



**UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
ADVISORY COMMITTEE ON REACTOR SAFEGUARDS  
WASHINGTON, DC 20555 - 0001**

November 15, 2011

MEMORANDUM TO: File

FROM: Sherry Meador */RA/*  
Technical Secretary, ACRS

SUBJECT: CERTIFICATION OF THE MEETING TRANSCRIPT  
FROM THE ADVISORY COMMITTEE ON REACTOR  
SAFEGUARDS US APWR SUBCOMMITTEE MEETING  
HELD ON OCTOBER 20, 2011 IN ROCKVILLE,  
MARYLAND

The transcript of the subject meeting has been declared as the official record of the proceedings of that meeting.

**Official Transcript of Proceedings**  
**NUCLEAR REGULATORY COMMISSION**

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US-APWR Subcommittee

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UNITED STATES OF AMERICA

NUCLEAR REGULATORY COMMISSION

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ADVISORY COMMITTEE ON REACTOR SAFEGUARDS

(ACRS)

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US-APWR SUBCOMMITTEE

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THURSDAY

OCTOBER 20, 2011

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ROCKVILLE, MARYLAND

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The Subcommittee met at the Nuclear  
Regulatory Commission, Two White Flint North, Room  
T2B1, 11545 Rockville Pike, at 8:30 a.m., John W.  
Stetkar, Chairman, presiding.

SUBCOMMITTEE MEMBERS:

JOHN W. STETKAR, Chairman

DENNIS C. BLEY, Member

CHARLES H. BROWN, JR. Member

JOY REMPE, Member

MICHAEL T. RYAN, Member

WILLIAM J. SHACK, Member

GORDON R. SKILLMAN, Member

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

8:28 a.m.

CHAIRMAN STETKAR: The meeting will now come to order. This is a meeting of the United States Advanced Pressurized Water Reactor Subcommittee. I'm John Stetkar, Chairman of the Subcommittee meeting.

ASCR members in attendance are: Joy Rempe; Charles Brown; Bill Shack; Mike Ryan; Dennis Bley and Dick Skillman. Ilka Berrios of the ACRS staff is the designated federal official.

The committee will review Chapter 11, Radioactive Waste Management; and Chapter 12, Radiation Protection and the Safety Evaluation Report with open items associated with the Comanche Peak combined license application. There will also be a briefing on the risk-managed technical specifications. We'll hear presentations from the NRC staff and Luminant Generation Company.

We will receive no written comments or requests for time to make oral statements from members of the public regarding today's meeting.

The Subcommittee will gather information, analyze relevant issues and facts, and formulate proposed positions and actions as

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1 appropriate for deliberation by the full committee.

2 The rules for participation in today's  
3 meeting have been announced as part of the notice of  
4 this meeting previously published in the *Federal*  
5 *Register*.

6 Parts of this meeting may need to be  
7 closed to the public to protect information  
8 proprietary to Luminant or other parties. I'll ask  
9 the NRC staff and the applicant to identify the need  
10 for closing the meeting before we enter into such  
11 discussions and to verify that only people with the  
12 required clearance and need to know are present.

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

22 We'll now proceed with the meeting, and  
23 I call on Steve Monarque. Steve, good morning.

24 MR. MONARQUE: Thank you, Mr. Stetkar.  
25 My name is Stephen Monarque. I'm the lead project

1 manager for the Comanche Peak COL review and I'm  
2 with the Office of New Reactors.

3 I want to thank you for giving us the  
4 opportunity to present our chapter to the ACRS  
5 Subcommittee. This is our third meeting. We've  
6 previously presented Chapters 5, 8 and 10 to the  
7 Subcommittee. This morning we will present Chapters  
8 11 and 12 for the Comanche Peak combined license  
9 application.

10 The staff's review for both of these  
11 chapters was conducted through Revision 1 of the COL  
12 application which implemented Revision 2 in the DCD.  
13 We did receive Revision 2 of the COL in June of this  
14 year, but staff's still doing the review.

15 And with that, I want to introduce my  
16 branch chief, Hossein Hamzehee for opening remarks.

17 MR. HAMZEHEE: I don't have any.

18 CHAIRMAN STETKAR: You've always been a  
19 man of few words.

20 MR. MONARQUE: With that, I conclude my  
21 remarks.

22 CHAIRMAN STETKAR: Thanks, Stephen. And  
23 with that, I'll turn it over to, I guess, John?  
24 Don?

25 MR. WOODLAN: I'll start it off.

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1 CHAIRMAN STETKAR: Oh, okay.

2 MR. WOODLAN: Good morning. Glad to be  
3 back here again. My name is Don Woodlan. I'm the  
4 licensing manager for Luminant for the new unit,  
5 Comanche Peak units 3 and 4. And like I say, it's a  
6 pleasure to be here in spite of the Rangers' loss  
7 last night.

8 MR. WOODLAN: As you pointed out, we're  
9 here today to give a briefing on Chapters 11 and 12,  
10 and then we'll talk a little bit about risk-informed  
11 technical specifications and where we're heading  
12 with regard to those. As you probably already know,  
13 having looked over some of the materials, Chapters  
14 11 and 12 are really not anything all that unusual.  
15 We're pretty much following what current operating  
16 plants are doing and the guidance that's been  
17 developed for new plants. And so we're adopting it.  
18 Most of it should look very familiar. Something a  
19 little different; we'll talk about it, is the  
20 interim radwaste storage building that we're  
21 constructing on site.

22 With respect to risk-informed technical  
23 specification, this is a fairly new area. We're the  
24 first Part 52 plant to pursue these, and so I think  
25 the concept of doing a briefing at this point in

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1 time to introduce the Subcommittee to what we're  
2 doing is a really good idea. And of course, we'll  
3 follow up with the full presentations when we do the  
4 chapters, probably 16 and 19.

5 I guess that's all I really wanted to  
6 say in the way of an introduction. Like I say, I'm  
7 the licensing manager, so I'm going to give my seat  
8 up to somebody who knows something technically, and  
9 I'll turn it over to John Conly to start Chapter 11.

10 MR. CONLY: Thank you, Don. Good  
11 morning. My name is John Conly. I'm the COLA  
12 project manager for Comanche Peak, Units 3 and 4. I  
13 will present Chapter 11 of the FSAR.

14 The agenda or the order of presentation:  
15 I'll make a brief introduction; we'll look at an  
16 overview of the chapter and discuss briefly the SER  
17 open items; we'll look at proposed license  
18 conditions; and finish with site-specific aspects in  
19 the FSAR.

20 The FSAR uses the incorporation by  
21 reference methodology and there are no departures  
22 taken from the US-APWR design control document in  
23 Chapter 11. All COL items are addressed in the  
24 FSAR. The NRC staff has two open items in the SER.  
25 There are also 17 SER confirmatory items consisting

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1 of the staff confirming that FSAR markups that we  
2 submitted to the Commission in response to RAIs  
3 actually make it into the COLA revision. There are  
4 four proposed license conditions by the staff and  
5 there are no contentions pending before the ASLB.

