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Title: Advisory Committee on Reactor Safeguards  
550th Meeting

Docket Number: (n/a)

Location: Rockville, Maryland

Date: Friday, March 7, 2008

Work Order No.: NRC-2050

Pages 1-49

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UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

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550TH MEETING

ADVISORY COMMITTEE ON REACTOR SAFEGUARD

(ACRS)

+ + + + +

FRIDAY

March 7, 2008

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ROCKVILLE, MARYLAND

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The subcommittee met at the Nuclear  
Regulatory Commission, Two White Flint North, Room  
T2B3, 11545 Rockville Pike, at 8:30 a.m., William A.  
Shack, Chairman, presiding.

PRESENT:

WILLIAM A. SHACKCHAIRMAN

MARIO V. BONACAVICE CHAIRMAN

SAID ABDEL-KHALIKMEMBER AT LARGE

GEORGE APOSTOLAKISMEMBER

J. SAM ARMIJOMEMBER

SANJOY BANERJEE MEMBER

DENNIS C. BLEYMEMBER

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MICHAEL CORRADINIMEMBER

PRESENT: (CONT.)

OTTO L. MAYNARDMEMBER

JOHN D. SIEBERMEMBER

JOHN STETKARMEMBER

GIRIJA S. SHUKLA                    DESIGNATED FEDERAL OFFICIAL

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

(8:25 a.m.)

CHAIRMAN SHACK: The meeting will now come to order. This is the second day of the 550<sup>th</sup> Meeting of the Advisory Committee on Reactor Safeguards. During today's meeting, the Committee will consider the following. We have a meeting this morning with Commissioner Lyons. We will then work on future activities, and the report of the Planning and Procedures Subcommittee, reconciliation of ACRS comments and recommendations, and preparation of ACRS reports.

The meeting is being conducted in accordance with the provisions of the Federal Advisory Committee Act. Mr. Tanny Santos is the Designated Federal Official for the initial portion of the meeting. We have received no written comments or requests for time to make oral statements from members of the public regarding today's session.

A transcript of a portion of the meeting is being kept, and it's requested that the speakers

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

4 And before we start, Commissioner Lyons,  
5 I would like to thank you on behalf of the ACRS for  
6 going to the ANS meeting and accepting the award for  
7 Dave Okrent who, of course, is our champion long-time  
8 ACRS member, and many, many contributions to the  
9 ACRS. And thank you for accepting the award that  
10 Okrent couldn't come to get.

11 COMMISSIONER LYONS: Well, let's see. To  
12 follow your rules, this is Peter Lyons.

13 (Laughter.)

14 COMMISSIONER LYONS: I hope I'm speaking  
15 distinctly and clearly into the microphone. I do  
16 appreciate the opportunity to sit down with you folks  
17 today. I'm hoping to make 20 minutes of, probably  
18 you'll say, fairly rambling remarks on different  
19 areas of particular interest to me, and I would hope  
20 that would spark discussion, questions, comments from  
21 any of you. I was really honored to accept that  
22 award for Dave. I so wish that he could have been  
23 there. I don't think I ever got to meet Dave, but in  
24 the process of accepting that award, we did

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1 communicate on email several times. And, certainly,  
2 in an ideal world, he would have been there to accept  
3 the award, but I was humbled and honored to do it in  
4 his stead.

5 I do want to thank you, as I already  
6 said, for the opportunity to talk with you this  
7 morning. And I'd certainly start with my own  
8 appreciation for the role that the ACRS plays. It's  
9 a very, very important, critical role in, I think,  
10 all the activities that the Commission pursues.

11 I appreciate the type of communication we  
12 have with you, your regular letters to me are very,  
13 very positive. I assure you, I read every one of  
14 those letters. I find that they're technically  
15 clear, and contain very, very solid advice.

16 The planning process that you folks go  
17 through with the Commission I also think is very  
18 positive. I think it provides a bit of a roadmap  
19 into the future, but also provides flexibility for  
20 changes as they occur, which they certainly do occur.

21 So, certainly, put me down as being extremely  
22 complimentary of the role of the ACRS, and very, very  
23 appreciative.

24 You may know that I was the one who wrote

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1 the proposal to return ACNW back into ACRS, and I'm  
2 very pleased that my colleagues accepted that  
3 proposal. And I am very hopeful that that's also  
4 viewed as positive from the ACRS perspective. When I  
5 discussed it with ACNW a few weeks ago, it seemed to  
6 be viewed positively from their perspective, too. It  
7 seemed to me that that was the right move from a  
8 number of different perspectives.

9 Presuming, as I think will happen, the  
10 Department does move ahead with the application on  
11 Yucca Mountain, that would have moved ACNW into a  
12 somewhat constricted set of roles. That was  
13 certainly one consideration, but another was to look  
14 at the range of issues that ACRS is facing, and  
15 several of them; whether it could be MOX, SOARCA, the  
16 State-of-the-art consequence assessment, which I'll  
17 talk about later. Just a number of different  
18 activities where I think that ACRS could benefit from  
19 having more access to the capabilities that reside  
20 within ACNW. And I'm hoping that overall, merging of  
21 those two Committees can be viewed as positive from  
22 your perspective, too.

23 I'm well aware, almost painfully aware,  
24 of the magnitude of the task that we're asking ACRS

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1 to undertake as our so-called nuclear renaissance  
2 cranks up, and that gave me some pause as to whether  
3 that was the time to be proposing this kind of a move  
4 with ACNW. But, on the other hand, I thought it  
5 would perhaps do a better job of providing ACRS with  
6 the resources within your Committee that you're going  
7 to need to tap as you face this range of challenges.

8  
9 So, again, I can only hope that it's  
10 viewed positively from the perspective of ACRS. I  
11 think it's the right thing to do from the perspective  
12 of the Agency, and I was pleased to learn that folks  
13 on ACNW also generally agree.

14 With that, I wanted to launch into maybe  
15 six or seven different particular areas that are of  
16 great interest to me in the hopes that they could  
17 stimulate some discussion with you folks. They're  
18 not in any carefully thoughtful order. And, again,  
19 just hopefully fodder for further discussion. But I  
20 start with Digital I&C where ACRS has already been  
21 active. I know you're looking towards being even  
22 more active. I regard that as one of the very major  
23 challenges that's facing the NRC in coming years.

24 I think there's no question that digital

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1 systems have moved ahead faster outside of the U.S.  
2 than they have here. To some extent, that means we  
3 can learn from what's been done outside this country,  
4 but we can also learn from some problems that have  
5 occurred, where other countries have moved into  
6 Digital I&C, maybe even a little too quickly. But,  
7 in any case, for a whole host of reasons, any one of  
8 you could give a better speech on it than I could. I  
9 think Digital I&C is essential, it's coming. It's a  
10 reality for the new plants, with the obsolescence of  
11 the analog equipment on the older plants, I think  
12 we're going to, again, be forced into seeing more and  
13 more introduction of digital control systems, and  
14 eventually digital safety systems into the operating  
15 plants.

