS: You could get a kind of  
23 Gilbert and Sullivan scenario where you hire 700  
24 people and nothing comes in the door.

25 MR. BARRETT: I think that it's highly

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1 unlikely that nothing comes in the door.

2 CHAIRMAN WALLIS: I know it's unlikely.  
3 But, I mean, I haven't yet seen anyone put down the  
4 money and say, "We're going to give you \$10 billion to  
5 make this thing happen."

6 MR. BARRETT: No. I don't think anybody  
7 is putting \$10 billion down. I think they'll spend  
8 the money as they need to spend it.

9 CHAIRMAN WALLIS: It said they have an  
10 intent, but that's -- lots of things are different  
11 between having an intent and actually the means to  
12 carry it out.

13 MR. BARRETT: Right.

14 CHAIRMAN WALLIS: So it's going to be very  
15 interesting to see how the reality conforms to the  
16 intent.

17 MR. BARRETT: Right.

18 MEMBER SIEBER: I think, Rich, you are  
19 exactly right. Utilities or operating companies only  
20 get the money when they have to pay bills.

21 MR. BARRETT: Right.

22 MEMBER SIEBER: They don't get it in  
23 advance, because they don't want to pay the interest.  
24 There's no income.

25 MR. BARRETT: Yes. I can't speak to this

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1 in detail, but I think there actually have been some  
2 indications of some advanced planning toward the  
3 fabrication of major -- major components.

4 MEMBER SIEBER: Vessels and --

5 MR. BARRETT: But I think from our  
6 perspective, the question right now is whether they  
7 have the intent to invest in the licensing process.  
8 And I think there's a lot of confidence in that.

9 MEMBER MAYNARD: Well, you can't wait  
10 until someone submits an application to then start  
11 building your ability to --

12 CHAIRMAN WALLIS: Of course not.

13 MEMBER MAYNARD: -- deal with this.

14 CHAIRMAN WALLIS: Of course not.

15 MR. BARRETT: No. No, we're hiring a lot  
16 of people. We have to train them technically, we have  
17 to train them in terms of regulatory process, we have  
18 a lot of work to do and not a lot of time to do it.

19 MEMBER CORRADINI: So, can I ask a  
20 question? Maybe you're going to get to it in your  
21 fifth -- the master integrated schedule. Has there  
22 been a discussion as to, are you staffing up for the  
23 complete surge of potential activity or some queued  
24 amount per year? Is that coming? Are you going to  
25 bring that up?

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1 MR. BARRETT: I'm not going to get into  
2 that detail. But to the extent that I can answer  
3 that, the answer is we will -- we will be staffing up  
4 to meet the work that we anticipate at any given time.  
5 Now, the reality is that starting at the beginning of  
6 fiscal '08, a lot of work comes in all at once,  
7 because we have a design-centered approach, so that  
8 once you get, for instance, a single AP 1000  
9 application you are -- you know, you are fully engaged  
10 in AP 1000.

11 MEMBER CORRADINI: I understand. But I  
12 guess what I'm asking, and this is kind of what Graham  
13 is asking, but I'll ask it more crudely, could we even  
14 build more than two nuclear powerplants in this  
15 country at a time, given the need for the technicians,  
16 the craft workers, and all of the skill levels that  
17 have been absent for three decades? Or, shall we say,  
18 have been diminishing for three decades?

19 And so I'm curious what the -- what the  
20 realistic goal is versus what the advertised goal is.  
21 Do you see my question?

22 MR. BARRETT: Yes, I do. I think that,  
23 again, I'm not in a position to answer that question,  
24 whether or not the industry is prepared to build the  
25 plants. But I can say that we have a schedule that

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1 has been laid out for the licensing, not the  
2 construction, the licensing of these plants. And that  
3 -- we have laid that out based on commitments on the  
4 part of licensees that we feel are credible.

5 MEMBER SIEBER: There is history, though,  
6 to maybe address your question. In the original birth  
7 of the nuclear industry, there was no infrastructure  
8 either except whatever the Navy provided, which was  
9 not very much. Yet in -- from 1957 when Shippingport  
10 went online to about 1967, there were about 50  
11 reactors ordered, a lot of them under construction.  
12 All that infrastructure came about. There isn't any  
13 reason why it can't happen again.

14 And so I think that you -- you can't take  
15 the chance of sitting back and saying, "I don't think  
16 those other guys over there can do it, so I don't have  
17 to work real hard." That just won't work.

18 MEMBER MAYNARD: And the infrastructure to  
19 actually start building it doesn't have to be there at  
20 the time that the license application is submitted,  
21 which is when your work really starts.

22 MR. BARRETT: That's right. Unlike the  
23 previous round of licensing, the licensing to some  
24 extent, to a great extent, precedes the construction  
25 process.

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1 Was there another question?

2 (No response.)

3 I say all of this as -- just as a -- to  
4 clarify this misunderstanding between the master  
5 integrated schedule and the master project management  
6 plan. The master project management plan is a  
7 substantial effort that will be very important to the  
8 success of this enterprise.

9 The master integrated schedule is  
10 associated with the business process integration, and  
11 it's a -- it is simply a way of keeping track of the  
12 action items that come out of the effort that I was  
13 just talking about, the action items that we will  
14 identify and want to schedule and track that are  
15 associated with making sure that our business  
16 processes are ready.

17 And so it's a relatively minor effort, and  
18 it's simply there for communication and coordination  
19 within the management team of the NRC. So I think  
20 that one of the first things we're going to do is  
21 change the name of the master integrated schedule to  
22 something else, anything else, so that we can avoid  
23 this confusion in the future.

24 MEMBER KRESS: Good idea.

25 CHAIRMAN WALLIS: Great.

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1 MR. BARRETT: Are there any other  
2 questions about business process integration or about  
3 the master integrated schedule or --

4 MEMBER ARMIJO: Yes. If you're looking at  
5 your process, are you actually -- will you look at  
6 steps in your current processes that can be  
7 eliminated, that are just unnecessary? Is that even  
8 possible, to take out work in the process that has  
9 been -- that adds no value?

10 MR. BARRETT: That would be our hope, yes.  
11 For instance, I mentioned that we -- we will have to  
12 put in place 1,000 task orders in the year -- in FY08.  
13 You know, when we were just doing a few, when NRR had  
14 a budget of \$3 million, that was -- it was not a great  
15 priority to try to optimize that process.

16 With an annual budget of \$60 million, it  
17 will be very much in our interest to see any small  
18 step that we can eliminate. And it's the handoffs I  
19 think that are going to be more important than the  
20 steps. It's the -- how smooth are the handoffs, are  
21 going to make the difference between success and  
22 failure.

23 Okay. With that, let me turn it over to  
24 Kurt Cozens.

25 MR. COZENS: Good afternoon. I'm Kurt

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1 Cozens. I have some responsibility for developing the  
2 licensing review plan, and that's what we'd like to  
3 talk a little bit about today.

4 We're going to call it, for the purpose of  
5 this presentation, instead of the integrated licensing  
6 plan, we'll just call it the new plant licensing plan,  
7 make it simple, because there has been a lot of  
8 confusion with the terminology. And quite simply put,  
9 the scope of what we're doing here -- I'll start with  
10 here is we are looking at from the time we receive the  
11 application to the time the license decision is made.  
12 It's the review process, and how are we going to  
13 support that.

14 Within our activities, we have basically  
15 three different primary elements that we'll deal with,  
16 and those are, first of all, the integrated Gantt  
17 chart of the reviews, the tasks necessary to take an  
18 application, have the technical reviews and processes  
19 done.

20 We're also looking at the planning and  
21 scheduling program plan. Just have a Gantt chart to  
22 say these are the steps you're going to do is not  
23 sufficient to manage a large program like this.  
24 There's a lot of infrastructure that's necessary to  
25 support it, who owns what responsibility, as was

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1 talked about the handoffs, the management decisions,  
2 the change controls, things of this nature that we  
3 need to have a definition of how it's going to be  
4 done. Just don't throw 500 people in a room and say,  
5 "Please do a good job." We need a little bit more  
6 control.

7 We are also taking the -- this program  
8 plan into new technological areas, planning to use as  
9 the basis for the control of the schedule the  
10 Microsoft Project Enterprise System. It is a server-  
11 based program that has the benefit of being able to  
12 status electronically, so you don't have to go around  
13 chasing bodies, and that we have ability to make  
14 changes and controls in a more systematic manner  
15 versus transmitting the paper around.

16 There's a lot of features in there that I  
17 will not be going into today, but short of going to  
18 something like Primavera is probably the most  
19 sophisticated technology we could go, Primavera being  
20 what they might be using for the actual construction  
21 of the plant to match the project of that.

22 Basically, you may have seen this slide  
23 before.

24 MEMBER KRESS: On that previous slide --

25 MR. COZENS: Sure.

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1 MEMBER KRESS: -- it got four early site  
2 permits.

3 MR. COZENS: Correct.

4 MEMBER KRESS: And 19 combined operating  
5 licenses.

6 MR. COZENS: Correct.

7 MEMBER KRESS: Does that mean four  
8 licenses per side or --

9 MR. COZENS: No.

10 MEMBER KRESS: -- there would be more  
11 sites?

12 MR. COZENS: I'll talk about that in this  
13 next slide.

14 MEMBER KRESS: Oh, okay.

15 MR. COZENS: That's this. I figure we  
16 could look at a slide or look at a nice graphic. I  
17 don't know if you've seen this before. It's been  
18 around. We've used it as a method of demonstrating  
19 the large amount of work that's coming in. The blue  
20 lines there represent COLs.