6 An overview of the chapter. As you  
7 know, there are five sections in Chapter 11. There  
8 were 30 questions asked in the chapter, all of which  
9 have been responded to and resulting in two SER open  
10 items.

11 You are familiar with all of the  
12 acronyms on this slide perhaps except PERMS, Process  
13 Effluent Radiation Monitoring and Sampling System.  
14 PERMS is a lot easier to say.

15 The first SER open item noted by the  
16 staff is 11.02-1 regarding detailed design  
17 information for site-specific sampling locations in  
18 our evaporation pond, and I'll describe that in more  
19 detail later. The resolution of this open item is  
20 that Luminant will submit a supplemental response  
21 and additional information.

22 The second open item in the SER is  
23 11.04-1 regarding detailed design information for  
24 the interim radwaste storage facility Don alluded to  
25 earlier. We will address that in more detail in the

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1 presentation, and the resolution of the SER open  
2 item is that Luminant will submit a supplemental  
3 response with further information.

4           Regarding the proposed license  
5 conditions, the NRC noted in the SER four proposed  
6 license conditions as shown on the slide, each one  
7 of which requires the implementation of an  
8 operational program such as the Process Control  
9 Program, the Radiological Effluent Tech Specs, Off-  
10 Site Dose Calculation Manual, or the Radiological  
11 Environmental Monitoring Program.

12           In part 10 of COLA Revision 1, Luminant  
13 had listed each operational program to be  
14 implemented as a separate license condition. In May  
15 of this year, Luminant simplified it's proposed  
16 license condition for operational programs based on  
17 discussions with the staff in February regarding the  
18 model COL that the staff was developing. That  
19 simplification proposed a single license condition  
20 to control the implementation of all operational  
21 programs annotated as being implemented by license  
22 condition in FSAR table 13.4-201.

23           This is a page out of that table showing  
24 that indeed there are four sub-parts for this  
25 particular Process Effluent Monitoring and Sampling

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1 Program to be implemented by license condition. The  
2 bottom line is, regardless if its one license  
3 condition or four license conditions, the  
4 operational programs will be implemented by license  
5 condition as stated in FSAR table 13.4-201.

6 The site-specific aspects, Section 11.1,  
7 the Source Terms, there are no site-specific  
8 aspects. It's incorporated by reference without  
9 departures for supplements. 11.2, the Liquid Waste  
10 Management System, 11.2.1.5 subsection addresses the  
11 cost benefit analysis which determined that there  
12 are no cost beneficial liquid radwaste augments and  
13 no further cost benefit analysis is needed to  
14 demonstrate compliance with 10 C.F.R. 50, Appendix  
15 I.

16 MEMBER BLEY: Can I take you back a  
17 page --

18 MR. CONLY: Yes, please.

19 MEMBER BLEY: -- to that table? When I  
20 thumb through the table and look at the things; and  
21 maybe this is really a question for staff rather  
22 than for you, a lot of the items on there look very  
23 similar to the kind of things we see in ITAACs and  
24 other systems. I'm just wondering why these end up  
25 being license conditions rather than tests and

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1 inspections.

2 MR. CONLY: Reg Guide 1.206 --

3 MEMBER BLEY: Requires it. Okay.

4 MR. CONLY: -- has this table.

5 MEMBER BLEY: Got you. Okay. I saw  
6 that going through, but that's just the way it is.

7 MR. MONARQUE: I think I can answer.  
8 There's a SECY 05197 which discusses operational  
9 programs --

10 MEMBER BLEY: Yes.

11 MR. MONARQUE: -- and it lists the  
12 license conditions we would have for such  
13 operational programs, including the process of  
14 monitoring effluent.

15 MEMBER BLEY: Okay. But then when you  
16 get down to the detail, they're really essentially  
17 like ITAACs, so you'll confirm them by inspections,  
18 I suppose. Is that right?

19 MR. MONARQUE: That is correct.

20 MEMBER BLEY: Okay. Thanks.

21 MR. MONARQUE: Program.

22 MR. CONLY: It would probably be  
23 beneficial to walk through the flow diagram just to  
24 refresh nomenclature. Beginning in the upper left  
25 of this figure, liquid radwaste is collected from

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1 tanks in the auxiliary building, in the reactor  
2 building and from the containment vessel sump and  
3 transferred to the waste holdup tanks, the four  
4 tanks on the upper left. Next are the radwaste  
5 effluent inlet filters where suspended solids and  
6 radioactive particulates are removed. At this point  
7 the US-APWR design allows for portable or temporary  
8 additional equipment. And you can see that going  
9 off to the upper right is the tap for that  
10 additional equipment. Space is provided in the  
11 auxiliary building. We will describe that in more  
12 detail later.

13 CHAIRMAN STETKAR: You haven't made that  
14 decision yet?

15 MR. CONLY: Yes.

16 CHAIRMAN STETKAR: You have? Okay.

17 MR. CONLY: We have decided to use de-  
18 watering system. Additional liquid waste treatment  
19 skids could be brought in in the future as  
20 technology improves, etcetera. So there are two  
21 separate areas that are available to us.

22 CHAIRMAN STETKAR: Okay. But so far you  
23 just made the decision about the de-watering for  
24 the --

25 MR. CONLY: That's correct.

1 CHAIRMAN STETKAR: -- processing, yes,  
2 solid stuff. Okay.

3 MR. CONLY: Next are the activated  
4 carbon filters to remove organic contaminants that  
5 could foul the ion exchange columns followed by the  
6 waste demineralizers themselves where the ion  
7 exchange resin removes radionuclide impurities. The  
8 waste effluent outlet strainer then removes any  
9 fines left from the resins. And finally the treated  
10 effluent is stored in the waste monitor tanks  
11 awaiting discharge. The Liquid Waste Monitoring  
12 System boundary is at the waste monitoring tank  
13 discharge isolation valve. There is a radiation  
14 monitor prior to discharge to either the Squaw Creek  
15 Reservoir or to the evaporation pond, and we'll  
16 address that in more detail later.

17 CHAIRMAN STETKAR: Address the radiation  
18 monitor or the pond itself?

19 MR. CONLY: The pond itself.

20 CHAIRMAN STETKAR: Okay. Let me ask you  
21 a question about this drawing, if you're finished  
22 with the overview of the system. This drawing does  
23 not show the bypass line around the effluent  
24 discharge valves that apparently Comanche Peak added  
25 to the certified design. There are some RAIs about

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1 it. The figure in the FSAR shows the discharge line  
2 bypass, and indeed it bypasses the radiation  
3 monitor, you know, some discussion about  
4 administrative controls that will provide samples  
5 for the discharge and how that will be controlled  
6 administratively, but curious that our Subcommittee  
7 is not seeing the representation of the system as it  
8 will be installed at the plant, and I'd like to know  
9 why.