16 I'm personally convinced that the Digital  
17 I&C offers some very favorable opportunities, and  
18 perhaps opportunities to actually enhance safety.  
19 But I, also, am well aware that Digital I&C offers a  
20 whole new set of potential failure modes, which have  
21 to be extraordinarily carefully thought through, and  
22 understood. It's going to be a great challenge for  
23 the Agency, and I look forward to ACRS continuing to  
24 play a strong role as we move towards Digital I&C.

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1           The second area I'd mention would be  
2 long-term research. It's a concern I have. It's a  
3 concern I had when I first came to the NRC, and it's  
4 an area where I think a number of you folks probably  
5 have very well-formulated thoughts on that area.

6           I am a little concerned that given the  
7 fee-based nature of our support, and various  
8 pressures that we have at the Agency, there could be  
9 a tendency for us to focus too much on short-term  
10 research. I don't want to downplay the importance of  
11 short-term research, but I also think that if one  
12 takes a truly long-term view of the challenges that  
13 the NRC is going to be facing, there is truly going  
14 to be a need for us to be looking at areas where we  
15 need to be building the expertise that we're going  
16 need 10 or more years out. This may come with high-  
17 temperature reactors, maybe some of them are  
18 innovative reactor concepts, may come in advanced  
19 codes, may come in many different ways. And, again,  
20 I'd look to you folks to do a better job than I could  
21 of listing what those areas might be.

22           A question of how one funds long-term R&D  
23 is also, I think, going to be a constant challenge  
24 for the Commission and Senior Management at the NRC.

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1 And, again, it ties in with the concern that, at  
2 least 90 percent of the Agency being fee-based, that  
3 sort of leads to an intrinsic pressure to focus on  
4 areas that are of particular and immediate interest,  
5 and relevance to the operating fleet, or soon to be  
6 operating fleet. But I still think as an Agency, we  
7 really have to be looking into a longer-term future  
8 for the Agency, and asking what needs to be done to  
9 best position us for that.

10 In this vein, and it would transition  
11 into the next point I would make, would be access to  
12 facilities. I'm painfully aware; and, again, you  
13 folks know better than I in many cases, that the  
14 number of research facilities, severe accident  
15 capabilities in this country are very limited, and a  
16 smaller subset with each passing year. I'm concerned  
17 about that. At the same time, I recognize that in  
18 some cases these facilities still exist overseas.  
19 And in some cases they're very excellent facilities  
20 that exist overseas.

21 To me, this could be part of both my  
22 interest in longer-term research, but also this third  
23 part I wanted to raise, that I wonder about finding  
24 mechanisms for ACRS to interact with some of the

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1 international advise - I'm saying that wrong -  
2 advisory groups to other regulators around the world,  
3 things like IRSA, and groups like IRSA, perhaps GRS  
4 in Germany.

5 I would be interested in your thoughts  
6 about how one might -- how you might, over a period  
7 of time, with Commission help, try to build stronger  
8 in-roads to some of the very strong regulatory  
9 research programs that exist in other countries. And  
10 there's certainly only a handful of those, but some  
11 of those other countries are maintaining, or still  
12 have facilities that we don't have in this country.  
13 And that could tie into one way of building  
14 cooperation between ACRS and some of the  
15 international bodies.

16 Another area I wanted to just mention,  
17 not for anything immediate, but to kind of put on  
18 your list for a couple of years from now. Some of  
19 you have followed the controversy in education, in  
20 nuclear engineering, and related specialties. This  
21 has been a source of immense frustration on Capitol  
22 Hill, at least, I think I'm quite accurate in saying  
23 that. There were a number of years where programs  
24 were set up, or appropriated, and they're certainly

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1 authorized, for DOE to conduct such programs.

2 DOE's view, most recently, has been - and  
3 some of you may state this better than I - but it's  
4 either been a suggestion that because there has been  
5 a rebound in enrollment in nuclear engineering that  
6 the programs aren't needed any more, I've heard that  
7 version, and then I've heard well, the educational  
8 programs will be folded into GNEP. And I know DOE  
9 has continued some educational programs, at least  
10 tied in with GNEP.

11 I've been in Congressional hearings  
12 testifying where members of Congress have expressed  
13 immense concern over DOE's treatment of the  
14 educational programs. This, I believe, is what  
15 culminated for the current fiscal year in moving \$15  
16 million into the NRC's budget for the educational  
17 program.

18 We are now engaged, through HR, Human  
19 Resources, with a frantic effort to try to do the  
20 best job we possibly can given that we didn't even  
21 know we had this assignment until probably December  
22 or January, but we're trying to do the best we can.  
23 Given that things are happening so quickly now with  
24 invitations for proposals going out, I wouldn't

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1 propose that ACRS try to get into this now. But I do  
2 think that to the extent that these programs stay at  
3 NRC, which I think will frankly be a political issue,  
4 and I don't know how it will come out, but if these  
5 programs stay at the NRC - and I said that wrong a  
6 minute ago - but in any case, to the extent these  
7 programs stay at the NRC beyond this year, I think it  
8 would be very appropriate for ACRS to step in and  
9 review what we're doing. Again, not now; it's just  
10 too frantic.

11 Just to put my own views on record here,  
12 I have argued, even in testimony, that I thought the  
13 correct place for these programs was in DOE. I still  
14 feel that way. On the other hand, the will of  
15 Congress is that they came here. Now that they have  
16 come here, my goal is to do as superb a job as we  
17 possibly can on those educational programs, and we  
18 are investing substantial resources in trying to get  
19 these programs up and started. So now that they are  
20 here, I am very interested in doing our level best,  
21 doing an excellent job, and hopefully showing  
22 Congress that they were correct in their wisdom of  
23 moving the programs here, and that the programs will  
24 stay here.

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1           Nevertheless, I'm just sharing with you  
2           that I think there were enough politics involved in  
3           where this program went, that I wouldn't want to  
4           swear it will stay here. But given that it's here, I  
5           want to do a fabulous job. I strongly recognize the  
6           need for the educational programs in nuclear  
7           engineering and related specialties, like health  
8           physics. And the very interesting point in this  
9           program, which is causing us a significant challenge  
10          is that Congress included trade schools in this. Now  
11          we, typically, haven't had much connection with trade  
12          schools, and that's another area where we are trying  
13          to move very, very quickly in order to effectively  
14          use these resources.