21 COL may have one or more unit associated  
22 with it, and the interesting, maybe even scary part,  
23 if you draw a line through these blue lines, and the  
24 green lines which represent ESPs, and the red lines  
25 which represent signed certifications, boy, there's a

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1 lot of stuff going on all at once. That's what we're  
2 trying to manage.

3 MEMBER SIEBER: You're going to have a lot  
4 of hearing boards going on all at once.

5 MR. COZENS: That's also a true statement.

6 MEMBER SIEBER: That's going to be tough  
7 to support.

8 MR. COZENS: It'll be interesting. This  
9 diagram here basically represents the type of  
10 durations that we would be expecting to try to perform  
11 these reviews.

12 MEMBER POWERS: I have a feeling our  
13 Thermal Hydraulics Committee can cause some spread in  
14 that --

15 (Laughter.)

16 MR. COZENS: But what I wanted to point  
17 out is the red text here. Is this a pointer? What is  
18 this? How does this work? Where is the pointer?  
19 There it is. This text here.

20 MEMBER KRESS: Somebody can read.

21 (Laughter.)

22 MR. COZENS: Basically, it says actual  
23 schedules will be determined when the applications are  
24 docketed. Budget Management 101 is real simple. You  
25 build a plan, what you expect to do it in, and the

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1 only thing you know for certain you'll have challenges  
2 along the way that will probably have some adjustments  
3 to the schedule.

4 So we start out with a plan of what we  
5 think we're capable of doing and do our best to hold  
6 that schedule while doing the technical reviews we  
7 need to do. What we're doing here today -- and this  
8 discussion has nothing to do with the technical  
9 content of the reviews. That's being addressed by  
10 other things that you heard something about earlier  
11 today -- the SRP, the reg. guides, the regulations as  
12 they exist.

13 CHAIRMAN WALLIS: Now, but these things  
14 are going to be -- the COL is going to be approved  
15 before the design has been certified.

16 MR. COZENS: That is -- John?

17 CHAIRMAN WALLIS: Before you know that  
18 it's a safe design, you're going to give a license, or  
19 about the same -- yes, in some cases, before you know  
20 it's a fully safe design and certified, you're going  
21 to give a license?

22 MR. COZENS: Actually, the -- John, would  
23 you like to address that?

24 MR. TAPPERT: Yes. My name is John  
25 Tappert. I'm the Branch Chief for the Planning and

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1 Scheduling Branch in the New Reactor Licensing  
2 Division.

3 I guess you're looking at the EPR. Is  
4 that --

5 CHAIRMAN WALLIS: Right.

6 MR. TAPPERT: That's -- we're actually  
7 doing some detailed planning on that right now,  
8 because that is going to present some unique  
9 challenges. The last month of that design  
10 certification you're seeing up there is actually the  
11 rulemaking phase. So you're going to have your final  
12 design approval before that's -- you know, while  
13 you're in the hearing phase from --

14 MEMBER KRESS: I think from the ACRS point  
15 of view, we spend an awful lot of time on design  
16 certification to make sure that --

17 MR. TAPPERT: Right.

18 CHAIRMAN WALLIS: -- the features of this  
19 reactor are okay, that public safety is okay, and that  
20 technically it will work, as said to work. We spent  
21 a lot of time on that. That's probably where we make  
22 the most contribution to the whole process.

23 MR. TAPPERT: And I think as Kurt goes  
24 through this you're going to see that's where we're  
25 going to expect the heavy lifting to be done by the

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1 Committee is on those design certifications.

2 CHAIRMAN WALLIS: These other things are  
3 going to be going on at the same time. It's going to  
4 be interesting.

5 MR. COZENS: Yes, it is.

6 MEMBER CORRADINI: So did you answer  
7 Graham's question about how you're going to do the red  
8 -- how you're going to accomplish the blue before the  
9 red is done? I missed that.

10 MR. TAPPERT: They can be done in  
11 parallel, and what we need to do is we need to look at  
12 what -- whatever the specific technical area is  
13 involved and sequence those reviews. The design  
14 center review approach can still be applied in this  
15 context in the sense that we only want to do one  
16 review for one issue. So if that issue can be handled  
17 in the design certification, what we're expecting is  
18 to combine licenses to reference that, and to have  
19 that decision kind of tiered down through that. So --

20 CHAIRMAN WALLIS: I can see the blue  
21 folks, though, being very upset that the red folks  
22 were not getting things done, the schedule that they  
23 want.

24 MR. TAPPERT: Well --

25 CHAIRMAN WALLIS: Even though it's

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1 necessary.

2 MR. COZENS: I would like just to add, one  
3 of the -- first of all, to make certain that everybody  
4 understood what John was saying. This red line here  
5 is the entire design certification process. The last  
6 12 months of it are the rulemaking based upon the SER  
7 that's been issued. So at about this point in time  
8 you've pretty much settled all the technical issues  
9 for all practical purposes. It will also add to --

10 CHAIRMAN WALLIS: By that time, some of  
11 these things have been licensed, haven't they? I  
12 mean, the --

13 MR. COZENS: No, these are actually --  
14 maybe the pictures are. But this point and that point  
15 are supposed to match up.

16 CHAIRMAN WALLIS: But the blue stuff is  
17 all over by -- before that last 12-month period.

18 MEMBER ARMIJO: Look at the ABWR. You've  
19 got a certified design there, and the combined license  
20 would be issued about the same time as -- or an EPR  
21 where we haven't even gotten something to look at to  
22 certify.

23 MR. BARRETT: Can I make a point?

24 MEMBER ARMIJO: It seems like one would be  
25 a lot faster, and the others were going to be a lot

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1 slower.

2 MR. BARRETT: I'd like to make a point  
3 about this. The way in which Part 52 is written does  
4 not require a design certification to issue a combined  
5 operating license. So they -- by the time you  
6 complete that blue line there for Unistar Calvert  
7 Cliffs, all the safety issues associated with the  
8 design will have been satisfactorily resolved.

9 The design certification is not necessary  
10 for issuance of that license, I don't believe. It's  
11 useful for the issuance of future licenses that might  
12 -- that might reference it. But it's not necessary to  
13 reference a design certification to get a combined  
14 operating license. It's only necessary that you get  
15 a sufficient safety finding on the design that's being  
16 used.

17 MEMBER CORRADINI: Can I ask a question?  
18 So what you just said is, if it turns out that it's  
19 more expeditious to review it in blue, you'll do it,  
20 and let the red take that review result for the design  
21 certification.

22 MEMBER MAYNARD: I don't think from a  
23 practical standpoint that will probably happen,  
24 though, because I don't think with the staff's  
25 resources and what they're going to be doing I don't

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1 think they're going to be reviewing a specific design  
2 area for an individual licensee when they've got the  
3 design certification going on.

4           So I think, from a practical standpoint,  
5 it's going to fall out with the design certification  
6 review, and to the COL. And I think it's also part of  
7 the plan, as I understand it, is that these are  
8 sequenced by areas to where you're not going to be  
9 reviewing one part for one COL and a totally different  
10 area that hasn't been reviewed yet for design  
11 certification. It's going to be kind of a --

12           MR. COZENS: And I just might add we are  
13 about ready to enter the phase where we start looking  
14 at the integrated activities of a design  
15 certification, a COL, stacking of COLs and other  
16 efforts. And one of the things we're taking a very  
17 careful look at is the sequencing of events,  
18 particularly in this EPR, to assure that the  
19 information decisions are technically made, so we can  
20 make decisions on other documents from DC to the COL,  
21 what have you.

22           And it's something that we will be  
23 modeling in more detail. That effort is not complete  
24 as of yet. But it is something that we are indeed  
25 looking at.

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1           The point I wanted to make is this is a  
2 representation of what we'd like to do. We realize  
3 that we're going to have to make some commitments at  
4 the time, that -- maybe that's too strong a word, but  
5 some decisions at the time what our targets will be at  
6 the time of receiving the application, and the plan  
7 will be initiated and baselined, and then we'll be  
8 torquing that and adjusting it as the technical  
9 reviews dictate.

10           MEMBER MAYNARD: I think it's also going  
11 to be highly dependent on the industry's ability to  
12 coordinate their own activities and standardize as  
13 much as they can in their submittals. If everybody  
14 comes in with a lot of unique things and variations,  
15 the process won't work, and it won't be in anybody's  
16 best interest.

17           MR. COZENS: I don't have a slide on this,  
18 but you've raised a good point. Last year we issued  
19 RES 2006-06. One of the questions that was asked:  
20 would you please tell us about how the sections will  
21 be standardized? And about 75 percent of the  
22 sections, the design center working groups, which is  
23 industry, like AP 1000s or EPRs or what have you, they  
24 told us about 75 percent of the sections will be  
25 standardized from the reference down through the

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1 subsequent. And when we asked what they did with it,  
2 they say "verbatim."

3 So we would anticipate that if, you know,  
4 the reference COL is acceptable that the subsequent  
5 ones would also be acceptable, unless there is some  
6 sort of perturbation that would make that not the  
7 situation. At least we would know where we stood with  
8 that first review, which makes the subsequent reviews  
9 much more streamlined.

10 As I said, one big part of this program  
11 plan is the Gantt chart, and I've started -- that's  
12 the highest level on the previous slide. But there's  
13 a lot of associated planning and thinking that goes  
14 into, how do you control this thing? And these are  
15 the chapters that we would have in this program plan.  
16 I will note that it is modeled after the high-level  
17 waste program plan that was developed using good  
18 practices, industry good practices for plant program  
19 planning -- project management planning, I mean.