10 MR. CONLY: This is the flow diagram  
11 from the DCD itself.

12 CHAIRMAN STETKAR: It is. It is not the  
13 flow diagram for the Comanche Peak Nuclear Power  
14 Station, which is the subject of our meeting here.  
15 Because I had some questions about that bypass line  
16 and this drawing would have given me the opportunity  
17 to ask about those questions, if indeed the bypass  
18 line was shown on this drawing.

19 MR. CONLY: Let me ask Mr. Sang to  
20 address that.

21 MR. SANG: My name is Irving Sang. Good  
22 morning. Yes, we received the RAI and we looked at  
23 the bypass around the radiation monitor and also the  
24 two on/off valves. And our decision, working with  
25 Luminant and MNES is to maintain administrative

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1 control on that. It is still on the P&IDs, piping  
2 and instrumentation diagrams. That's the current  
3 status.

4 CHAIRMAN STETKAR: Okay. But it does  
5 exist?

6 MR. SANG: Yes.

7 CHAIRMAN STETKAR: Okay.

8 MEMBER SKILLMAN: This is Dick Skillman.  
9 May I please ask a question?

10 CHAIRMAN STETKAR: Sure.

11 MEMBER SKILLMAN: You've identified on  
12 your second slide that there are no departures. Why  
13 is not that line identified as a departure?

14 MR. SANG: We still have that line on  
15 the P&ID drawing. It's not showing up on the  
16 process flow diagram.

17 CHAIRMAN STETKAR: Are you saying that  
18 it shows up on the P&ID for the certified design?

19 MR. SANG: Yes.

20 CHAIRMAN STETKAR: Oh. Oh, well, that's  
21 interesting that there are pieces of pipe in the  
22 certified design that don't show up on the drawings  
23 in the design certification document.

24 MEMBER SKILLMAN: Bingo. That's the  
25 issue.

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1 CHAIRMAN STETKAR: That's the issue. I  
2 wasn't aware of that line at all when we looked at  
3 the design certification. There was no mention made  
4 of it. It does not show up on any drawing in the  
5 DCD. So now that brings into question about the  
6 completeness of the information that you're  
7 providing for the design certification so that  
8 people can perform a reasoned review of that design.  
9 This is not a DCD, but if you guys could take that  
10 back, please. To me that's really upsetting. If I  
11 see a flow diagram in the design certification  
12 document, I would like to have confidence that  
13 indeed I can get water from point A to point B and  
14 know how to get water through the flow paths from  
15 those points.

16 MEMBER SKILLMAN: Yes, and not have it  
17 go someplace else --

18 CHAIRMAN STETKAR: And not have it go  
19 someplace else.

20 MEMBER SKILLMAN: -- not shown on the  
21 drawing.

22 CHAIRMAN STETKAR: And it was not -- I  
23 mean, we've done our interim review of Chapter 11  
24 for the DCD, and as you said, this is a copy of the  
25 drawing from the DCD. I thought this was something

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1 that Luminant had added to the design to increase  
2 operational flexibility for some reason.

3 MR. SANG: We have not shown all the  
4 bypass lines on these process flow diagrams. In  
5 general, we have bypass line on the filters,  
6 etcetera, and we --

7 CHAIRMAN STETKAR: Some things like  
8 bypassing filters are one thing. Bypassing the  
9 radiation monitor and the automatic isolation of the  
10 discharge point from the plant is a bit different in  
11 the sense of system design information and system  
12 operation information.

13 MR. SANG: I understand, yes.

14 CHAIRMAN STETKAR: It's a little  
15 different than bypassing a demin. So I don't know  
16 where the appropriate point to ask the question is  
17 essentially for the COL. The question that I had is  
18 I could design that system with the bypass line  
19 tapped into the discharge downstream of the  
20 radiation -- between the radiation monitor and the  
21 isolation valve such that even if I was using the  
22 bypass line I would at least have a monitored  
23 release with alarms in the control room. And  
24 according to the design certification information  
25 the radiation monitor also trips the discharge pumps

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1 so that even if I was using the bypass line with the  
2 manual valve with administrative controls, I would  
3 at least shut it off if I had high radiation.

4 MR. SANG: Agreed. We will look into  
5 that, but currently when we look at the drawing --

6 CHAIRMAN STETKAR: That sounds like a  
7 question for the design certification though, if  
8 that exists there. So I guess we'll table that for  
9 the design certification and put it on our -- we  
10 keep a tickler list of these questions, so this one  
11 will come back for the DCD.

12 MEMBER BLEY: Well, I guess before we  
13 leave this, there have been other cases where we've  
14 seen some of the DCD drawings for some of the  
15 designs are not complete and we've raised the issue  
16 with staff, if they get the P&IDs and look through  
17 them, to confirm single failure, that sort of thing.  
18 And the story changed from no to yes, indeed we  
19 looked through them. So the fact that staff didn't  
20 pick this one up as a possible bypassing of  
21 monitoring and protection is troublesome as well.

22 CHAIRMAN STETKAR: The reason I picked  
23 it up is (a) it shows up on a drawing in the COL  
24 FSAR and the staff asked questions about it, you  
25 know, in regards to the proceeding that we're

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1 hearing today. There were no questions asked about  
2 it during the DCD, at least --

3 MR. MONARQUE: Mr. Stetkar, I think we  
4 have a response to your question.

5 CHAIRMAN STETKAR: Okay.

6 MR. MONARQUE: I'll turn it over to  
7 staff.

8 MR. WILLIAMS: My name is Steve Williams  
9 with --

10 CHAIRMAN STETKAR: Steve, you got to get  
11 real close to the mic, otherwise -- that one doesn't  
12 pick up quite as well as some of the other things.

13 MR. WILLIAMS: I'm with NRO in the  
14 health physics section, and we did ask an RAI. It  
15 was RAI 5474, question 11.2-17, in April. And they  
16 did respond to it.

17 Usually if you had a setup like this,  
18 which I've done effluent programs before. I worked  
19 at Three Mile Island and we -- anytime you have a  
20 bypass line like that, you want to release without a  
21 rad monitor, you have to go to the tech spec  
22 conditions for release. You go to the tech spec.  
23 It requires you take two representative samples and  
24 also that they're verified by two plant staff and  
25 signed off by a supervisor in accordance with plant

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1 procedures and tech specs before you could release  
2 that tank without the rad monitor through the bypass  
3 line.

4 CHAIRMAN STETKAR: And how many times  
5 have we read double sign offs with all  
6 administrative controls not working?

7 MR. WILLIAMS: I don't have any  
8 statistics --

9 CHAIRMAN STETKAR: Okay.

10 MR. WILLIAMS: -- on that, but that's  
11 the requirement.

12 CHAIRMAN STETKAR: How difficult is it  
13 to tap in that bypass line between the radiation  
14 monitor and the two fail closed valves as opposed to  
15 the point where they have it tapped in?