15                 I don't question that funding -- I agree  
16          that funding should go into trade schools. I don't  
17          question that at all. Certainly, as part of the  
18          workforce challenges that the nuclear community  
19          faces, the skilled crafts are a major part of that  
20          challenge. My only concern is how well-equipped the  
21          NRC is to do that. Nevertheless, we're going to do  
22          the best we can, and I would suggest that perhaps a  
23          year from -- the order of a year from now it might be  
24          very, very interesting to get your views on how we've

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1 done, how we could do it better, and hopefully move  
2 forward.

3 Another area I'd mention; and, again,  
4 these are sort of free form ideas. I've struggled,  
5 and I believe the ACRS has struggled occasionally  
6 with how do you communicate the risk-informed nature  
7 of the deliberations that you go through, and that  
8 the Commission goes through? The whole business of  
9 how you communicate risk in an understandable way, to  
10 me, is still a very, very complex, very challenging  
11 area.

12 A number of you have spent a good  
13 fraction of your career working on how to better  
14 communicate risk. And at least, from my perspective,  
15 I would very, very much like to continue to encourage  
16 consideration on the ACRS part of improved  
17 communication in all areas; but, specifically, in how  
18 we help the public understand what we mean with risk-  
19 informed, and how we deal with risk issues.

20 Another area I'll mention goes by SOARCA.

21 I don't know if you're using that term or not, but  
22 State-Of-The-Art Consequence Analysis. I have been  
23 extremely interested in pursuing that program. I am  
24 very -- I believe it is not appropriate, I think it's

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1 the -- somebody could help me, but I think it's 1982  
2 study on this, is the "final word." I think we have  
3 far better tools today to do a far more effective job  
4 on State-Of-The-Art Consequence Analysis.

5 I read with great interest the recent  
6 letter that the ACRS just put out on this. You've  
7 raised some very, very interesting points, and I will  
8 be very interested to see staff response to your  
9 points, and I'm guessing that this will, at some  
10 point, come back to the Commission for further  
11 guidance.

12 There have been a range of opinions on  
13 the Commission, and I've probably been one of the  
14 ones pushing harder, that this type of research is  
15 important, and that we do need to get better tools  
16 out there than that 1982 study. And I'd be very  
17 interested in thoughts that you folks might have on  
18 that.

19 One of the points that you made in your  
20 letter was on how one handles the dose cut-off. I  
21 recognize that that's a very, very challenging area,  
22 and probably one of the areas where it will be kind  
23 of nice to have some ACNW expertise here, too. You  
24 suggesting using L&T, at least the way I read your

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1 letter was, you suggested using L&T down to you'd say  
2 zero threshold to compare with previous work. Maybe,  
3 but I will admit to at least some skepticism on that.

4 I have so little respect for the validity of L&T at  
5 low doses, that I'm not -- sometimes I'm not anxious  
6 to perpetuate it.

7 On the other hand, I have been strongly  
8 supportive of research that would try to shed more  
9 light on what the effects really are at low doses,  
10 and whether L&T over or under-states the risks is of  
11 just vital importance. But I think there's already  
12 adequate information from the Department of Energy  
13 program to be quite confident that L&T is not the  
14 appropriate model. It's just that I'm not quite sure  
15 what the appropriate model is.

16 In any case, how one treats those doses,  
17 if one uses a dose cut-off, those are all going to be  
18 very, very complex issues that we'll need to continue  
19 to wrestle with, and I'm very pleased to see ACRS  
20 getting involved in that State-Of-The-Art Consequence  
21 Analysis. And I think the gist of my comments here  
22 is just that I truly believe, and I hope some of you  
23 do, too, that that can be very important work, that  
24 it needs to be done well. And I think a number of

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1 the suggestions that you folks made will help to  
2 enhance the credibility. It's just on L&T, I still  
3 have to think about.

4 The last one I'd mention before just a  
5 general closing is the general area of NGNP, the Next  
6 Generation Nuclear Plant, where the Department of  
7 Energy is charged with working towards operation of  
8 that plant at Idaho in 2021, and the NRC, and the DOE  
9 are charged with coming up with a licensing strategy  
10 by this August.

11 Here, I'm not quite sure whether the ACRS  
12 has moved in yet to review licensing strategies.  
13 There was a Commission meeting on this just recently,  
14 and at that meeting, I expressed considerable  
15 confusion in my own mind whether the NGNP is best  
16 handled through a Part 50 or a Part 52-type of  
17 licensing.

18 There are proposals that will be coming  
19 up to the Commission, and I would hope that at some  
20 point ACRS also look at this issue. To some extent,  
21 it ties in with - I'm trying to think, I'm forgetting  
22 the name - Technology Neutral Framework that you've  
23 also looked at. But it's a significant challenge,  
24 and I personally am very interested in seeing the

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1 NGNP move ahead in an appropriate way, that that type  
2 of reactor may turn out to offer very interesting  
3 advantages for future applications. So I would just  
4 put that down as one of the areas for consideration.

5 And then the last thing that I'd close  
6 with, and I sort of opened with it, too. I'm  
7 concerned, and I guess that you're concerned with the  
8 workload that is facing the Agency, and by  
9 definition, some fraction, a significant fraction of  
10 that workload is going to come to ACRS. I hope we  
11 are providing you with the resources you need to take  
12 on that set of challenges. I've already indicated my  
13 appreciation for your willingness to take on these  
14 challenges. And I think to the extent that ACRS sees  
15 a need for resources in some way, and I'm not exactly  
16 sure what that means, but I hope you will keep the  
17 Commission informed, because we're asking a lot from  
18 ACRS. I can't overstate my appreciation for your  
19 willingness to take that on, but I know it's going to  
20 be a major challenge.

21 With that, I would stop, maybe 20  
22 minutes, maybe I was even close, and I will look  
23 forward to lots of discussion on -- I've certainly  
24 provided a range of subjects.

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1           MEMBER MAYNARD: I'll start with one,  
2 just a question on the NGNP, the licensing strategy,  
3 the discussion between the NRC and DOE on this.  
4 There's been quite a bit of controversy on whether  
5 that should be open to the public, versus how much of  
6 that is done in closed session. And I wonder if you  
7 could share your thoughts on the openness of that  
8 process and trying to come up with the licensing  
9 strategy.

10           COMMISSIONER LYONS: I may not have been  
11 aware of that controversy. It's not clear to me why  
12 that would need to be a closed process.

13           MEMBER CORRADINI: I think, if I could  
14 just interject, the guidance we've been given by DOE  
15 is because it's Congressional mandate. Dave got a  
16 look at it by the August deadline, and what we do in  
17 terms of giving response or comment on what DOE and  
18 NRC staff are doing together has got to be closed  
19 until Congress sees it. That's the --

20           CHAIRMAN SHACK: Because it's pre-  
21 decisional.

22           MEMBER CORRADINI: It's pre-decisional.

23           COMMISSIONER LYONS: All right. Okay. I  
24 guess that's a reason. In any case, I will certainly

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1 look forward to the day when that can be as openly  
2 discussed as possible.