20 And so what we have here is a section that  
21 will go into the organization that will be key to us  
22 understanding how we do several different things and  
23 how the functionality of the organization will work.  
24 That will play out largely in the workflow and  
25 controls. It can also affect significantly the change

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1 management on, what does it take, and who has the  
2 authority to make changes in the processes or  
3 schedules or resources, our communication plans?

4 We will discuss that -- largely driven  
5 through the organizational structure and the technical  
6 needs of the reviews. So we will have a definition of  
7 how this program plan will be working, looking at all  
8 of these different subject areas that are  
9 characterized in these chapters.

10 We're in the process of developing this  
11 document as we speak. We started basically in June.  
12 We're coming along nicely. We're targeting to have  
13 Rev 1.0 completed by the end of this year. This has  
14 a lot of meat on how NRR will be operating and how we  
15 will be controlling this product of performing  
16 licensing reviews for new reactors.

17 The process we're going through to model  
18 the Gantt chart follows some basic, simple principles  
19 -- start simple, get more complicated. We are  
20 building some templates for the scheduling of  
21 resources. These will be our basic building blocks,  
22 that if you look at the 26 reviews that we now believe  
23 we have available to us we will stack the Gantt charts  
24 for the COLs, the DCs, and the ESPs, and then we'll  
25 make adjustments on those accordingly.

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1           We will be integrating them with --  
2 believing that we have a good handle on the steps we  
3 need to, but we also need to look at how our resource  
4 loads are being affected. Are we overallocating or  
5 underallocating? Do we have an opportunity to move  
6 some work around to make it a little bit more level-  
7 loaded? Do we need to contract reviews? These are  
8 the type of decisions that this integrated chart can  
9 help us make decisions on.

10           And this is a living document. You don't  
11 make it once, leave it on the shelf, and walk away  
12 from it. Probably before we ever get our first couple  
13 applications we'll have gone back and made some fairly  
14 significant revisions to Rev 1.0 as we understand the  
15 changes of dates of submittals, better understanding  
16 of the technical review needs, and as things get  
17 polished as we go through and our efforts of  
18 preparation.

19           The Gantt charts themselves are based upon  
20 about 40 meetings with review stakeholders. We  
21 brought in each branch -- technical branch, confirmed  
22 that they indeed have these sections for review, and  
23 ask them what technical skill sets are necessary for  
24 each subsection of the SRP that they will be reviewing  
25 these things against.

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1           A typical COL Gantt chart looks like it's  
2 going to have around 3,500 line items a task. Stack  
3 these up with these DCs and ESPs, you're probably  
4 looking at like a total of somewhere around 80,000  
5 line items a task for all the work that we're doing  
6 over the next three to five years of effort as these  
7 things will take to go through the licensing review  
8 process.

9           Currently, we are loading these Gantt  
10 charts up with generic skill sets based upon our  
11 interviews that we performed with our technical  
12 reviewers, looking at specifically for this small  
13 subsection of the SRP, what does it take to perform  
14 the review? Who needs to do this review? Do we have  
15 that skill set in-house? Does this skill set need to  
16 be hard? Do we need to contract it out? If we go  
17 out, what are we looking for? So we can get the right  
18 resources available to perform these reviews.

19           So we're looking very carefully at our  
20 resources here. This has also been used as an input  
21 for our budgeting practices, and will be used as we  
22 look at level-loading, our efforts in making changes.  
23 I'm sure as the NRO goes on there will be adjustments,  
24 and this will be one insight into that.

25           So it's a good tool for giving us insights

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1 as to, what's the current status? What do we need in  
2 the future? As things change, it's a good tool for  
3 doing scenario planning on, what's the consequences of  
4 this change? Or if we do have a challenge to the  
5 schedule or the resources, what are we going to do?  
6 We can try different scenario planning to help make  
7 the best decisions possible.

8           So this tool is a living tool. It will be  
9 maintained through the licensing reviews. As I  
10 understand -- my current understanding is there will  
11 be a branch to manage this effort of managing this  
12 program plan for -- as the tool for the decisionmakers  
13 that need to make decisions.

14           As I had mentioned, this is being created  
15 in Microsoft Project Server Enterprise. We have  
16 purchased a brand-new bank of servers just for this,  
17 and OIS is supporting us in that effort. We take  
18 advantage of the fact that the MS Project Server does  
19 take data via internet, so our reviewers can give us  
20 statuses and greet it up to schedule in a very short  
21 period of time, giving us an opportunity to look at  
22 where we are in our reviews, the variances in  
23 planning, and etcetera. And this, like I said, a very  
24 good tool for giving insights to the management of  
25 what's going on.

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1                   This is just a picture. You can't read  
2 that at all, can you? Maybe it's better in your  
3 presentation.

4                   MEMBER ARMIJO: It's worse.

5                   (Laughter.)

6                   It's sharper, but it's still unreadable.

7                   MR. COZENS: Well, the intent was not for  
8 you to read it. The point is, the level of detail  
9 we're going.

10                  MEMBER ARMIJO: Okay.

11                  MR. COZENS: Normally, if you put it in  
12 basic terms, when a portion of a review changes hand  
13 of responsibility, you need to transfer that  
14 responsibility. That's where we take this level of  
15 review down to. If a section gets reviewed by one  
16 technical branch, and it's passed off onto another for  
17 another activity, we need to transfer the ownership of  
18 the activity going on.

19                  That's how -- why the tasks here are as  
20 many as they are. We have a lot of hands-off. We  
21 have somewhere in the order of approximately 225  
22 sections of the SRP that have discreet portions of the  
23 SER inputs that come in to make up the overall SER.  
24 And we go through -- we're planning on two phases of  
25 this SER, which will be an SER with open items, which

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1 we would think we'd want to have an opportunity to  
2 discuss with the ACRS, and then the supplement, which  
3 would close out those open items.

4 CHAIRMAN WALLIS: Is this all laid out,  
5 that someone starts a certain task on Wednesday, so-  
6 and so, and finishes it on Thursday, this so-and-so,  
7 or --

8 MR. COZENS: We will --

9 CHAIRMAN WALLIS: It's very much a  
10 production type schedule you've arranged here.

11 MR. COZENS: We believe --

12 CHAIRMAN WALLIS: Is that appropriate for  
13 safety evaluation?

14 MR. COZENS: We have asked the safety  
15 reviewers how much time they need to perform these  
16 reviews. If in fact they get into a review and find  
17 out that they've started the review, but it requires  
18 more time, they have to notify through the channels  
19 that -- what will be necessary, we'll put a new date  
20 in there, and see what the consequences are.

21 This is not intended to tell you how to  
22 perform your reviews. It's a reflection of what we  
23 understand currently it will take to do the review.  
24 If that understanding is not correct, we need to make  
25 adjustments to these Gantt charts to make certain we

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1 understand what the future looks like.

2 CHAIRMAN WALLIS: It's very difficult to  
3 predict these things, isn't it? I'm just thinking  
4 about my experience with, say, reviewing thermal  
5 hydraulic codes. If someone said you're going to  
6 start on Monday, September 17th, and review Section  
7 so-and-so, and it's got to be finished by Wednesday or  
8 -- well, sometimes it's trivial. You read through the  
9 thing and everything is fine, and it's five minutes,  
10 let's say. Other times you say, gee whiz, what a  
11 minute. Something is really odd about that piece. I  
12 need to go and dig into that. It's going to take me  
13 two weeks, not a day.

14 MR. COZENS: In general, most things are  
15 knocked down to a day. Most reviews have one or two  
16 characteristics. First of all, if it's something  
17 that's been settled in the design certification and  
18 you're working a COL --

19 CHAIRMAN WALLIS: Yes.

20 MR. COZENS: -- you would be referring  
21 back -- you'd be confirming that you satisfied it.

22 CHAIRMAN WALLIS: If it's already -- if  
23 the design certification has been done right, this  
24 should be much easier.

25 MR. COZENS: Now --

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1           MEMBER SIEBER: I presume there are some  
2 basic assumptions built into these schedules, one,  
3 that the applicant follows the standard review plan --

4           MR. COZENS: Yes.

5           MEMBER SIEBER: -- that the standard  
6 review plan exists, and that it takes so many hours or  
7 days to read through and examine these factors and the  
8 outcome as positive in every case. Anything beyond  
9 that represents a delay, which you would reflect in  
10 the schedule.

11           I don't see a conflict between schedule  
12 and safety myself. On the other hand, these schedules  
13 are only -- are not particularly useful in predicting  
14 how long it's going to take to do a given review.

15           CHAIRMAN WALLIS: There can be a conflict.  
16 I mean, if somebody really has a safety issue, maybe  
17 is a real one, and it's in conflict with the schedule,  
18 I'm afraid there will be too much management pressure  
19 on that person to get on with the job and finish it,  
20 without really resolving the issue that concerns him.  
21 That's the only thing I'm concerned about.

22           MEMBER MAYNARD: Well, I -- but I think  
23 that if management is going to do that, you're going  
24 to have that problem whether you have a schedule or  
25 not. I think schedules are important and compatible

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1 with safety. It's how you use it that's important.  
2 Schedule is a tool, and is not a hard-and-fast thing  
3 that is cast in stone.

4 And I think in the beginning of these  
5 processes the schedules are probably not going to be  
6 all that accurate. You're going to learn as time goes  
7 on you can refine them, but it becomes a good  
8 management tool, such that when you do run into areas  
9 it gets the right level of management involved to deal  
10 with the issues. It's how you use the schedule.

11 MEMBER ABDEL-KHALIK: But do we understand  
12 all the processes in sufficient detail to know the  
13 optimal sequencing of the various tasks?