16 MR. WILLIAMS: Right. Yes, I understand  
17 that.

18 CHAIRMAN STETKAR: Since this is your  
19 paper design.

20 MR. WILLIAMS: Right.

21 MEMBER SKILLMAN: This is Dick Skillman.  
22 For me this issue is one of configuration control  
23 and fidelity with the design certification. And as  
24 far as I see this, had that line that John had been  
25 talking about been shown on this diagram, we would

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1 not be having this discussion.

2 CHAIRMAN STETKAR: Well, we'd have had  
3 the discussion --

4 MEMBER SKILLMAN: Perhaps in --

5 CHAIRMAN STETKAR: -- in the earlier  
6 meeting.

7 MEMBER SKILLMAN: But for me this issue  
8 is configuration control and assuring that what  
9 we're doing here with no departures is accurate.  
10 And so I think the questions that we raise, Steve,  
11 are appropriate questions --

12 MR. WILLIAMS: Right. Right.

13 MEMBER SKILLMAN: -- so that we can  
14 understand how this application fits the design  
15 certification.

16 MR. WILLIAMS: Sure, I understand that,  
17 but also the staff was aware of it and we did  
18 evaluate it in terms of design.

19 MEMBER SKILLMAN: Okay. Thank you,  
20 Steve. Thank you.

21 CHAIRMAN STETKAR: I didn't recall --  
22 you know, we don't see all of the RAIs and I have to  
23 apologize if we missed that one, but --

24 MR. WILLIAMS: Well, it's in the SER on  
25 page 11-12.

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1 CHAIRMAN STETKAR: 11-12?

2 MR. WILLIAMS: Right.

3 CHAIRMAN STETKAR: Okay. Thanks. I'll  
4 go back and look it up, because I must have missed  
5 it when I read through. It was pretty prominent in  
6 the SER for the COL.

7 MR. WILLIAMS: Right, we spent  
8 significant time on that --

9 MEMBER BLEY: Yes, just clarification,  
10 you're talking -- there's an RAI for the design  
11 cert, or for the COL?

12 MR. WILLIAMS: For the COL.

13 CHAIRMAN STETKAR: Oh, for the COL?

14 MR. WILLIAMS: Right.

15 CHAIRMAN STETKAR: Oh, I'm sorry. I  
16 misunderstood twice. I'm not been doing all that  
17 well this morning. I thought you were saying it was  
18 an RAI for the design certification.

19 MR. WILLIAMS: No, it's right in page --

20 CHAIRMAN STETKAR: No, that's where -- I  
21 can quote it. I have it written down here.

22 MEMBER BLEY: I think the question was  
23 why wasn't it?

24 CHAIRMAN STETKAR: Why wasn't it for the  
25 design certification if indeed the line exists as

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1 part of the certified design? Why wasn't that  
2 question asked when the design certification --

3 MR. WILLIAMS: Well, that I can't answer  
4 because I wasn't involved --

5 CHAIRMAN STETKAR: Okay.

6 MR. WILLIAMS: -- in the DCD review and  
7 evaluation, but I definitely can go back and look at  
8 that and see if it --

9 CHAIRMAN STETKAR: I mean, that's  
10 becoming more of our -- I mean, there's still a  
11 concern about controlling the releases through that  
12 line and does the design -- you know, is the design  
13 adequate to give us assurance that the releases will  
14 be monitored, but it's a question of whether we  
15 should be raising those questions. We should be  
16 raising those questions. We will raise those  
17 questions. Whether those questions are pertinent to  
18 the certified design or the COLA, it sounds like  
19 they're pertinent to the certified design because  
20 essentially they're just adopting the certified  
21 design with this particular --

22 MR. HAMZEHEE: You're right, John, but  
23 just in general some of these systems under DCD are  
24 more conceptual design and the details are on the  
25 COLA applications, or in general they don't provide

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1 a lot of details under DCD?

2 CHAIRMAN STETKAR: Well, obviously the  
3 flow diagram didn't.

4 MS. WHITE: Excuse me, Dr. Stetkar?

5 CHAIRMAN STETKAR: Yes?

6 MS. WHITE: Frostie White with  
7 Mitsubishi. We actually do provide the diagram in  
8 the FSAR. It's figure 11.2-201 and it shows the  
9 bypass lines.

10 MEMBER BROWN: I've been looking at that  
11 and I -- which sheet? There's 10 sheets.

12 MS. WHITE: Sheet 9.

13 MEMBER BROWN: Oh, sheet 9?

14 MS. WHITE: Nine and ten.

15 CHAIRMAN STETKAR: We can look that up.  
16 Let's keep the meeting moving. I'm having a little  
17 trouble opening the file here. And it's sheet what?

18 MS. WHITE: Nine and ten.

19 MEMBER BROWN: I'm looking at 9 right  
20 now. What's the symbol for the radiation monitor?

21 MS. WHITE: RE.

22 MEMBER BROWN: RE? Okay. We don't have  
23 a symbol list here, so -- all right. So those are  
24 the two isolation valves you're talking about that  
25 -- in both places.

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1 CHAIRMAN STETKAR: Frostie, what's --  
2 I'm having trouble opening my file here. What was  
3 the figure number, 11.2 --

4 MS. WHITE: 11.2-201. Sheet 9.

5 CHAIRMAN STETKAR: Oh, that's 201.  
6 That's from your -- I know. I have -- there's a  
7 blowup of it. I know it's in the COLA FSAR. It's  
8 not in the DCD.

9 MS. WHITE: I think I can explain that.  
10 There is a --

11 CHAIRMAN STETKAR: Okay. Okay. So --

12 MS. WHITE: There's a COLA action item  
13 in the DCD that says that the applicant will provide  
14 P&IDs. These are flow diagrams and so they're  
15 distinguished between the two, and that's why we  
16 provided these under the FSAR even though they're  
17 part of certified design.

18 CHAIRMAN STETKAR: I got that.

19 MS. WHITE: That's the simple different.

20 CHAIRMAN STETKAR: Maybe I'm just being  
21 dense, but a bypass line around the plant discharge  
22 valves and radiation monitor that exists in the  
23 certified design and is neither shown on the flow  
24 diagrams in the design control document nor  
25 questioned by the staff during their review of the

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1 certified design gives me problems.

2 MS. WHITE: I understand.

3 CHAIRMAN STETKAR: As far as Luminant is  
4 concerned, I don't have any problem with you folks.  
5 You folks are accurately representing the depiction  
6 of the system. The FSAR indeed is accurate and  
7 indeed the discussion, you know, in your responses  
8 to the staff's RAI regarding this, you know, is  
9 basically what you're planning to do. So, you know,  
10 as far as Luminant and Comanche Peak is concerned,  
11 you know, the questions that I had are really not  
12 relevant to today's meeting. It's just that the  
13 first time I saw that line and the first time I saw  
14 any discussion of its use happened to pop up in the  
15 RAIs that were issued for Luminant and in the FSAR  
16 drawing that indeed shows that line, where it's  
17 tapped in and things like that.

18 MS. WHITE: Right.

19 MEMBER BROWN: But your earlier point I  
20 think raises a question about why is it bypassing  
21 the radiation monitor in the first place?