3 I might expand just briefly on the  
4 concern I indicated. I'm a little concerned as to  
5 how soon the Department of Energy will down-select  
6 among technology, and I am somewhat concerned  
7 whether, if we aim for, let's say, a traditional Part  
8 52, I am a little bit nervous as to whether the  
9 Department of Energy will be well-positioned to  
10 provide the degree of completeness that our staff  
11 would expect in a Part 52-type of license.

12 Having said that, I'm well aware that  
13 there certainly are a number of groups who would like  
14 to see the Part 52 because of its finality, and  
15 because it would avoid the two-step licensing  
16 process. But, on the other hand, that only works if  
17 DOE has truly defined the program in a sufficiently  
18 timely way to give us the completeness that Part 52  
19 demands. Maybe this can all happen, but I'm just  
20 concerned.

21 MEMBER CORRADINI: Could I ask a  
22 clarification? You said something at the very  
23 beginning, and I don't appreciate. You said in the  
24 merging of ACNW with ACRS, it presumes DOE's license

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1 sent to U.S. NRC, so I understand that part, and then  
2 you said something to the effect that, if it did, it  
3 would have changed the character of ACNW. And I  
4 guess I never really appreciated that.

5 COMMISSIONER LYONS: That's a very  
6 substantial issue, Mike.

7 MEMBER CORRADINI: Could you explain it,  
8 because I've heard it in various fashions, so just  
9 for edification.

10 COMMISSIONER LYONS: ACNW has been --  
11 prior to the license submission, ACNW has been  
12 actively involved in critiquing staff approaches to  
13 various issues, for example, seismic. Once that  
14 application is filed, ACNW would no longer have  
15 access to the staff. They could still be used --  
16 they would have been asked to be advisors directly  
17 to the Commission, but they would no longer interact  
18 with staff.

19 Now, Frank, if I didn't say that right,  
20 please correct me.

21 MR. GILLESPIE: Yes. It really comes  
22 down to the ex parte relationship, because the  
23 Commission is the appeal board for the hearings at  
24 the end of the process. And as advisors to the

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1 Commission, the ACNW would have been in the same  
2 basic status information flow-wise as the Commission,  
3 so they would have been separated both from the staff  
4 and the applicant, and only had access to publicly  
5 available information. And based on Commission  
6 guidance in 2003 and 2005, they would have been  
7 senior advisors to the Commission in that appeal role  
8 the Commission was holding.

9 MEMBER CORRADINI: Frank?

10 COMMISSIONER LYONS: And --

11 MEMBER CORRADINI: I'm sorry. No, I was  
12 just going to say -- you go ahead, Dennis. I'm  
13 sorry.

14 MEMBER BLEY: How did it come to pass  
15 that this process is so different than the one for  
16 reactors?

17 MR. GILLESPIE: Well, I think it was --  
18 I'm getting to a little bit of the history, but the  
19 -- and I'd like to really kind of let the  
20 Commissioner talk, but in that history, Yucca  
21 Mountain is unique, and there's an expectation that  
22 there will be a very extensive hearing process with  
23 multiple hearings. And that that was going to be  
24 kind of the formal vetting process as the license

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1 process goes forward. And there was something called  
2 KTIs, Key Technical Issues, that were being worked  
3 almost like topical reports in the sense of what the  
4 ACRS sees, between the staff and DOE up until when  
5 DOE said we're putting our license together, all  
6 further technical issues will now be resolved with  
7 the license submission; and that was that. So all of  
8 a sudden the key technical issues were stopped, so  
9 that technical interface ended, and we went into a  
10 licensing process.

11 COMMISSIONER LYONS: I guess I'd add one  
12 more thing on this, and I certainly don't have the  
13 level of background that Frank and some of you are  
14 going to have. But the fact that the Yucca Mountain  
15 process is a government applicant to a government  
16 regulatory body, to me, introduces a almost  
17 fundamental instability from the start. I think we  
18 have -- well, number one, the NRC certainly intends  
19 to do a fully open scientifically-based review of  
20 this. I've certainly sworn to do that.

21 On the other hand, when you try to  
22 discuss with the public how one arm of the government  
23 is going to operate as an independent regulator on  
24 another arm of the government, you have a real

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1 challenge in how you choose your words. It's a very  
2 complex way that Congress has set this up.

3 Some other countries, as you probably  
4 well know, have chosen to do it very differently.  
5 Sweden has a private group putting together the  
6 license, applying to a federal regulator. To me,  
7 that is much easier to discuss with the public, and  
8 assure them that the government has a discrete and  
9 well-defined role in the safety. And I may not have  
10 said this well, but, to me, this is a very  
11 complicated way of doing a licensing action on an  
12 incredibly visible and politically sensitive area.  
13 And if anything, I think, this Commission, and past  
14 Commissions have wanted to go the extra mile to  
15 assure that our role is appropriate, and ACNW is  
16 simply one step on this; setting up the Center in San  
17 Antonio is another step in this.

18 This is a case where we can't go to a  
19 national lab and ask for advice. They're part of --

20 I don't know how you'd ever handle a conflict of  
21 interest, since DOE is the applicant. So that's why  
22 the Center exists in San Antonio. And there's  
23 probably -- some of you can probably give ten other  
24 examples of the complexity that this whole process

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1 engenders, but there's plenty of it.

2 MEMBER ABDEL-KHALIK: I'd like to follow-  
3 up on the work load issue. The concern, in my mind,  
4 is not resources, per se, but the possibility that  
5 the Agency may become more and more schedule-driven,  
6 with incentives that emphasize meeting the time  
7 lines. And, to me, this is akin to a plant culture  
8 that emphasizes production versus safety. And how do  
9 we make sure that we don't sort of go down that  
10 slippery slope where schedule pressures are used to  
11 justify minimum standards, rather than truly  
12 outstanding, or excellent evaluations?

13 COMMISSIONER LYONS: I know the  
14 Commission, I know the Agency Senior Management are  
15 very concerned about that. We've stated many, many  
16 times that we will not allow ourselves to become  
17 schedule-driven. That doesn't mean that we don't  
18 establish schedules to guide our approaches, but we  
19 have to be, and I think we have demonstrated that we  
20 are willing to throw those schedules out and start  
21 over when the appropriate information is not  
22 forthcoming in a timely way.

23 I think a prime example of this is the  
24 design certification on ESBWR. I've lost track of

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1 the number of times we have redefined the schedule,  
2 when needed information has not come in. And I don't  
3 mean to pick on that particular one, because there  
4 would be others that would be in a similar situation.

5  
6 MEMBER CORRADINI: It's a good one.

7 (Laughter.)

8 MEMBER CORRADINI: You don't know how  
9 good.

10 (Laughter.)