14 MR. COZENS: We have reasonable confidence  
15 that we have a good handle on the sequencing of tasks,  
16 mainly because, you know, we know what it takes to do  
17 licensing, we know the type of steps that the  
18 individuals that have to make decisions in this  
19 process. As far as the duration of the tasks, we have  
20 drawn on our practical experience of those people that  
21 actually do these reviews.

22 We brought them in and asked them: how  
23 much time do you think you need for this? And then,  
24 we add an element of margin to that amount of time.

25 Now, with an NRO structure, having created

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1 the new Office for New Reactors, there's a real  
2 benefit. You basically have a dedicated set of  
3 technical resources that you can plan to start reviews  
4 at a particular time. That's the number one feature  
5 of planning and schedule -- when are you going to  
6 start?

7 Now, the question of when you finish takes  
8 into consideration the technical content of the  
9 review, and only the reviewer themselves can make that  
10 final decision whether or not they have found how long  
11 it's going to take to complete that technical review.  
12 If it's a new area, such as you get into design  
13 certifications that you may have not seen before, or  
14 if it's a somewhat predetermined area as far as what's  
15 acceptable, such as you have a COL and you're  
16 referencing a design certification that has been  
17 approved, yes, it takes a different level of effort,  
18 admittedly.

19 But still, even then, you could run into  
20 problems with the review. We've anticipated that  
21 there will be some staggering of activities, and that  
22 some activities take longer than others. That is not  
23 necessarily an automatic critical path item. It may  
24 be the fact that that technical reviewer is not  
25 available for another activity. It may have an impact

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1 in that regard. But as far as a singular review --  
2 licensing review, it may not have an impact on this --

3 CHAIRMAN WALLIS: Each one of these lines  
4 looks like a task and a time schedule. How many of  
5 these are there in this?

6 MR. COZENS: A COL and a DC approximately  
7 have 3,500 line items a task per application.

8 CHAIRMAN WALLIS: So 3,500 lines like  
9 these lines on here?

10 MEMBER KRESS: They're different, and  
11 that's -- when and if you get around to using  
12 Primavera, that's where it's a big help. You have to  
13 have all these inputs, and it will -- it will track  
14 them for you and automatically adjust them when you  
15 have changes and --

16 MR. COZENS: That does this also.

17 MEMBER KRESS: Yes. And so -- yes, that's  
18 a lot like Primavera I guess.

19 MEMBER MAYNARD: One of the real values  
20 that can come out of this is if the review groups will  
21 look at it ahead of time and identify how much time  
22 they have, what tools do they need, I think it will  
23 help define what they need in the way of resources,  
24 analytical tools, and other things, and if with all  
25 those tools they can't meet it, then they can come

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1 back and provide beforehand an adjustment to the  
2 schedule.

3 MR. COZENS: Matter of fact, our  
4 development is very heavily involved on stakeholder  
5 feedback. For instance, tomorrow I'll be passing out  
6 to our technical reviewers the template, the one 3,500  
7 line item of the COL that addresses where they are  
8 scheduled to have activities, and asking them for  
9 feedback. Is this correct? Does something need to be  
10 changed? And so we are very much trying to always  
11 bring in the stakeholders that use this.

12 The key to the success of an activity like  
13 this is to get stakeholder buy-in. Therefore, when  
14 the challenges do happen, and they will, they are  
15 willing to come back and say, "We now understand  
16 better, it's not this, it's this."

17 And we can start to do that, and we --  
18 there will be a constant learning curve in the sense  
19 of adjustments that will be necessary to keep this  
20 thing current and up to date. If it's not current and  
21 up to date, it can't be a tool for success. It  
22 becomes a hindrance. So keeping it up to date is  
23 very, very important.

24 MEMBER SIEBER: Now, applicants are going  
25 to have access to this, too.

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1 MR. COZENS: No. This is internal. We'll  
2 give them milestones.

3 MEMBER SIEBER: For example, a reviewer  
4 goes through the standard review plan and prepares the  
5 requirements to the information in the application,  
6 finds things that are missing, finds things that are  
7 wrong, finds things that are not adequately explained,  
8 and out comes a slew of RAIs. Along with every RAI is  
9 a friendly note to the licensee, "You're not a  
10 critical path." That reviewer should go do something  
11 else.

12 MR. TAPPERT: Right. And that's actually  
13 factored in this schedule.

14 MR. COZENS: That's the steps we go  
15 through -- technical review, RAIs issued.

16 CHAIRMAN WALLIS: Factored in this, do you  
17 know how many RAIs are going to be --

18 MEMBER SIEBER: No. No.

19 MR. TAPPERT: You develop RAIs. The  
20 expectation is there are RAIs, because that has been  
21 our experience. As Kurt said, this is just a plan.  
22 And the one thing we know about the plan is it's going  
23 to have to be modified as we go along.

24 We have some historical experience with  
25 some of these reviews. We have done some design

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1       certifications. We're going through some of those  
2       early site permits right now, so we tried to factor in  
3       what we know. And where we don't have experience,  
4       we've gone to the subject matter experts to estimate  
5       both the level of effort and also the duration of the  
6       review. That's an estimate at this point.

7                   And we're going to be a lot smarter three  
8       years from now. But right now we're just trying to  
9       get our arms around this body of work and make sure we  
10      have the right number of people and the right kind of  
11      people to do this work. So that's kind of where we  
12      are now. It's going to be an iterative process as we  
13      go forward.

14                   CHAIRMAN WALLIS: I think that's a very  
15      reasonable thing to do. But I think the difficulty  
16      may well be, since this is such a complex process, and  
17      sort of -- you know, we know the technical assessments  
18      can't always be predicted, what's going to happen.  
19      But the adjustment of the schedule, as things evolve,  
20      is going to be perhaps very -- the most difficult part  
21      of it, as it turns out that there are bottlenecks here  
22      and there and all sorts of things happening.

23                   Some RAIs don't get responded to on time,  
24      and it's going to -- an adjustment of the schedule to  
25      all of those things is going to be perhaps the key to

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1 the whole thing.

2 MR. TAPPERT: That's very true. And  
3 hopefully what we're hoping this tool will do for us,  
4 though, is to be able to articulate what those impacts  
5 are going to be. You know, this is now a critical  
6 path. What can we do -- what can we keep going while  
7 the -- while we're waiting on that RAI response? And  
8 what other reviews are going to be impacted if we  
9 don't get this in time?

10 So it's a very powerful tool. It's not  
11 something that the agency has used a lot before, so  
12 we're kind of learning as we're going as well.

13 CHAIRMAN WALLIS: Well, even a schedule  
14 model for production in a factory with machines, which  
15 are somewhat more predictable, is difficult. So --

16 MEMBER ARMIJO: You know, Graham, this is  
17 what the people who design and build the reactors in  
18 the fuel use and --

19 CHAIRMAN WALLIS: We have to do something  
20 about --

21 MEMBER ARMIJO: And when something is  
22 delayed for good reasons, you have the option of  
23 adding resources, finding them from somewhere else if  
24 you're scheduled. So I think it's -- there's no other  
25 way to do it.

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1 CHAIRMAN WALLIS: I just feel that this --  
2 this is very appropriate for certain business  
3 activities, and I think safety is somewhat tricky.  
4 Safety is --

5 MEMBER ARMIJO: Well, reactor design is a  
6 safety --

7 CHAIRMAN WALLIS: My sense is --

8 MEMBER MAYNARD: And I agree you have to  
9 be cautious with it. The industry, when they started  
10 emphasizing shorter outages, everybody screamed there  
11 was going to be too much schedule pressure, it's going  
12 to be unsafe, and a bad thing to do. But what it  
13 ended up doing was really forcing everybody to take a  
14 look and do a better job of preplanning up front.  
15 And, actually, the outages overall became safer and  
16 much better controlled. And I think this will be the  
17 same thing.

18 CHAIRMAN WALLIS: Yes. I think it may  
19 well be true. It will be --

20 MEMBER MAYNARD: But it's how you use it,  
21 and it is going to have to be managed. I agree it can  
22 be misused and --

23 CHAIRMAN WALLIS: But you have to do  
24 something like this. You have to do something like  
25 this.

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1                   MEMBER SIEBER: An applicant needs this  
2 kind of information, because he's running the same  
3 schedule. He's submitting things. At the same time,  
4 he's preparing the site, he's placing contracts to  
5 order things, he's hiring laborers, craftsmen, you  
6 know, buying fuel, all kinds of stuff. Without these  
7 tools the applicant is sort of screwed.

8                   CHAIRMAN WALLIS: Well, I can just see you  
9 telling your ACRS member that he's got one hour to  
10 review this SRP section.

11                  MR. ABDEL-KHALIK: Well, sometimes that  
12 may not be a bad thing.

13                                 (Laughter.)

14                                 It can be done. It would have to be a  
15 really short one.

16                                 (Laughter.)

17                  MR. COZENS: Let's skip to something very  
18 close and near and dear to the ACRS members -- our  
19 planning understanding for ACRS meetings. That's what  
20 I'd like to do for pretty much the rest of this  
21 presentation.

22                                 But let me start out by saying we met with  
23 the ACRS staff approximately I think four times to  
24 kind of get a handle on, how do we schedule the ACRS  
25 meetings? What type of ACRS meetings are appropriate?

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1 And we got insights when we met with them and proposed  
2 a lot of these details to them, and then we just  
3 stacked them up based upon one review, and then  
4 started looking at what happens when we integrate it.  
5 That's what I'd like to talk about.