22 CHAIRMAN STETKAR: Well, that's right.  
23 I mean, if you look --

24 MEMBER BROWN: I mean, I thought that's  
25 what you --

1 CHAIRMAN STETKAR: Well, but I was going  
2 to ask them because I thought they added it. You  
3 know, there are places to put that tap in that would  
4 keep the radiation monitor in play, and indeed the  
5 radiation monitor, as it's described in the  
6 design --

7 MEMBER BROWN: Yes.

8 CHAIRMAN STETKAR: -- in both the DCD  
9 and the FSAR --

10 MEMBER BROWN: I think that was Dick's  
11 point earlier.

12 CHAIRMAN STETKAR: -- trips the pumps.  
13 Now regardless of closing the valves, it trips the  
14 pumps. So it would stop the discharge flow  
15 regardless of whether you're using, you know, the  
16 normal discharge line or the manual line. Anyway, I  
17 think we've probably --

18 MS. WHITE: We're going to take a look  
19 at it. We'll take a look at it. Mitsubishi will.

20 CHAIRMAN STETKAR: Oh, okay. No, I was  
21 going to say, putting your other hat on.

22 MS. WHITE: My other hate.

23 MR. HAMZEHEE: John, just another quick  
24 question: Isn't that comment that usually in those  
25 lines you put the bypass with closed valves for

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1 maintenance purposes?

2 CHAIRMAN STETKAR: I know a lot of  
3 plants do, but I don't know -- I'm not a radioactive  
4 release guy. I don't know whether they tap them in  
5 upstream or downstream of the fire modeling. It  
6 doesn't make any difference what's common. We're  
7 talking about a new design here and things that we  
8 understand about un-monitored releases, you know,  
9 from our operating fleet. So if we can improve the  
10 design, we ought to at least examine that.

11 MR. ROACH: Ed Roach. I'm the branch  
12 chief of the health physics --

13 CHAIRMAN STETKAR: Yes, Ed, step up.  
14 Those microphones don't pick up from a distance.

15 MR. ROACH: I'm am the branch chief of  
16 the Health Physics Branch. And operationally  
17 usually there is a bypass around that monitor  
18 because periodically the effluent particulate falls  
19 out and you'll see background rays on those  
20 detectors and you'll need to backflush it,  
21 decontaminate it, maybe even for ALARA purposes.

22 CHAIRMAN STETKAR: On the other hand  
23 they're not talking about a lot of discharges from  
24 this plant, so that, you know, for a short period of  
25 time holding the stuff in the monitor tanks and

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1       delaying a batch from the holdup tanks so that you  
2       can clean out the radiation monitor -- you know, you  
3       can still bypass the discharge valves if you have a  
4       problem with one of the air-operated valves that  
5       won't close or something like that. You know, I  
6       can --

7                   MR. ROACH: I understand that. I  
8       just --

9                   CHAIRMAN STETKAR: I have to think about  
10      it. You know, this isn't a necessarily a -- you  
11      know, a large volume continuous discharge plant as  
12      opposed to some of the operating plants.

13                  MR. ROACH: I'll agree with you, concede  
14      the volume available for the Liquid Waste System.

15                  CHAIRMAN STETKAR: Thanks, Ed.

16                  MR. HAMZEHEE: John, do we have time for  
17      one more staff comment?

18                  CHAIRMAN STETKAR: I do. Sure.

19                  MR. WILLIAMS: Yes, but as I said  
20      before, that bypass would not be used unless it  
21      followed all the requirements that were in the ODCM,  
22      that were in plant procedures and there was some  
23      need to bypass the rad monitor. There wouldn't be  
24      any other reason for them to use that. And like Ed  
25      said, it would be ALARA purposes. They wouldn't

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1 want to contaminate the rad monitor. So actually, I  
2 worked at TMI. Ran the effluent program there. And  
3 our setup is the same as the setup that they're  
4 showing. And I could verify that also.

5 CHAIRMAN STETKAR: Okay.

6 MEMBER BLEY: One thing that causes us  
7 to hang up on these a bit is that in Part 52, since  
8 the single failure analysis is going to be done  
9 later on, it's not clear that such things are  
10 flagged as important when they could be. And  
11 something like that missing from the DCD is  
12 troublesome to us.

13 MR. WILLIAMS: Okay.

14 MEMBER SKILLMAN: This is Dick Skillman.  
15 While I'm new to this Subcommittee and to the ACRS,  
16 I'm not new at all to the whole process of Part 52.  
17 And when the applicant communicates that there are  
18 no departures, my radar goes to what is it that you  
19 are presenting and what is different from the design  
20 cert? And that was the question I was asking. I  
21 thank you for your responses, but I'd sure like to  
22 know whether or not that bypass line shows up on the  
23 design cert. If it is, as you have communicated, no  
24 departures are involved. If the level of detail has  
25 been given over to the applicant, I understand your

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1 comment. But if that comment is not there and the  
2 bypass is on this application, then I think you're  
3 in departure territory.

4 MS. WHITE: I understand. We're going  
5 to take a look at it.

6 MEMBER SKILLMAN: And that's my point,  
7 yes, but thank you.

8 CHAIRMAN STETKAR: I was going to ask  
9 them about the departure also, but I wanted to make  
10 sure that the line existed. With that --

11 MEMBER BROWN: One other observation,  
12 John, on this same subject is that when we really  
13 start looking at the I&C and have more details, you  
14 know, we've raised the point about the level of  
15 detail in terms of the I&C when you get to that  
16 point also. So --

17 CHAIRMAN STETKAR: It's a pretty simple  
18 radiation monitor --

19 MEMBER BROWN: -- the fidelity relative  
20 to the DCD as opposed to what you're talking about,  
21 because detail that's been provided in many of the  
22 -- well, we've been trying to insist on a higher  
23 level of detail so we don't get caught with these  
24 types of things. So just keep that in mind.

25 CHAIRMAN STETKAR: We'll wait for that

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1 until we see Chapter 7 --

2 MEMBER BROWN: Yes, I just wanted to --

3 CHAIRMAN STETKAR: -- because this one's  
4 pretty simple.

5 MEMBER BROWN: Just wanted to highlight  
6 it because it's more complex with the I&C stuff.

7 CHAIRMAN STETKAR: John, you don't show  
8 it here, but -- and this is something that I believe  
9 is Comanche plant-specific, and I don't -- I guess  
10 you might talk about it. Are you going to talk  
11 about the tie-in to the units 1, 2 circulating water  
12 discharge when you get to the evaporation pond  
13 discussion?

14 MR. CONLY: Briefly, yes.

15 CHAIRMAN STETKAR: Okay. I'll wait and  
16 ask about that. You can now move off this slide.

17 MR. CONLY: Subsection 11.2.2 describes  
18 the evaporation pond that is site-specific. I won't  
19 go through all the design features. You're probably  
20 familiar with them from your study of the FSAR.