11 COMMISSIONER LYONS: Well, it's certainly  
12 one I'm concerned about. I would hope that with  
13 examples like that, we will demonstrate that we will  
14 try to work towards schedules, but the quality of --  
15 we certainly talked a lot about the importance of  
16 the quality of the application, the completeness of  
17 the application. That will determine whether or not  
18 we can meet schedules.

19 MEMBER BANERJEE: I'd like to follow-on  
20 Said's point here, which is that also concerns me,  
21 because we don't only see incomplete information  
22 coming from the licensee, but we also have some  
23 issues with the completeness of the evaluations that  
24 are being done by the staff. And just to be blunt

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1 about the whole thing, that we do need, probably,  
2 some guidance that things are not going to be driven  
3 by schedule, but quality of the necessary work.

4 COMMISSIONER LYONS: I can only give you  
5 my assurance, and I am positive that this could be a  
6 case where I could speak for my colleagues, even  
7 though that's dangerous. None of us are going to  
8 sacrifice technical accuracy for schedule. And if  
9 it's ACRS, or any other element of the Agency that is  
10 either not producing adequate quality themselves, or  
11 is not receiving adequate quality from the applicant,  
12 we have to be ready to appropriately modify the  
13 schedule.

14 This is quite a stretch, but let me just  
15 say it, anyway. You're touching on one of the  
16 reasons why in my former life in the Senate, I was  
17 extremely concerned with the so-called risk insurance  
18 that has been set up to cover so-called regulatory  
19 delays. I think it is going to be, challenging will  
20 be an under-statement, if this ever is exercised. If  
21 it's a situation where you bet there was a regulatory  
22 delay, because the information wasn't adequate,  
23 complete, technically sound, it's going to get very,  
24 very complicated. But I should stay with your main

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1 point, that I'm positive that the Commission's view  
2 will be that if more time needs to be taken, either  
3 because of staff, or because of the applicant, we'll  
4 have to take that time.

5 Now, to the extent that it's staff, I  
6 would hope that those concerns would be relayed back  
7 through the appropriate channels very early, so that  
8 the appropriate management can get involved, and try  
9 to advance the staff product.

10 MEMBER BANERJEE: There should be  
11 scheduled informed licensing, like risk-informed  
12 licensing, not schedule-driven.

13 MEMBER APOSTOLAKIS: I want to follow-up  
14 on that.

15 COMMISSIONER LYONS: I think you have to  
16 have a schedule on something like this. You're  
17 talking about -- to me, this is something that does  
18 require one to, at least, think about a schedule, and  
19 have a target to shoot at. As all of you know, the  
20 different pieces that are coming together, certainly  
21 from the Agency, and certainly from the Applicant, if  
22 one of these applications is to eventually actually  
23 move forward, and move into construction, are  
24 certainly - okay, I don't want to use the word

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1 "schedule-driven" - but they certainly will have a  
2 strong component of schedule within them.

3 To the extent we need to depart from  
4 schedules for technical completeness, you'll get no  
5 argument from me. To the extent we can stay with an  
6 advertised schedule, I think we should try. And,  
7 certainly, the Commission, certainly, the public,  
8 certainly, Congress, certainly, industry, I think  
9 every stakeholder imaginable will be watching how  
10 well those schedules are followed. But, again, we  
11 cannot sacrifice technical quality to meet the  
12 schedule. And, to some extent, I think one thing  
13 we're doing very -- that's very important is to  
14 expand the time of initial review of a license before  
15 we docket it. That was extended from 30 to 60 days  
16 to allow the staff more time to evaluate whether a  
17 license truly is complete.

18 I think that's positive. And I think  
19 time invested up front like that may well yield  
20 benefits further on in the process. But I share your  
21 concern, and I know I cut somebody off over here.  
22 Yes, George?

23 MEMBER APOSTOLAKIS: Well, first of all,  
24 I think it's understood that today we're talking as

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1 individuals, rather than as a Committee. In other  
2 words, the views that Sanjoy and Said expressed are  
3 not necessarily shared by everybody. But I would  
4 come back to the issue of - with due respect. I want  
5 to come back to the issue of workload.

6 As you know, we produce a report on the  
7 research program with the Agency every year. One  
8 year it's a relatively short report, the second year,  
9 like this year is a fairly long report. And I have,  
10 in my own mind, again, speaking as an individual,  
11 serious doubts that the every other year large report  
12 serves any purpose. I mean, of course, it's always  
13 useful to get more. I mean, I don't question that,  
14 but it's an issue of risk benefit, cost benefit.

15 It's a burden on this Committee to  
16 produce that big volume. And, frankly, if Dana  
17 Powers ever decides not to do it, we're going to be  
18 in deep trouble.

19 (Laughter.)

20 MEMBER CORRADINI: We use his energy.

21 MEMBER APOSTOLAKIS: He dedicates himself  
22 for several --

23 (Off mic comments.)

24 MEMBER APOSTOLAKIS: So I'm wondering

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1 whether the Commission, or maybe you, personally,  
2 find this detail that we put in there very useful,  
3 because it does take a lot of time. It is a burden  
4 on us, and to tell the truth, some of the  
5 recommendations that we made four or five years ago  
6 led nowhere.

7 Now, I've been on this Committee for a  
8 long time, so I know you have to plant the seeds, and  
9 then harvest later. But is it possible to ease that  
10 burden? For example, maybe we can write an  
11 excruciatingly detailed report every five years, and  
12 write a several page report on selected items every  
13 year, or if the Commission has a specific request, we  
14 can address it. But, my goodness, I mean, this is  
15 really a lot of work. And if you come back and say  
16 no, it's extremely useful because we decide this, or  
17 we decide that based on that report, then, of course,  
18 we'll do it. But I'm not sure how aware the  
19 Commission is of what kind of a burden that is on us,  
20 because, especially, we have been told by past  
21 Commissioners that they would like to see  
22 recommendations as to which projects to actually  
23 stop, or cancel.

24 Now, of course, that's a responsibility

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1 that we take very seriously. I mean, you really have  
2 to think about it. You have to interact with the  
3 staff, read what is coming out, and I just think it's  
4 too much.

5 COMMISSIONER LYONS: Well, I can give you  
6 a few thoughts.

7 MEMBER ARMIJO: You mean frequency.  
8 Research doesn't move so fast that you need a  
9 research thing every two years.

10 MEMBER APOSTOLAKIS: That's also a major  
11 point, yes.

12 MEMBER BONACA: In fact, we went from  
13 yearly report to a report every two years, because --

14  
15 MEMBER APOSTOLAKIS: I don't even mind  
16 the annual report, as long as it's short. But this  
17 volume, these opus that we produce every other year  
18 can be done every five years.