6 For instance, like in licensing,  
7 traditionally you would have the draft, or in our  
8 case, the SER with open items, and then you would have  
9 the final document, and you would meet -- the  
10 subcommittee and full committee would meet on the same  
11 thing. That's the normal, traditional type of  
12 structure that had been somewhat proposed, and that's  
13 what we -- let me move this so I can see.

14 But the -- that was one of our starting  
15 points. But we also realized in the discussion with  
16 the ACRS staff that often the ACRS desires special  
17 technical subcommittee sessions to drill down into a  
18 particular technical issue. Don't know what all those  
19 might be at this point, but we did take as a model the  
20 ESBWR. I think currently there was a group of  
21 approximately 15 technical sessions for the ESBWR that  
22 has either been conducted or planned.

23 Well, not knowing any better, and not  
24 having any other reason to decide that it would be  
25 numerically much different, we would expect you

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1 probably to --

2 CHAIRMAN WALLIS: Do you know how many we  
3 did have, say, as AP 600 or -- maybe AP 1000 was sort  
4 of a followup. So may AP 600 is --

5 MR. COZENS: It's on that order. Maybe --

6 MEMBER POWERS: It's pretty close.

7 MEMBER SIEBER: That's a pretty good  
8 number.

9 MEMBER POWERS: I've commented on the ESP,  
10 if I understand it right, you're calculating a full  
11 committee and a subcommittee for the draft SER and the  
12 SER?

13 MR. COZENS: That's what we would suggest,  
14 yes.

15 MEMBER POWERS: I don't think we'll  
16 actually do that. I think it will be one and one.

17 MR. COZENS: We had some concern with  
18 that, which we can talk a little bit about. If we get  
19 -- let's just say the SER with open items I think is  
20 -- it had been proposed that we not have meetings on  
21 that. That could be a decision.

22 The concern we had was that if we wait  
23 until the final supplement, if there are any issues  
24 that surface, we're at the very tail end of our review  
25 process that puts it -- quite frankly, puts the

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1 schedule in considerable jeopardy, whereas if we did  
2 have such a meeting earlier on we may be able to  
3 address the --

4 MEMBER POWERS: I'd just do them  
5 diagonally. I'd use the subcommittee for the draft  
6 SER, not bring it to the full committee until it --  
7 the open items had been -- had been addressed.

8 MR. COZENS: I'm not certain I understood  
9 what you said. The full committee for the DSER.

10 MEMBER POWERS: Yes. I mean, I -- quite  
11 frankly, I am pleased enough with what the staff has  
12 done with the ESPs that I think it's templated much  
13 like the -- what we found for the early -- for the  
14 extended license reviews, that we're reasonably  
15 familiar with the format, content, and they've gone  
16 very smoothly. I mean, we -- there's not one of them  
17 we haven't found something.

18 MR. COZENS: You're referring to this  
19 particular meeting here, I presume?

20 MEMBER POWERS: Yes. I think I would do  
21 that one and then --

22 VICE CHAIRMAN SHACK: One SEP -- ESP left.

23 MEMBER POWERS: Well, presuming that there  
24 are more of them, I mean, we know we have Vogtle  
25 coming up. And maybe there will be another one after

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1 that, some others after that. I just comment -- I  
2 mean, maybe you want to leave it on there just simply  
3 for schedule conservatism. But I will --

4 MR. COZENS: I will talk a little bit  
5 about the process. These are -- I'll call them for  
6 the moment as if one was to receive application --  
7 these would be placeholders we would be putting into  
8 the schedule, because scheduling meetings are usually  
9 more challenging than dropping a meeting.

10 MEMBER POWERS: Yes. I mean, I'd  
11 understand that. I'd just comment that I think you  
12 did a good -- overall did a terrific job on the ESPs  
13 for a new -- new thing. And we're very comfortable  
14 with it, so that's -- that schedule is very generous  
15 for us. I'll put it that way.

16 MR. COZENS: Just mentioning the COL  
17 reference and the COL subsequent -- you know, this is  
18 the first time you'll see these particular designs, so  
19 we would anticipate for a design center that the  
20 reference -- you would definitely want a full  
21 complement of meetings, possibly may even want a  
22 couple focused technical meetings.

23 But realizing that each COL also has site-  
24 specific issues, that you may want to have some  
25 discussions on those, and -- so a couple of

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1 opportunities here.

2 Same concept for the COL with  
3 subsequent --

4 CHAIRMAN WALLIS: Can you explain what  
5 a --

6 MR. COZENS: -- do have site-specific  
7 issues, those issues that we would have closed out in  
8 the reference that are carried through, I would not  
9 expect a lot of discussion on, whereas the -- for site  
10 issues, if you wanted some discussion, you know, you  
11 would have an opportunity to have that discussion at  
12 that point.

13 CHAIRMAN WALLIS: But these are meetings.  
14 But some of the -- the design certification is very  
15 important. So I would think the full committee might  
16 want to meet for half a day or something on that.

17 MR. COZENS: Yes, I --

18 CHAIRMAN WALLIS: Whereas, the COL  
19 subsequent, maybe it's just a regular one hour or one  
20 half an hour -- one and a half hours or something.

21 MR. COZENS: Haven't established the  
22 durations that you may choose to meet on. But just  
23 having said that, you know, this is the basic model  
24 assumptions. Then, when you start stacking with this  
25 set of model assumptions, and you go to the next

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1 slide --

2 CHAIRMAN WALLIS: And you're also talking  
3 about meetings. A subcommittee meeting on AP 1000,  
4 for instance, may be a meeting -- may have been a  
5 meeting where we went to Westinghouse and we spent two  
6 days there. That's one meeting with two days.  
7 Whereas some of these full committee meetings on ESP  
8 may be just two hours.

9 MR. COZENS: Yes, we do appreciate that.

10 CHAIRMAN WALLIS: A very, very different  
11 amount of effort goes into them.

12 MR. COZENS: Yes, we do appreciate that.  
13 It could vary in duration, and, again, that's a  
14 decision that the ACRS members would want to probably  
15 make, and we would need to support, of course.

16 But when we stack the meetings up with the  
17 assumptions of the workload we have coming up, we come  
18 in with these totals. And if we held to this modeling  
19 of it, that would be about 126 meetings over a little  
20 over a three-year period. Almost one a week.

21 But as you say, some of these meetings are  
22 only an hour or two long. Some of these -- "sessions"  
23 maybe is a better phrase -- could be conducted in one  
24 day. Some, as you say, maybe multiple days. And yet  
25 those are decisions yet to be made.

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1           And with the realization that as the  
2 review evolves, the ACRS members may see something  
3 they really want to focus on. We can't predict that  
4 at this point. So we've kind of -- oh, this is -- let  
5 me go on to the next couple of slides. Hold that  
6 thought for a moment. Let me go through these other  
7 slides first.

8           This is your -- we're on a timeline. If  
9 the schedules were to be as we envisioned them right  
10 now, nothing moves as far as we see, the schedule  
11 moves according to plan, this is what we would predict  
12 the meetings look like. And these are -- now, these  
13 are 20 different forms of meetings, which match up  
14 with each of the cells in the previous table, so these  
15 are --

16           MEMBER ARMIJO: Are these the quarterly --

17           MR. COZENS: Those are months, in a given  
18 month.

19           MEMBER ARMIJO: In a month you might have  
20 13, 14 --

21           MR. COZENS: Yes.

22           MEMBER ARMIJO: And this --

23           MR. COZENS: A couple things here. This  
24 -- the previous slide had precisely what type of  
25 meeting was it. There's a variety of 20 different

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1 forms of meetings -- SER, open items for a COL,  
2 reference of subsequent, and so on and so forth. So  
3 I -- this one, although I apologize it -- I keep  
4 thinking you should be able to read that, but it  
5 doesn't look like you can read that one.

6 I broke this down into a little bit more  
7 coarse granularity, where you have full committees for  
8 the SER, whether they be SER with open items or  
9 supplements, or you would have subcommittees on the  
10 same thing for an SER type of document. Whereas the  
11 yellow and the -- I guess that would be teal --

12 CHAIRMAN WALLIS: These are months? I'm  
13 trying to figure out --

14 MR. COZENS: Yes.

15 CHAIRMAN WALLIS: -- the scale.

16 MR. COZENS: Months. Only every third  
17 month is mentioned, but there's three months in  
18 between the tick marks.

19 CHAIRMAN WALLIS: I see July. Thirteen  
20 meetings in a month?

21 MR. COZENS: Yes.

22 MEMBER SIEBER: There you go.

23 CHAIRMAN WALLIS: With preparation?  
24 That's impossible.

25 MEMBER POWERS: Well, Graham, also

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1 remember our idea that subcommittees -- we may compose  
2 some smaller subcommittees of, say, five members, and  
3 so, for example, you -- this group of 15 could form  
4 three subcommittees. And that would so -- would knock  
5 out several, so --

6 CHAIRMAN WALLIS: Members at that time to  
7 figure it out.

8 MEMBER SIEBER: It's like the Pony  
9 Express. You ride the horse until it drops, and then  
10 you get another horse and keep on going.

11 (Laughter.)

12 MR. COZENS: This slide basically breaks  
13 down -- it's whether you're full committee,  
14 subcommittee, and you're working on SERs, which is  
15 reviewing the documents, or it's a technical  
16 subcommittee meeting, whether it be for the design  
17 certification --

18 CHAIRMAN WALLIS: Didn't you try to move  
19 this 13 and split it up among the months around it, or  
20 something?

21 MR. COZENS: I'm going to talk to that in  
22 the next slide. Okay?

23 MEMBER ARMIJO: Before you go on, just for  
24 a sanity check, what is the maximum and average number  
25 of ACRS meetings that we've been running the last year

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1 or so? With power uprates, early site -- not early  
2 site but the license extension.