21 The key points are that the evaporation  
22 pond is not part of the Liquid Waste Management  
23 System. It is downstream of the waste monitor tanks  
24 which hold the effluent ready for discharge. And  
25 the second point is the sole purpose of the

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1 evaporation pond is to allow temporary hold up of  
2 treated effluent before discharge into Squaw Creek  
3 Reservoir if it's necessary to control the tritium  
4 concentration in Squaw Creek Reservoir.

5 As shown in the last two bullets, the  
6 response to a recent RAI, No. 224, stated that the  
7 pond discharge pump has a recirculation line back to  
8 the pond to ensure that we have a representative  
9 sample before discharge. The pond discharge is  
10 mixed with the unit 1 and 2 circulating water return  
11 to Squaw Creek Reservoir, which is between 1 million  
12 and 2 million gallons a minute.

13 CHAIRMAN STETKAR: A few questions  
14 before you go to the gaseous waste. First question  
15 is, as noted on the slide here, it's an acre-and-a-  
16 half, four-foot-deep, two-foot-freeboard pond. So  
17 it's a sizeable hole in the ground. It's lined with  
18 HDPE with I guess a little matrix in between that's  
19 got, you know, drainage mesh. What's the expected  
20 life of the HDPE? How frequently are you going to  
21 have to change out the liner?

22 MR. SANG: We consult with the  
23 manufacture for this particular material. The  
24 expected life is 20 to 25 years expectancy.

25 CHAIRMAN STETKAR: That's about right.

1 So probably two or three. Sometimes you only get  
2 15. I mean, you've got a pretty high UV environment  
3 down there --

4 MR. SANG: Yes.

5 CHAIRMAN STETKAR: -- on the -- or your  
6 location. So maybe it would be closer to 15. So  
7 you're talking about three our four probably change  
8 outs. That was just more of a curiosity. There are  
9 various versions of stuff that's called HDPE.

10 MR. SANG: Yes.

11 MR. WOODLAN: This is Don Woodlan. We  
12 already have some ponds of this nature --

13 CHAIRMAN STETKAR: Oh, do you?

14 MR. WOODLAN: -- for units 1 and 2.  
15 They've been in place for over 20 years. We  
16 obviously inspect them periodically, do repairs, but  
17 they're still functional --

18 CHAIRMAN STETKAR: Oh, okay.

19 MR. WOODLAN: -- over 20 years.

20 CHAIRMAN STETKAR: Oh, okay. Good.  
21 good. That's good information.

22 As I read the process, you said that,  
23 well, because of concerns about precipitate and  
24 dried material remaining in the pond, if you  
25 discharge the whole pond, that you'd wash the pond

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1 with demineralized water so you made sure you  
2 cleaned it up. How do you wash an acre-and-a-half  
3 plastic-lined pond?

4 The reason I ask this is not to be  
5 cynical. It is because the staff used a response to  
6 an RAI as justification for why you don't need to  
7 worry about wind-borne solid releases from, you  
8 know, precipitates in the pond if it's dry. So it  
9 is actually a relevant question.

10 MR. SANG: In the pond design, at the  
11 bottom of the pond we have rows of piping,  
12 perforated piping with holes drill into it to stir  
13 up the bottom due to the recirculation design that  
14 we have. And currently in our design we circulate  
15 quite a higher flow rate, very high flow rate in  
16 terms of 300 to 400 gpm. And we have nine rows of  
17 pipes throughout the bottom of the pond and each row  
18 would have eight holes drill into it to stir up the  
19 bottom.

20 CHAIRMAN STETKAR: Okay.

21 MR. SANG: And we tie in the demin water  
22 through the header system. That's how we intend to  
23 wash the pond.

24 CHAIRMAN STETKAR: Okay.

25 MR. SANG: Each row or pipe will be --

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1 CHAIRMAN STETKAR: You're not actually  
2 going to wash it. I understand. Agitation and  
3 flushing. Okay. Thanks. That helps.

4 The tie-in to the units 1 and 2  
5 circulating water discharges, as I understand it, is  
6 in the unit 1 turbine building. Is that right?

7 MR. SANG: Yes, the flow box is outside  
8 of the waste management pond C area and from the  
9 waste monitor tank it would discharge through the  
10 line that's described in, I guess --

11 MR. CONLY: Again, this is sheet 9 of  
12 10, figure 11.2-201.

13 CHAIRMAN STETKAR: Yes, I saw that. The  
14 FSAR says the header where the Waste Management  
15 System intersects with the Circulating Water System  
16 is located within the unit 1 turbine building. And  
17 that drawing that you show there doesn't quite show  
18 where the building boundaries are, if I recall. I  
19 didn't pull it up here, but I looked at it pretty  
20 closely. So at least the words in the FSAR seem to  
21 indicate that the piping connection is actually in  
22 the turbine building. And what I'm asking is, is  
23 that true or not?

24 MR. SANG: No, that's not true.

25 CHAIRMAN STETKAR: That's not true?

1 Okay.

2 MR. SANG: I'll make that correction.

3 CHAIRMAN STETKAR: Now, I had questions  
4 about if you get higher than normal discharges for  
5 whatever reason under emergency conditions or  
6 abnormal conditions. You know, if you were in the  
7 unit 1 turbine building, what implications does that  
8 have for folks who have to perhaps get somewhere  
9 near that intersection point? I'm assuming it would  
10 be down in the bottom. But if the connection point  
11 is not in the discharge building, then look at  
12 Section 11.2.2 in your FSAR and there is a sentence  
13 that says that it is in the turbine building.

14 MR. SANG: We will. That was the  
15 original design that we have to go through the water  
16 box.

17 CHAIRMAN STETKAR: Okay. And in  
18 deference to the staff, I actually pulled this out  
19 of Revision 3 to the COLA FSAR. So it's one step  
20 ahead of what they reviewed.

21 MR. SANG: Thank you for pointing that  
22 out.

23 CHAIRMAN STETKAR: And it's still in  
24 there.

25 Okay. You're going to now go into

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1 gaseous and solids. So does anybody on the  
2 Subcommittee have anymore questions about liquids?

3 PARTICIPANT: No, thanks.

4 CHAIRMAN STETKAR: Thanks.

5 MR. CONLY: Thanks. Section 11.3  
6 describes the Gaseous Waste Management System.  
7 Subsection 11.3.1.5 once again is the cost benefit  
8 analysis which demonstrates the addition of  
9 equipment or technology is not favorable or cost  
10 beneficial. Design conforms with 10 C.F.R. 50,  
11 Appendix I. Of interest, the gaseous release point  
12 is at the top of the containment, approximately 230  
13 feet above grade. The Gaseous Waste Management  
14 System discharges into the auxiliary building  
15 ventilation system which discharges about 250,000  
16 CFM, of which 1.2 standard CFM is from the gaseous  
17 waste.