19 MEMBER BLEY: I think the real issue is,  
20 is it useful?

21 MEMBER APOSTOLAKIS: And is it useful?  
22 Yes, I mean the Commission says it's useful, yes, of  
23 course we'll do it.

24 MEMBER SIEBER: More importantly, is it

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1 used?

2 MEMBER APOSTOLAKIS: We used several  
3 verbs.

4 COMMISSIONER LYONS: Well, let me give  
5 you a few thoughts. This would be one where  
6 different ones of my colleagues might have different  
7 views. And this, also, is one that there should be  
8 responses from the staff, too, who are also using  
9 this product.

10 From my own perspective, the shorter  
11 reports -- well, number one, I very much appreciate  
12 the reports, but the shorter reports, to me, would be  
13 fine. And if I go back in my own history of research  
14 reviews, and I've certainly done -- I've been on both  
15 ends, countless ones, the greatest value usually  
16 comes in the give and take between the presenter and  
17 the reviewer. And the written report, while it can  
18 be very time consuming to prepare, I think rarely  
19 communicates the information as well as that give and  
20 take that you had in the initial session. So maybe  
21 I'm taking sort of a middle ground, George. I do  
22 find the reviews useful, but I don't want to argue  
23 that it has to be the longer full-blown review. I'm  
24 quite happy with an Executive Summary, maybe that's

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1 one way of putting it.

2 MEMBER APOSTOLAKIS: That's a good point.

3 COMMISSIONER LYONS: I do think that the  
4 fact that the review occurs in itself has a  
5 substantial benefit to the presenter, the researcher,  
6 and the ACRS members that are participating. And I  
7 would have thought that 99 percent of the feedback  
8 can be contained within the verbal exchanges within  
9 that presentation.

10 MEMBER APOSTOLAKIS: That's a good point,  
11 in fact. I really think we have very good  
12 interactions with the staff in the process of  
13 preparing that report. And maybe we can just write a  
14 summary of these and our own views, without having to  
15 prepare this voluminous thing, at least not every  
16 other year.

17 COMMISSIONER LYONS: That would certainly  
18 meet needs that I have. You might get different  
19 answers from different colleagues.

20 MEMBER CORRADINI: I guess I wanted to go  
21 back. You had -- I wrote down eight things, and some  
22 of them I want to couple, because a lot of them are  
23 very interesting to me. And the one, I guess, I want  
24 to -- one question to couple is, you've mentioned

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1 about long-term research and access to facilities.  
2 And I guess I'll start with the money part. And I  
3 think I understand what you're saying, but I guess  
4 I'd like you to repeat it, because I, personally,  
5 want to figure out a way to help to put long-term  
6 research, I guess the term is used "above the line",  
7 so that it accesses the 10 percent, which is the  
8 federal monies, versus the licensing fees.

9           It seems to me, just from an exposition  
10 standpoint, this is a way to allow you to think long-  
11 term, get some spade work on key things you'll need,  
12 and I'd link it to what you were asking at the very  
13 end about the NNGP and future plants. It would seem  
14 to me almost impossible for you to justify investing  
15 in people and resources to think ahead, unless you  
16 had it above the line. And, so, I guess I resonate  
17 with what you're saying. I'm just curious how we can  
18 help in that regard, or should we just urge you on,  
19 and leave it at that?

20           And then connected to access of  
21 facilities, we've had in the research report  
22 discussion, when we were writing it, this was one of  
23 the biggest discussion points that many of us feel  
24 very strongly about. And, so, I agree we should join

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1 in with the international facilities and expertise,  
2 but there will come a time where we're going to have  
3 to decide which key things we have to build here, if  
4 we're going to continue to build plants, and not  
5 simply rely on international facilities. So, I  
6 guess, I'm kind of curious how we can help you in  
7 those two, because I think a few of us, at least  
8 speaking just for myself, this one is, to me, very  
9 important.

10 COMMISSIONER LYONS: Well, certainly your  
11 comments also are very thoughtful on this, Mike, and  
12 I appreciate them. Your suggestion about putting  
13 above the line is one that I think could be very  
14 useful for ACRS to advance. I have to admit that I  
15 don't -- I could not give you an accurate accounting  
16 of exactly what is above and below the line, as you  
17 put it; and by that, I'm - well, I'm sure it's clear  
18 to everyone here that you're talking about what is in  
19 the 10 percent.

20 MEMBER CORRADINI: Right.

21 COMMISSIONER LYONS: Now, of course, much  
22 of the Homeland Security activities, part of the  
23 rationale for that 10 percent is Homeland Security-  
24 types of issues, so they're in the 10 percent. I

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1 don't know to what extent the 10 percent is fully  
2 committed. And I can be trying to explore that, and  
3 I think suggestions from ACRS to explore that would  
4 be very useful.

5 I do agree with you that to the extent  
6 the long-term research -- I agree that it is far more  
7 appropriate for the long-term research to be done  
8 above the line, I guess. In any case, in the 10  
9 percent. I have also wondered if we could, perhaps,  
10 ever propose to Congress that that 10 percent be  
11 raised. I'd personally be very interested in that.

12 Now, the minute that's raised, it greatly  
13 complicates the job of the Appropriations Committees,  
14 so even though they might philosophically agree, we  
15 would be asking them to take on quite a challenge,  
16 because, obviously, anything in that 10 percent has  
17 to be appropriated. Anything below the line, they  
18 don't have to appropriate, or they don't have to  
19 actually ---- the funds are not actually costed,  
20 which are scored, which makes quite a difference to  
21 an appropriator.

22 I, also, very much agree with you that  
23 there needs to be an evaluation and a balance on what  
24 facilities should we truly try to, I was going to say

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1 maintain in the U.S., that presumes we still have  
2 them. And in many cases, I'm not even sure we do  
3 have them. It, frankly, would be fascinating just to  
4 catalogue, maybe somebody's done it, the number of  
5 severe accident and other types of key facilities  
6 that have been lost over the years in this country.  
7 I think it would be a rather pathetic list.

8           Nevertheless, we do still have some very  
9 key facilities within this country, and I think it's  
10 very important that we evaluate and keep those that  
11 have a long-term role. But part of the reason I  
12 brought this up was that I think another approach to  
13 some of these facilities can be to recognize up front  
14 that we've lost this capability, but that it's in the  
15 U.S. interest to provide significant support to an  
16 international facility.

17           Again, that would need to be carefully  
18 evaluated, and there's immediately there might be  
19 some concerns raised on that. But I also think that  
20 one could probably make a case that for some selected  
21 international facilities, or non-U.S. facilities,  
22 that it's, by far, most cost-effective to assure that  
23 these facilities are maintained wherever they may be,  
24 as opposed to trying to recreate them in this

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1 country.