3 MEMBER SIEBER: Do you mean days?

4 MEMBER ARMIJO: I mean the number. The  
5 same scale. You know, is it --

6 MEMBER SIEBER: Two or three.

7 MEMBER ARMIJO: I mean, 10 with  
8 subcommittees? How many a month?

9 MEMBER SIEBER: Two or three a month.

10 MEMBER ARMIJO: It is? Two to three a  
11 month.

12 MEMBER SIEBER: Or four maybe.

13 MR. SNODDERLEY: Sam, this is Mike  
14 Snodderley. We try to anticipate that. You bring up  
15 a key point, which is one of our concerns. We met  
16 with Kurt and their contractors to talk about, what  
17 are the risks associated with this schedule? In other  
18 words, if things don't go wrong.

19 Basically, what we -- some of the stuff we  
20 thought about, which was we have certain planning  
21 assumptions in our budget based on -- to justify the  
22 number of members and the number of resources. And I  
23 can give you those exact details.

24 But just to give you an example, we assume  
25 three to four major operating events per year. We

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1       assume six rulemakings a year. We assume those types  
2       of things, and those are typical of what we have done  
3       in the past. Okay? So that's built into our model,  
4       but -- so, of course, if -- if significant -- if a lot  
5       more rulemakings and the associated reg. guides and  
6       guidance come along, or something like that, it  
7       affects our model.

8                 That's something we're going to be  
9       tracking for you. But this -- that's in addition to  
10      all those meetings. So you're absolutely right. But  
11      let's also recall some of those -- some of those  
12      meetings are only going to require an hour or two.  
13      So, for example, you know, but --

14                MEMBER POWERS: Let me be very clear to  
15      you, Mike, that very seldom does a meeting only  
16      require an hour or two of a member's time. There's  
17      about a 10-hour prep.

18                MR. SNODDERLEY: Yes, I -- Dana, I think  
19      all I was trying to address was the idea that all of  
20      those meetings are not equivalent, and it goes into  
21      some would require a day or two days, some would  
22      require an hour or two hours. You make a very good  
23      point, though, that an hour meeting does not  
24      correspond to an hour of the member's time. But --

25                CHAIRMAN WALLIS: But that 13 one is

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1 really critical. What is it? Seven full committee  
2 meetings?

3 MEMBER SIEBER: Every meeting is --

4 MR. COZENS: If I might just explain this  
5 table. These colors here -- the purple and I guess  
6 we'll call that blue for lack of any art ability --  
7 are full committee and subcommittee dealing with SERs,  
8 and you can see here in this one month here, which  
9 happens to be July, I think it's '09, it corresponds  
10 to the onslaught of when we receive applications.  
11 That would say there would be seven full committee  
12 meetings and three subcommittee meetings dealing with  
13 SERs.

14 CHAIRMAN WALLIS: And writing seven  
15 letters on this -- these subjects alone in that  
16 meeting?

17 MEMBER SIEBER: Yes. You have to do this  
18 plus your other work.

19 MEMBER KRESS: That's true. That's all we  
20 can do that month.

21 MR. COZENS: Now, these other meetings  
22 here in the bright yellow, which would be  
23 subcommittees for technical and deal with the  
24 reference COL, and we put just -- in each reference we  
25 arbitrarily chose two technical sessions on some topic

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1 that you might choose, and you may decide not to have  
2 these meetings. But for planning purposes, we chose  
3 -- that seemed reasonable and rational, but you may  
4 want to drill down something in the COL of something  
5 you've not seen before.

6 CHAIRMAN WALLIS: Isn't it unlikely that  
7 all of these things will come in exactly on schedule?  
8 Maybe we can spread things out a bit more.

9 MR. COZENS: My personal opinion -- this  
10 is based on what we've assumed the arrival dates of  
11 applications are, and that they are received  
12 successfully. If you were to tell me six months from  
13 now, do I expect this to look precisely like this, I  
14 would say no.

15 CHAIRMAN WALLIS: We're meeting every  
16 month of the year here?

17 MR. COZENS: I have not taken into account  
18 the fact that the full committee does not meet in  
19 August or January. I do understand that subcommittees  
20 sometimes do meet those months. So -- but because of  
21 the I'll call it uncertainty of precisely when these  
22 meetings would fall, I didn't try to fix that issue.  
23 But it does cause us some scheduling grief to have to  
24 not meet there, but that may be the way life is.

25 The point is here is just to show with the

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1 type of assumptions we have coming in, what you -- we  
2 anticipate from talking to staff we might wish to do,  
3 that -- what we might see. And this might move  
4 around, this peak may come down, or, in theory, I  
5 guess it could go up, too. But hopefully not.

6 MR. TAPPERT: It'll come down. This is  
7 just to give you a sense of what we're talking about  
8 for the numbers of meetings. And if you just take  
9 those assumptions on the previous thing and you apply  
10 it to the schedules as we currently know them, it  
11 would spit out this histogram.

12 MR. COZENS: Yes.

13 MR. TAPPERT: Now, we -- you know, Kurt is  
14 going to talk about some rules of engagement and how  
15 we are actually going to schedule these things, and  
16 we'll try to work to manage those peaks to make sure  
17 that it's something we can all support. But that's  
18 just to give you a sense of the magnitude that we're  
19 talking about, though.

20 MEMBER KRESS: I think the ACRS provides  
21 most added value design certifications. And I think  
22 that's where we'll spend a lot of our time. These  
23 other things might go pretty fast, once we've  
24 certified a design.

25 MEMBER SIEBER: We're required by staff to

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1 review applications.

2 MEMBER MAYNARD: If they were consistent  
3 with their applications, then I think it will be a  
4 real key point.

5 MEMBER KRESS: And I think they will be.

6 MEMBER MAYNARD: Yes, I do, too.

7 CHAIRMAN WALLIS: What is this business  
8 about ACRS meetings part days? We meet from 8:30  
9 until 7:00 or something. Those are part days?

10 MR. COZENS: How about on the topics of  
11 interest -- on a topic of interest.

12 MEMBER SIEBER: It's a half day, yes.

13 CHAIRMAN WALLIS: That's a half day?

14 MEMBER SIEBER: Yes, 8:00 until 8:00 is a  
15 half day.

16 VICE CHAIRMAN SHACK: It's just saying a  
17 full committee meeting is typically only a part of a  
18 day.

19 MR. COZENS: That's correct.

20 VICE CHAIRMAN SHACK: The full committee  
21 meeting he's talking about.

22 MR. COZENS: On an application, an SER  
23 application that you might be looking at, you don't --

24 CHAIRMAN WALLIS: But then we spend six  
25 hours wrangling about the letter we're going to write

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1 on it. That's part of our meeting.

2 MR. COZENS: Yes.

3 CHAIRMAN WALLIS: That's not just -- it's  
4 not just when we're here with the meeting. It's the  
5 whole thing -- everything that goes with it.

6 MEMBER SIEBER: Some poor guy has got to  
7 write it.

8 MR. COZENS: But I want to talk about --  
9 we realize that upon receipt of an application we  
10 cannot lock crisply into a schedule for when meetings  
11 need to be held. But from a planning and resource  
12 consideration, we need to make certain assumptions.  
13 From our planning point of view, when we set up a  
14 schedule and a review on the Gantt chart, load  
15 resources, so knowing what we're going to need,  
16 budget, etcetera, we anticipate using the table  
17 assumptions that I showed previously.

18 However, I would -- we also believe that  
19 if we have particularly subsequent COLs that are  
20 moving together we would suggest that the ACRS  
21 consider grouping those subsequent COLs. You've  
22 already been through the reference COL, and all the  
23 new issues that might surface would be anticipated  
24 there, and it may be more efficient on your part --  
25 and this is for your consideration -- to say, for

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1 instance, on the AP 1000, I think in October of 2007,  
2 a year from now, we'll receive four applications. One  
3 of them will be a reference, and three of them will be  
4 subsequent, essentially on an identical schedule.

5 Those subsequent ones were already made  
6 probably a major portion of the decisions in the  
7 reference, and it's carried down through. We don't  
8 envision that will be a large ticket item. It could  
9 be, but we just don't envision it that way. But there  
10 are site-specific things, so you could group these  
11 meetings as a cluster, one meeting of an appropriate  
12 duration to talk about all three of them.

13 That would diminish the number of what  
14 I'll call ACRS sessions, whatever the duration is. So  
15 we thought about that, and we actually factored that  
16 into our counting as we went into there. I had  
17 mentioned that previously.

18 MEMBER MAYNARD: I'm sorry. The graph  
19 that you showed, that accounted for that, or --

20 MR. COZENS: Yes, it did. It removed  
21 about six meetings as it turned out.

22 MEMBER MAYNARD: Okay. I was going to  
23 offer that as a mechanism for lowering it now.

24 MEMBER ARMIJO: It is already in there.

25 MR. COZENS: We thought about that. It

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1 makes sense to us, but, again --

2 MEMBER SIEBER: Why not do one big meeting  
3 and do them all?

4 (Laughter.)

5 MR. COZENS: But the fact of the matter  
6 is, the ACRS does not schedule the meetings to 12  
7 months out at earliest. You have the rolling -- I  
8 understand you have a rolling 12-month schedule that  
9 -- where you start populating the calendar with  
10 proposed meetings.