18 MEMBER RYAN: Your third bullet there,  
19 what do you mean by "well within?"

20 MR. CONLY: There is a table in the FSAR  
21 in --

22 MEMBER RYAN: Is it half, or 10 percent,  
23 or 92 percent of the limits? I'm just curious what  
24 the general range of the margin is. The calculated  
25 dose is well within the applicable 10 C.F.R. 50,

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1 Appendix I limits.

2 MS. WHITE: They're anywhere from  
3 1/100th of them to 1/1000th of the --

4 MEMBER RYAN: Okay. So it's a factor of  
5 100 or 1,000?

6 MS. WHITE: Yes.

7 MEMBER RYAN: Okay. That's all I  
8 wanted, just a general idea. Thanks.

9 MR. CONLY: Are there other questions?

10 MEMBER SKILLMAN: Yes, Dick Skillman.  
11 What is the radius of your emergency planning zone,  
12 please? Don? Two miles? Five miles? Ten miles?

13 PARTICIPANT: I'm showing two and five.

14 MEMBER SKILLMAN: Fifty-thousand people  
15 within two miles?

16 MR. WOODLAND: For the purposes of this  
17 calculation? This is Don Woodlan speaking. Is that  
18 what you're asking?

19 MEMBER SKILLMAN: Well, I'm wondering.  
20 Two hundred and thirty feet above grade, that sounds  
21 pretty high. It's not too high if there's a farm  
22 500 yards away.

23 MR. WOODLAN: Well, we have various  
24 radiuses in our emergency plan for different  
25 purposes, but the standard radius is around 10

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1 miles. There are some deviations on that.

2 MEMBER SKILLMAN: Thank you. That's all  
3 I had.

4 MR. CONLY: Thank you, Don.

5 Anything else on gaseous?

6 CHAIRMAN STETKAR: I don't think so. I  
7 had a question. I've been reading my notes here.  
8 Back on the evaporation pond; this is just  
9 curiosity, I understand its function. How are you  
10 doing in terms of releases to Squaw Creek Reservoir  
11 during the current drought situation? I mean, you  
12 know --

13 MR. CONLY: I'm sorry, I don't  
14 understand your question.

15 CHAIRMAN STETKAR: Okay.

16 MR. CONLY: How are we doing?

17 CHAIRMAN STETKAR: Texas, as you're well  
18 aware, is going through a bad drought. I'm assuming  
19 reservoir level is down pretty far from normal. Is  
20 that true, or do you still have --

21 MR. CLOUSER: This is Tim Clouser from  
22 Luminant. The Squaw Creek Reservoir has makeup from  
23 Lake Granbury. The Lake Granbury level is low,  
24 although it is currently coming up. Squaw Creek  
25 Reservoir is not low.

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1 CHAIRMAN STETKAR: It's not low? Okay.

2 MR. CLOUSER: We have continuous flow  
3 through the reservoir and --

4 CHAIRMAN STETKAR: Thanks. I thought  
5 maybe you were down, you know, in terms of you were  
6 getting -- might get into trouble in terms of  
7 concentrations. So, thanks.

8 MR. CONLY: Let's move onto Section  
9 11.4, Solid Waste Management System. Subsection  
10 11.4.1.3 states that laundry service will be  
11 performed offsite by a vendor.

12 11.4.2.3 discusses the radioactive waste  
13 interim storage facility. We are preparing an  
14 additional response in this area to include more  
15 specific design criteria for this building. Our  
16 plans are that it will store class A, B and C waste  
17 from all four units for up to 10 years. We have  
18 specially shielded above-grade cells, separate  
19 control room and equipment room ventilation, rad  
20 monitoring and fire protection systems. We have a  
21 remotely-operated bridge crane, closed-circuit TV,  
22 bay lights. All of this is in case we need to store  
23 radwaste on site.

24 At the same time, the subsection notes  
25 that Waste control Specialists in Andrews, Texas is

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1 the only commercial facility that is licensed in the  
2 U.S. to receive and dispose of class A, B and C  
3 waste and they will start receiving waste for  
4 disposal late this year.

5 MEMBER RYAN: They're not authorized for  
6 disposal yet though?

7 MR. CONLY: That is correct.

8 MEMBER RYAN: And any forecast of when  
9 that might happen from your perspective?

10 MR. CONLY: According to their Web site,  
11 late this year.

12 MEMBER RYAN: Late this year.

13 MR. CONLY: Yes.

14 MEMBER RYAN: By the way, there are  
15 others that are authorized. You just don't have  
16 access to them. And it's not the only one  
17 authorized in the United States.

18 MR. CONLY: Thank you.

19 MEMBER SKILLMAN: Before you leave this,  
20 in your opening comments you made the comment that  
21 there were provisions in the plant for waste. Is  
22 this the specific slide you were referring to when  
23 you made that comment? You had place in the aux  
24 building or one of your adjacent buildings that had  
25 specially designated areas for future waste? Is

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1 this what you're talking --

2 MR. CONLY: This is not it.

3 MEMBER SKILLMAN: This is not it?

4 MR. CONLY: This is basically a  
5 warehouse situated between units 3 and 4 specially  
6 designed for this storage purpose. The additional  
7 temporary and mobile equipment that we're talking  
8 about is in the aux building on either side of the  
9 truck bay. One side we will use for the solid waste  
10 resin de-watering system and the other is reserved  
11 for liquid waste management skids if we need them in  
12 the future. So this is not --

13 MEMBER SKILLMAN: This is not.

14 MR. CONLY: -- one of either two of  
15 the --

16 MEMBER SKILLMAN: May I ask a question  
17 about what is in the aux building, please?

18 MR. CONLY: Yes.

19 MEMBER SKILLMAN: Where you're going to  
20 have these potentially temporary skids --

21 MR. CONLY: Yes?

22 MEMBER SKILLMAN: -- what shielding  
23 provision is there, please?

24 MR. CONLY: It is described in the FSAR.  
25 The walls are shielded on three sides. There's a

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1 shield door into the truck bay. The floors are  
2 sloped away from the truck bay. Everything is  
3 curbed. Go ahead.

4 MS. WHITE: With liquid return back to  
5 the liquid radwaste system.

6 MEMBER SKILLMAN: Thank you. Thank you.

7 MEMBER RYAN: With your provision for A,  
8 B and C, I guess, are you anticipating any  
9 irradiated hardware going into this facility over  
10 time, or what's the time horizon I guess that you're  
11 planning on this being in service? I'm guessing  
12 you'd much rather have a disposal facility off site  
13 to send it all, but you're obviously planning for  
14 the contingency of not having that capability. Is  
15 this facility going to be plant life capable or --

16 MR. WOODLAN: Yes, this is Don Woodlan.  
17 I mean, let me take a shot at answering that.

18 I think essentially we don't have the  
19 details yet. As you're pointing out, there may or  
20 may not be off site facilities to collect this  
21 stuff. They may be easily accessible. They may not  
22 be easily accessible. This is meant to give us the  
23 flexibility to deal with any of those situations.  
24 So we really haven't designed the internal to the  
25 building yet. We've got several years to accomplish

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1 that.