2 And, finally, there may be a set of  
3 capabilities or facilities that we truly need to  
4 construct within this country. Perhaps, in some way  
5 - again, I'm going back to the hat I wore some years  
6 ago - NGNP could almost be considered one of those  
7 facilities in the sense of being a research test bed  
8 for that particular class of reactor. But I think  
9 all I'm doing is agreeing with you.

10 I think an interesting challenge for ACRS  
11 in conjunction probably with NRR and Research, would  
12 be to try to catalogue the facilities that are truly  
13 vital to assuring the health of nuclear safety  
14 regulation looking way into the future, because if  
15 one looks only today, we may lose a facility, we may  
16 fail to support a facility that we need five years  
17 from now, or ten years from now.

18 MEMBER ARMIJO: I think you may see some  
19 issues along those lines discussed in the research  
20 report. It's not ready to -- it's ready to be coming  
21 issued pretty soon.

22 COMMISSIONER LYONS: The long version or  
23 the short version?

24 MEMBER ARMIJO: The long version.

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1           MEMBER BLEY: The long version, it was  
2 issued yesterday afternoon.

3           MEMBER ARMIJO: Okay. Well, anyway, the  
4 --

5           COMMISSIONER LYONS: I will discuss it  
6 with Rick next week. I haven't read it. If it was  
7 issued yesterday, I don't even know it.

8           MEMBER ARMIJO: But I think the issue of  
9 loss of research infrastructure, and the issue of  
10 available expertise for this industry are tied  
11 together. And I see a need for the leadership, and  
12 perhaps DOE, industry, as well as the NRC, to push  
13 for a rebuilding, not just maintaining, but a  
14 rebuilding of the research infrastructure in our  
15 national laboratories, or industry, or elsewhere.

16           Recently, there was an announcement, new  
17 French Institute, some \$20-30 million to be built to  
18 do material safety research. Well, I'll tell you, the  
19 real materials aging research done in the United  
20 States over the last 40 years has been the basis for  
21 all of this stuff. And that's -- why in the world  
22 isn't the United States building what's needed right  
23 here, funding it with our resources somewhere,  
24 industry and government? We don't have test

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1 reactors, materials test reactors. We have to go  
2 overseas for hot cell work. This is not the kind of  
3 infrastructure that you need for an industry that  
4 produces 20 or 30 percent of the nation's  
5 electricity. And we've talked to everybody, and you  
6 may see elements of that in our research report, but  
7 I think it takes very top-level leadership to break  
8 that log-jam, and that thinking that is well, let's  
9 go overseas, because it's cost-effective in the  
10 short-term. In the long-term, it won't be.

11 COMMISSIONER LYONS: Well, you're  
12 touching on something that I've spoken out on  
13 repeatedly, and probably my comments have not always  
14 been welcomed in some circles. I think that a good  
15 fraction of what you've described, in my view, is  
16 within the purview of the Department of Energy. I  
17 have mentioned on several occasions that I think it  
18 is pathetic that if I want to see a first-class  
19 research reactor, I have to leave this country. I  
20 think it's pathetic when I visit, at least the vast  
21 majority of research reactors around this country,  
22 and they literally look like they ought to be in the  
23 Smithsonian. To me, that is simply not painting a  
24 picture to the students of tomorrow that says nuclear

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1 energy is an exciting, vibrant, modern field.

2 I don't see how the NRC can or should  
3 take on the challenge of rebuilding the research, or  
4 perhaps material reactor infrastructure, but I wish  
5 we could work with the Department to try, as a  
6 nation, to rebuild some of these capabilities.

7 MEMBER ARMIJO: I agree with you, it's  
8 not an NRC, by itself. It's kind of the job-owning,  
9 moral leadership. We recently had a plant life after  
10 60 research conference here with NRC and DOE, and  
11 Secretary Spurgeon was there. And we raised this  
12 issue, and he did make the remark that the state of  
13 the nuclear infrastructure in the United States was  
14 sad, pathetic would have been a better word, in my  
15 view, but that's true. And I think the more push  
16 from the leadership to say hey, let's not ignore this  
17 issue, is needed. And not necessarily money, but  
18 talking to decision makers, whether it's Congress, or  
19 DOE, or industry. And I think industry has really  
20 done a poor job of really funding their own  
21 facilities.

22 COMMISSIONER LYONS: Well, and industry  
23 can be adding support to these types of  
24 intercessions, I guess would be one word, to the

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1 Department of Energy. I know there's exceptions in  
2 research reactors around the country, and there are  
3 some that do have more modern instrumentation, and in  
4 some cases even nice, new building facilities. But  
5 it's the exception. I have been in far too many that  
6 I just -- well, I think I said it before. I don't  
7 see how you can walk into 90 percent of the research  
8 reactors in this country, and use it to sell  
9 prospective students on the excitement of a career in  
10 nuclear energy. And, to me, that's just wrong. And  
11 yes, GNEP is important, but so are other things.

12 CHAIRMAN SHACK: I'd just like to come  
13 back to your comments on SOARCA. You've been very  
14 supportive, and I have a sort of a concern, because  
15 SOARCA doesn't really lead to any licensing actions.

16 You don't need it to license new reactors. You  
17 don't need it for power uprates, that it's going to  
18 be a kind of a resource-starved thing. But I think  
19 it's very important on the topic that you were  
20 talking about, that a great deal of our problem with  
21 nuclear energy is still convincing the public that  
22 it's safe. And I think we need a modern up-to-date  
23 understanding of what the risks of nuclear power are,  
24 before we can even begin communicating -- how we

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1 communicate those to the public is still another  
2 question, but we really need the best, technically  
3 defensible, technical depth, understanding that we  
4 can get. And I would hope you -- our letter probably  
5 asked for more resources for SOARCA to meet our  
6 vision of what a technically defensible SOARCA is,  
7 and we can discuss L&T, and things like that.

8 COMMISSIONER LYONS: I would be happy to  
9 find resources to support what your letter asks for.

10 CHAIRMAN SHACK: And, I guess, that's  
11 sort of my pitch here, is that I'd like to -- I hope  
12 you can maintain the dedication to something like  
13 SOARCA, because I think we need it, as much as we  
14 need anything else to have a viable nuclear industry  
15 in this country. Because if we can't sell the  
16 public, we're going to have a very difficult time --

17 COMMISSIONER LYONS: Bill, I couldn't  
18 agree with you more. I view SOARCA as being a very,  
19 very key part of discussions with the public on risk  
20 information. And as long as the '82 study isn't  
21 countered by something, there are many groups who use  
22 that as the final word, and I don't think that aids  
23 in helping the public towards an understanding of the  
24 risk framework in which we're operating. And for

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1 that reason, I pushed very hard on SOARCA. I will  
2 continue to push very hard. It has been somewhat  
3 divisive on the Commission, and I don't know exactly  
4 where this will be viewed, or how your letter will be  
5 viewed. I continue to view it as extremely  
6 important.