11 We would propose to use the ACRS -- you  
12 also have a list of potential meetings that are not  
13 officially scheduled, that when you think you might  
14 need them you put it on the list, and as it comes  
15 along to the 12 months in advance you start populating  
16 -- using that list with discussions among yourselves,  
17 I guess with EDOs, you have discussions. You take  
18 advantage of this process and use the process and the  
19 plan together to solidify what the meeting schedules  
20 would be.

21 So we would propose, you know, we'll go  
22 ahead and plan and see where the meetings fit. Ask  
23 you put on your early list of possible meetings these  
24 meetings we think we may need, so as we start  
25 populating the 12-month rolling schedule that we, as

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1 early as possible, solidify proposed dates, and also  
2 being mindful that things do change.

3 If something needs to be changed, work  
4 with you and the staff or the ACRS staff to solidify  
5 as early as possible what the date will be, and, if it  
6 needs to be changed, change it. Maybe it's not ready,  
7 but do that well in advance, as far in advance as we  
8 can do it, so we can start making certain we have the  
9 resources necessary to support these meetings.

10 That we have the reviews completed in time  
11 to support these meetings, and that we use the EDO  
12 prioritization meetings that are conducted to work  
13 with the ACRS staff and the members to finalize what  
14 the schedule would be, on the order of 12 months out,  
15 maybe a little less than that, but something on that  
16 order to start getting these things solidified early,  
17 so we can plan, because whereas we are doing reviews,  
18 the ACRS meetings are -- the effort we have is on top  
19 of the technical activities going on.

20 So we need to make certain that we're not  
21 diverting too many resources away from the reviews to  
22 keep the other activities going on. So we need to  
23 plan early and make certain we've allotted sufficient  
24 time for our efforts to prepare to provide you the  
25 information in advance and make certain that it's

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1 going to be available, as well as keeping the review  
2 itself going.

3 So, and as I said, as the world events  
4 happen, make adjustments. But working with staff and  
5 our members to solidify the schedule.

6 MR. SNODDERLEY: Kurt, this is Mike  
7 Snodderley again. I'd like to take this opportunity  
8 just to make three points to reinforce what you just  
9 said there. The first one I'd like to make goes along  
10 Dr. Armijo's concern about an overall integrated  
11 schedule, and that's something that we did talk to the  
12 staff about, but I think that's a very key point,  
13 which is the Office of New Reactors has developed  
14 these integrated schedules focused on new reactors,  
15 which is their priority.

16 And what is missing is a true overall  
17 integrated schedule that also reflects the other work  
18 of the agency. And we touched on some of those that  
19 -- you know, such as rulemakings and operating events.  
20 So although we have budgeted for those, we have not  
21 done this type of scheduling that I think is going to  
22 be key, as we've all talked about, for this to be a  
23 success.

24 So that's something that we're aware of  
25 and we're thinking about it, and, as Kurt said, we're

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1 going to try to be working with the EDO's office and  
2 our 12-month rolling calendar to try to schedule these  
3 things out. But that is definitely a major concern  
4 and a major challenge.

5 Now, before we get -- before we get maybe  
6 too pessimistic or too scared -- because the purpose  
7 of this meeting wasn't to try to scare everybody  
8 straight here by looking at the -- you know, the  
9 figure. Scared straight from a sense that we've been  
10 operating at a certain work level, and it's going to  
11 significantly increase.

12 MEMBER SIEBER: Quadruple.

13 MR. SNODDERLEY: Well, I don't know if  
14 quadruple. The one thing that gives us hope -- and if  
15 you remember when Luis Reyez was here -- well, it's  
16 coming up on six months now, that the one thing we do  
17 have going for us is that the license renewals and  
18 power uprates will be tapering down at just about the  
19 same time in 2008 when these things are taking up. So  
20 that's one thing.

21 What did we learn, though, from those  
22 reviews, the license renewal reviews and the power  
23 uprate reviews? Well, one thing we learned that was  
24 real successful with license renewal is that it really  
25 worked best when we tried to do no more than one a

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1 month, and a subcommittee for one and a full committee  
2 for another in each month. And that has been  
3 something that has been a success.

4 Now, I think the problem there is, as  
5 we've said, we've worked with Kurt, and when we plug  
6 in what we typically use for reviewing the AP 1000 and  
7 for reviewing the ESBWR, when we plug in what we think  
8 we're going to need to do, that's reality, that's what  
9 shows up, okay? And so we're not going to be able to  
10 do that with license renewal.

11 But those kinds of lessons -- the lesson  
12 learned is that when we try to spread these things  
13 out, we have much more potential for success. So  
14 that, again, that's something -- it's a challenge,  
15 it's something we're thinking about. We're going to  
16 try to do the best we can, as John Tappert said, but  
17 right now these are the way these things are lining  
18 up.

19 And the problem I think is because when  
20 the -- the applications will not be staggered.  
21 They're going to come in -- you know, they're coming  
22 in at the same time. So this wave effect exists.  
23 It's a reality, and it's -- and, again, it will be a  
24 challenge.

25 The last thing I wanted to -- the last

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1 point I wanted to make is to also remember that some  
2 dates are firmer than other dates. For example, DSERS  
3 with open items and final evaluations for COLs, and  
4 those end dates -- those are hard, and they have to be  
5 met.

6 Now, what we see when we look at the  
7 models, though, is there is more flexibility for  
8 moving subcommittee meetings around. So, in other  
9 words, the thermal hydraulic subcommittee just has to  
10 review a certain code or a certain -- or the materials  
11 committee. That material, though, is submitted and  
12 will be being reviewed by the staff over a six- to 12-  
13 month period.

14 So the point is is that those -- we have  
15 a little more flexibility to move those subcommittee  
16 meetings around within a three- or four-month window,  
17 as opposed to the final reviews, which are more hard-  
18 wired. So that's something else to keep in mind,  
19 so --

20 CHAIRMAN WALLIS: But one problem with  
21 that committee is that it sometimes comes up with the  
22 conclusion that the work is inadequate.

23 MR. SNODDERLEY: And that's why it's also  
24 -- that's why it's so important to make sure when we  
25 schedule those technical subcommittee meetings six

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1 months before that hard -- before that hard-wire  
2 decision is required, so if issues are raised there is  
3 sufficient time to resolve this. And that's something  
4 that we're also considering. And that's also  
5 something that we differentiate between a subcommittee  
6 meeting and a final review meeting where typically  
7 we're just resolving the last five or open items.

8           So, you know, typically those full  
9 committee meetings, remember at the end, was we've  
10 identified some issues, we've got it down to, you  
11 know, remember it was typically eight to ten open  
12 items, and then it was four to five, and typically we  
13 were done.

14           So, but these are -- again, these are the  
15 planning assumptions, and I think one of the  
16 objectives I had for this meeting is I just want you  
17 to understand what -- that the staff is developing  
18 models, planning models, and what assumptions are  
19 being assumed for the ACRS. And we appreciate your  
20 feedback and your thoughts.

21           I've already picked up a lot of things and  
22 some notes that I'm going to be taking and working  
23 with Kurt and Rich and John with their staff and  
24 trying to improve these models, because I do think  
25 that this is -- this is going to be one of the only

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1 ways that we'll be able to accomplish this is with  
2 early planning and understanding of what's coming.  
3 Otherwise, I -- I don't believe we'll be able to keep  
4 up.

5 CHAIRMAN WALLIS: Very useful. I have a  
6 few comments. One thing you said, that we might be  
7 scared. But ACRS never gets scared.

8 (Laughter.)

9 And we try not to scare anybody else.

10 MEMBER KRESS: They have a master -- they  
11 have a computerized program plan, which is something  
12 like Primavera. Are you planning on getting something  
13 like that, just specific for ACRS?

14 MR. SNODDERLEY: No. Right now my plan  
15 would be to work with the staff and use their tool, as  
16 opposed to trying to maintain two tools or two  
17 databases.

18 MEMBER KRESS: Yes, but a lot of the times  
19 those things have specific individual names on them,  
20 and --

21 MEMBER SIEBER: You have to have --

22 MEMBER KRESS: Yes. I mean, you factor it  
23 in along with the other things that we do. You know,  
24 it might be worth thinking about.

25 MEMBER POWERS: There is not going to be

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1 any staff available to submit anything different,  
2 so --

3 MR. SNODDERLEY: Yes. I think, Tom, to --  
4 I definitely will consider that, but to just tell you  
5 what my -- what I've found, we've had a lot more -- in  
6 planning with the EDO's office and trying to work out  
7 our schedules for the next three and six months, we  
8 were -- the EDO was maintaining a database for  
9 scheduling, and we were maintaining a database for  
10 scheduling. We meet every month to reconcile our  
11 databases, and recently we found, why are we doing  
12 this? Why are we maintaining two databases, you have  
13 ours, we have ours, and we were all taking all these  
14 resources to maintain these two databases? Why don't  
15 we just maintain one?

16 Now, it turns out we've decided to  
17 maintain the ACRS database, because it was --  
18 whatever, that was the decision that was made. You  
19 decide one is better than the other, and you maintain  
20 it. Right now, my feeling is that the staff has a --  
21 that the problem is not the planning tool. I think  
22 the tool is great. I think the problem is -- and let  
23 me say, Graham, the ACRS doesn't get scared. But the  
24 ACRS staff are -- I get a little scared sometimes.  
25 So --

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1                   MEMBER KRESS: But their program will have  
2                   ACRS meetings, subcommittee, full committee. Your  
3                   program ought to have David Fisher supports the --

4                   MR. SNODDERLEY: Oh, of course. And in  
5                   our 12-month rolling calendar, remember, this is going  
6                   to feed into our 12-month rolling calendar that will  
7                   have that -- that level of information, assigned staff  
8                   member, lead staff member, lead member.

9                   MEMBER KRESS: Okay.

10                  MR. SNODDERLEY: What it is -- what we're  
11                  being asked to review and the date. So, no, you --  
12                  I'm sorry, let's clarify that. Our scheduling system  
13                  is not going to change. This system will feed into  
14                  our system, because in the end what we're doing is  
15                  we're still going to be meeting every month with the  
16                  EDO to coordinate what it is they need from us that  
17                  month.

18                  And all we're saying is that -- and make  
19                  -- our next step is really to coordinate more with the  
20                  EDO. We've been coordinating with each other, and it  
21                  may -- and the EDO probably doesn't realize yet that,  
22                  hey, in July 2008, right now, which is a long way off,  
23                  but it does appear, and there are certain areas where  
24                  the ACRS may not have much time to review anything  
25                  else but these COLs and these -- and these design

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1 certification meetings. And we'll have to plan, or  
2 we'll have to do something. But that's kind of where  
3 we are.

4 MEMBER MAYNARD: The ACRS current  
5 scheduling tool may work for the staff, but for me  
6 individually it's not quite visible enough for me. I  
7 get written documents every once in a while, but it  
8 would be nice to see that integrated schedule.

9 MEMBER KRESS: See where you specifically  
10 fit in there.

11 MEMBER MAYNARD: But we can talk about  
12 that later.

13 MR. SNODDERLEY: Yes.

14 MEMBER MAYNARD: I take this presentation  
15 as a challenge to us that we've got additional  
16 workload coming up. We need to take a look at  
17 prioritization and how we handle things and a number  
18 of things, because one of the things we have to be  
19 careful of I think is to not provide inadequate  
20 reviews on important things.

21 So I think prioritization -- we may find  
22 some things that we -- really aren't adding that much  
23 value and we don't need the review, and trade that  
24 time to be able to put it on things that we could add  
25 value and really do a better job.

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1           MR. SNODDERLEY:  You're absolutely right,  
2           Otto, but you have to also recall we -- in our  
3           planning we've been doing that.  We've been  
4           distinguishing between those things which were  
5           statutorily required to review and those things when  
6           we -- that we can possibly give up.  And,  
7           unfortunately, even taking everything off of our plate  
8           that we just do because we're not required, but even  
9           with the statutory requirements and this, it's still  
10          a challenge.

11                 The other thing is what -- we can start in  
12          the P&L showing you the 12-month rolling calendar, but  
13          what we typically do is we -- your anticipated  
14          workload, the first thing we always go over in the  
15          P&P, which is the next three months.  That's really  
16          where -- that has been our planning tool and our  
17          communication tool to you, because we want -- we're  
18          focused mostly -- we want you to focus really on the  
19          next three months, because that's what's the most  
20          important.  The next thing, you know --

21                 And also, I think another thing that's  
22          valuable that we've had in the past is the yearly  
23          retreats where we talk about more long-term planning  
24          and what's coming down the pike.  But, clearly, we --  
25          I'll take that as an action item and we'll share the

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1 12-month rolling calendar with you, so you can get a  
2 feeling for what's coming up in the next 12 months.

3 CHAIRMAN WALLIS: If you take a very high-  
4 level view, you get what you pay for. And if the  
5 staff takes 20,000 hours to review some document, and  
6 we are only allowed 50 hours of ACRS time, you'll get  
7 50 hours of work. If you give us 200 hours, you'll  
8 get a 200-hour job.

9 So, you know, at a high level, what we're  
10 able to do is going to be related to the schedule. I  
11 just -- you know, if you make it too tight, then the  
12 -- our amount we can contribute may just have to be  
13 less.

14 MR. COZENS: Let me just go over my  
15 conclusions here, kind of wrapping up, see if there's  
16 any additional questions.

17 Our new plant licensing plan, our program  
18 plan, is heavily based upon stakeholder input. This  
19 is a living document. To do it once and leave it on  
20 the shelf, we might as well never have done it. This  
21 is something that not only for our planning, but as it  
22 relates directly to ACRS, it must be constantly  
23 monitored and maintained to assure that it represents  
24 the reality of where we are and where we're going.

25 We have tried to integrate all review

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1 activities, whether it be for the technical review  
2 staff, OGC, down to our technical editors, and making  
3 certain we know what resources we need, when we need,  
4 how many hours do we need from them, and then if the  
5 reality of the reviews changed, that it's not  
6 sufficient, either too many hours or too few, make  
7 adjustments, either specifically on an application or  
8 generically across the fleet of applications.

9 This tool is a tool, but it will be a very  
10 central tool to NRO managing its review efforts.

11 You've noticed the one thing I have not discussed here  
12 today at all is the content of the reviews. That is  
13 managed under other activities. This is just the  
14 steps that we go through. So you put the content of  
15 the SRP, the reg. guides, the DG-1145 all together, to  
16 go along with the schedule, that makes a full suite of  
17 activities and understandings of what staff's  
18 expectations are.

19 As far as the specific ACRS meetings,  
20 we're trying to support the legislative mandates that  
21 exist with regards to new reactors. This is one  
22 particular case we're obligated to come to you and get  
23 your review and feedback. This is a significant  
24 workload, as I think we've all realized looking at  
25 what's in front of us. But we think it is manageable

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1 with a little bit of creativeness and maybe a little  
2 bit of shifting here and there. We'll work our way  
3 through it.

4 CHAIRMAN WALLIS: Ours is very much less,  
5 if you guys come very well prepared.

6 MR. COZENS: Always true. Cannot argue  
7 that point.

8 But as we go through this, we also may  
9 have lessons learned that we may need to modify our --  
10 how we work with the staff, with the ACRS staff, as  
11 our experience is collectively gained. And we -- the  
12 real message here is it's not where are these meetings  
13 to date, that we need to use the process that exists  
14 today, that ACRS used to schedule its meetings and the  
15 topics of its meetings.

16 And we've brought in fully -- working  
17 fully with the ACRS staff and the members to exercise  
18 that existing process to find the best fit that will  
19 work for everybody.

20 With that, that concludes my prepared  
21 remarks. And if there's any additional questions, I'd  
22 be happy to answer them.

23 MEMBER KRESS: I think we are probably  
24 through. You answered most of our questions as we  
25 went through. So I'll turn it back to you.

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1 CHAIRMAN WALLIS: Well, I'd like to thank  
2 you. I think it's very useful.

3 MEMBER KRESS: Yes, extremely.

4 CHAIRMAN WALLIS: Very important stuff.  
5 We'll have to see how it works out.

6 MR. COZENS: It'll be fun.

7 MEMBER KRESS: We're here to help.

8 (Laughter.)

9 MR. COZENS: Thank you.

10 CHAIRMAN WALLIS: Who are we helping? is  
11 the question. I mean, are we helping -- are we  
12 helping the NRC?

13 Well, we have -- we're going to take a  
14 break. The next item on the agenda is the draft  
15 report on the quality assessment of selected NRC  
16 research projects. We do have a draft report. I'm  
17 just wondering if it's going to take us an hour and a  
18 half to review it.

19 MEMBER POWERS: Up to the discretion of  
20 the members, of course, but my own feeling is that  
21 we've gone over it -- Hossain has done an excellent  
22 job of excerpting out and summarizing the comments, so  
23 it's merely a matter of a transmittal letter and a  
24 request for another batch.

25 CHAIRMAN WALLIS: I looked it over. The

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1 only comment I had was that maybe we said too much.  
2 That was all. That was the --

3 MEMBER POWERS: I spoke to the project --  
4 both project managers, and they wanted more.

5 CHAIRMAN WALLIS: They wanted more, okay.  
6 So that's about right. I would think that if the  
7 people who are involved have read it, but I've read my  
8 -- I don't really have much to say, just to go ahead  
9 and do it.

10 MEMBER POWERS: Yes. That's my feeling  
11 about the subject as well, that, once again, Dr.  
12 Hossain has just done an excellent job summarizing the  
13 cat scratchings that we provided him, and --

14 CHAIRMAN WALLIS: So we will --

15 MEMBER POWERS: On the other hand, I also  
16 comment that I really found the -- this particular set  
17 there was -- of reviews there was more unanimity among  
18 the reviewers. And I know they were doing their  
19 voting independently, but there was a great deal of  
20 unanimity and evaluation in these things, what not.

21 I will also comment that in speaking to  
22 the NRC program managers they have internalized our  
23 scoring system. Okay? I mean, they understand our  
24 scoring system. For instance, when I told them, well,  
25 they're coming in, you know, five-ish, six-ish, and

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1 they go, "Well, that's good on your system." I mean,  
2 they understood our system. And I thought -- I was  
3 very happy with that.

4 What we need, in thinking about these  
5 things, is to think about what moves you up and down  
6 out of that kind of middle ground sort of thing. I  
7 mean, what would somebody have to do to get a nine?  
8 What would somebody have to do to get a three? Well,  
9 we've seen a three, so -- so what does it take to get  
10 a two? Okay?

11 CHAIRMAN WALLIS: Okay. So we'll -- we're  
12 going to take a break. We don't need the report --  
13 the Court Reporter after this for the rest of the day.  
14 We'll see you in the morning. We'll take a break  
15 until I think about quarter to 3:00. And those of you  
16 who haven't looked at this draft report will have a  
17 chance to look at it perhaps in the break.

18 MEMBER ARMIJO: Not the letter, just  
19 the --

20 CHAIRMAN WALLIS: Well, the letter is sort  
21 of straightforward I think.

22 (Whereupon, at 2:28 p.m., the proceedings  
23 the foregoing matter went off the  
24 record.)

25

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