7 MEMBER APOSTOLAKIS: Let me ask  
8 something. It's been 33 years now since the  
9 publication of the final Reactor Safety Standard. It  
10 would seem to me that it would make eminent sense for  
11 every plant in the United States to have a good Level  
12 3 PRA. And, yet, they don't, several do, but most of  
13 them do not. There is resistance, strong resistance  
14 to doing it, even Level 2 is done in a sort of arm-  
15 waving manner sometimes. This Agency's risk-  
16 informing its regulations, and then I believe in Part  
17 52 it says if you want to read the PRA, you have to  
18 go to the licensee's offices, which for a Committee  
19 like this would probably create a problem.

20 Why is that? I mean, if we want to  
21 communicate with the public, I mean, why do we need  
22 only SOARCA? SOARCA may be a federal agency-  
23 supported study, and be more detailed, and so on, but  
24 in one-third of a century later -- I mean, the

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1 Reactor Safety Study did do a Level 3 PRA, and they  
2 started from scratch. Then several of them were done  
3 by private companies, and then nothing. Even Level  
4 2, I mean, we're talking about large early release  
5 frequency, we're really don't go to Level 2, we go  
6 Level 2 minus. So I wonder, I mean, can the  
7 Commission do something about it? I mean, if we  
8 really want to be very open to the public, it seems  
9 to me we should have those PRAs, and should be using  
10 them, because the argument is always it's too costly.

11 Well, some people have done it, so it can't be that  
12 costly. And, in fact, we have two members here who  
13 have first-hand experience as to how costly it is,  
14 and what it takes to do it. So that's something that  
15 I think is a little of a question mark in my mind. I  
16 mean, do we really want to risk-inform the  
17 regulations, and communicate with the public, or do  
18 we want to risk-inform only to the extent that is  
19 useful in changing the in-service inspection, and all  
20 that, and then stop there. I would expect us to have  
21 a Level 3 PRA for every unit.

22 MEMBER BONACA: But I think, in part,  
23 that ties into SOARCA in a way. I think all of the  
24 concerns from the operators is how the results are

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1 going to be used. Because, again, the way that we  
2 have been communicating information, and how it's  
3 been used, interpreted in different ways, and to make  
4 over-estimations, and things of that kind. So I  
5 think a properly developed SOARCA program, it will  
6 help, in fact, probably with time to motivate -- to  
7 ease the development of Level 3 PRA.

8 COMMISSIONER LYONS: Mario, I would agree  
9 with what you said. I have viewed SOARCA as being a  
10 step towards a more complete complex-wide approach.  
11 When I -- in my original thinking on SOARCA, I wanted  
12 to do every plant. It quickly got scaled back from a  
13 resource, and interest standpoint, with the  
14 Commission, to a small subset of plants. And it's  
15 now focused on the current two. I am still extremely  
16 optimistic that by doing those two "right", that we  
17 can, I hope, show the importance of, as you said,  
18 George, re-looking at a 33-year old reactor safety  
19 study. And I would hope that SOARCA could be a  
20 stepping stone towards moving in that direction. I  
21 would very much like to do this for, eventually, for  
22 all plants. The original '82 study was for all  
23 plants, and I had hoped that we could do that this  
24 time.

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1                   Now, you've certainly proposed approaches  
2 that will add to the cost and complexity, but they  
3 will also add substantially to the value and  
4 defensability of the product. And, for that reason,  
5 I am very interested in the suggestions you made, and  
6 I personally will be trying to find ways to support  
7 the suggestions you made. I want SOARCA to provide  
8 this framework to move into the future, and I think  
9 it can, but those first few plants have to be done  
10 right. And I think your suggestions will make them  
11 righter, if you will.

12                   MEMBER CORRADINI: I guess the only thing  
13 to capture what you hear from Bill and George, and  
14 put it together, is I view the suggestions that we  
15 came to as a group relative to SOARCA for Level 3 as,  
16 in some sense, you're re-baselining what happened 33  
17 years ago. You picked the same two plants. You want  
18 to do a complete and cogent Level 3, so you actually  
19 then, with that, can launch off into what I'll call  
20 approximations on other sites, with other plants.

21                   COMMISSIONER LYONS: Well, that was part  
22 of the argument to go with just these two, and one  
23 could do a whole lot of extrapolating from those two.  
24 And maybe that will be the end result, and even that

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1 would be better than where we are now.

2 MEMBER CORRADINI: I think to connect to  
3 what George is saying, historically, that, in some  
4 sense, really is a re-doing of the reactor safety  
5 study, because you could do a full Level 3. You'll  
6 get a full accounting of where we are in terms of  
7 uncertainty as get down to the low probability/high-  
8 consequence events, and we'd actually - I'm expecting  
9 to see. I'm hoping to see, that's what we were  
10 asking when we wrote the letter, to see that sort of  
11 understanding. And I guess that goes back to the  
12 other thing that you were saying, and I think Bill  
13 said it better than I can, which is, we need a good  
14 analysis before we communicate what the risk is.  
15 Otherwise, we're going to risk shooting all of us in  
16 the foot professionally.

17 CHAIRMAN SHACK: That's right.

18 COMMISSIONER LYONS: I mean, to me,  
19 whether we're talking about the existing SOARCA  
20 study, or the one that you proposed, how one  
21 communicates that is a challenge that deserves a  
22 whole lot of discussion, because you can readily  
23 imagine how such a study could be misinterpreted or  
24 attacked. To some extent, it already has been. I

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1 still think we can do a substantial service to the  
2 country by doing a SOARCA-like study, and if you want  
3 to rename it, that's fine, because I'm not sure  
4 that's a very catchy title, but I think that type of  
5 a study done right can make a substantial difference  
6 in how we communicate risk. And I went over my time.

7 CHAIRMAN SHACK: Well, we appreciate very  
8 much your coming down. These informal discussions  
9 are -- rather than the Kabuki play that we have when  
10 we meet --

11 (Laughter.)

12 MEMBER CORRADINI: Is that a Chicago  
13 term?

14 CHAIRMAN SHACK: These informal  
15 discussions, I think, are very good. And, again, all  
16 the opinions expressed are those of individual  
17 members of the ACRS.

18 COMMISSIONER LYONS: And individual  
19 commissioner.

20 (Laughter.)

21 CHAIRMAN SHACK: But I think these  
22 exchanges are very useful and helpful.

23 COMMISSIONER LYONS: I fully agree, and  
24 thank you all very, very much. And I'll see you at

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1 the Kabuki --

2 (Laughter.)

3 CHAIRMAN SHACK: Thank you.

4 COMMISSIONER LYONS: Thank you, all.

5 CHAIRMAN SHACK: We'll be off the record  
6 now.

7 (Whereupon, the proceedings went off the  
8 record at 9:33 a.m.)

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