2 MEMBER RYAN: Okay.

3 MR. WOODLAN: And so I think we'll -- as  
4 we approach -- we will be constructing the building,  
5 but as we approach the need, then we will finalize  
6 the details and we'll build the storage areas within  
7 the building to meet the needs at the time and we'll  
8 stay flexible over time and continue to modify it.  
9 Hopefully we don't actually need interim storage,  
10 but if we need it, we wanted to have this available.

11 MEMBER RYAN: I appreciate that, but you  
12 could also be in the situation where you don't have  
13 enough space or headroom to design the shielding you  
14 do need. So without some idea of what your range of  
15 designs need to accommodate at this point, you could  
16 be in a situation where you don't have the room or  
17 the headroom or some other design parameter to  
18 accommodate what you will need.

19 MR. WOODLAN: Absolutely there's that  
20 potential, although we do have some storage for unit  
21 1 and 2, so we have a little bit of experience of  
22 what it takes to create an interim storage facility.  
23 We in fact did convert a warehouse to interim  
24 storage to support units 1 and 2. But you're  
25 absolutely right; there's a potential that this in

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1 fact won't be enough. If there's no off site  
2 storage anywhere, then we may have to pursue  
3 alternate paths in the future.

4 MEMBER RYAN: Thank you.

5 MR. CONLY: Anything else? Subsection  
6 11.4.3.2 addresses the Process Control Program,  
7 which is one of the operational programs that will  
8 be implemented by license condition, and the PCP  
9 adopts NEI 07-10A.

10 11.4.4.5 addresses the mobile de-  
11 watering system, which is the currently planned  
12 system, and temporary or mobile system for auxiliary  
13 building. The space is adjacent to the truck bay,  
14 as I mentioned. The floor is curbed and sloped away  
15 from the truck bay. This location provides a short  
16 transfer distance for the high integrity containers  
17 to the truck bay. Demineralized water is provided  
18 for decontamination of the facility. The  
19 connections and fittings are uniquely designed to  
20 prevent cross-connecting radioactive and non-  
21 radioactive systems. There are flow inhibitors,  
22 backflow inhibitors in the piping and drainage is  
23 collected and transferred to the waste holdup tank.  
24 Non-condensibles vent to the auxiliary building  
25 ventilation system. As I mentioned earlier, that's

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1 quite a large volume of ventilation. The equipment  
2 will be vendor supplied and operated.

3 11.4.6 addresses the Epoxy Coating  
4 Program, again an operational program implemented by  
5 license condition. This is also addressed in 11.2.4  
6 in the Liquid Waste System. The Epoxy Coatings  
7 Program controls refurbishment, repair, replacement  
8 in accordance with the manufacturers' data sheets  
9 and good painting practices.

10 11.5 is PERMS, Process Effluent  
11 Radiation Monitoring and Sampling System. There are  
12 two radiation monitors in addition to those  
13 mentioned in the US-APWR design control document.  
14 One we addressed when we talked about Chapter 10;  
15 and that is, the startup steam generator blowdown  
16 heat exchanger discharge radiation monitor which  
17 measures total gamma, isolates steam generator  
18 blowdown if the set point is exceeded and transfers  
19 the steam generator blowdown to the waste holdup  
20 tank.

21 The second we have also addressed  
22 earlier. The radiation monitor in the evaporation  
23 pond discharge measures total gamma, isolates the  
24 discharge line, stops the pump and sounds an alarm  
25 in both the radwaste control room and the main

1 control room.

2 Subsection 11.5.2.6 regarding  
3 reliability and quality assurance for the sampling  
4 systems. Procedures are for taking and evaluating  
5 samples, inspection, calibration and equipment  
6 maintenance meet Reg Guides 1.21 and 4.15, including  
7 periodic system checks with standard sources,  
8 routine calibration and maintenance and daily system  
9 channel checks.

10 MEMBER SKILLMAN: If I could?

11 MR. CONLY: Yes, please.

12 MEMBER SKILLMAN: At your 11.5.2.5, if  
13 those are differences from the standard plan, are  
14 those departures or are those under the applicant's  
15 ability to add without departure?

16 MR. CONLY: They are applicant --

17 MS. WHITE: Supplements.

18 MEMBER SKILLMAN: They are supplements?

19 Thank you. Thank you.

20 MR. CONLY: 11.5.2.9, Off Site Dose  
21 Calculation Program. Once again, an operational  
22 program to be implemented by license condition. The  
23 existing ODCM for units 1 and 2 will be written to  
24 include all four units and brought up to date with  
25 the list, the items -- documents listed in the

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1 bottom bullet, specifically NEI 07-09A. The ODCM  
2 describes monitor controls and monitor setpoint  
3 calculations, provides the rationale for compliance  
4 with the Radiological Effluent Technical  
5 Specifications, RETS, provides planned effluent  
6 discharge flow rates. Again, there will be a  
7 combined ODCM for all four units.

8 CHAIRMAN STETKAR: John, are you going  
9 to talk about the ODCM when we go to Chapter 12 this  
10 morning also, or is this our --

11 MR. CONLY: Yes.

12 CHAIRMAN STETKAR: You are? Okay.  
13 Thank you.

14 MR. CONLY: Finally, 11.5.2.10, the  
15 Radiological Environmental Monitoring Program, again  
16 implemented by license condition, is described in  
17 the tech specs and in the ODCM. We use this program  
18 to measure direct radiation using thermoluminescent  
19 dosimeters and by sampling air, water, vegetation  
20 and fauna in the site area, again following NEI 07-  
21 09A and the two NUREGs listed in the bottom bullet.

22 MEMBER RYAN: Do you have any thoughts  
23 on NUREG 0808, the ground water initiative with  
24 regard to the new unit or your existing units and  
25 how all that fits together?

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1 MS. WHITE: I'm sorry, I couldn't --

2 MEMBER RYAN: NEI 08-08, the ground  
3 water protection initiatives.

4 MS. WHITE: Oh, yes, we have a  
5 discussions coming up on the ground water --

6 MEMBER RYAN: Okay. Fair enough.

7 MS. WHITE: Yes.

8 MEMBER RYAN: Later.

9 MR. CONLY: That completes my  
10 presentation. If there are other questions?

11 CHAIRMAN STETKAR: No, sir. Anybody?

12 (No response.)

13 CHAIRMAN STETKAR: No. Thank you.

14 MR. CONLY: Thank you. Thank you for  
15 your attention.

16 CHAIRMAN STETKAR: We will hear from the  
17 staff on Chapter 11.

18 MR. OTTO: Good morning, everyone. My  
19 name is Ngola Otto. I'm the project manager for  
20 Chapter 11, Radioactive Waste Management System. To  
21 my right here is Steve Williams. He's our technical  
22 staff reviewer for Chapter 11 and he's going to  
23 cover the details about the open items that we have  
24 in Chapter 11. So far we have two items, one in  
25 11.2 and one in 11.4, which will be discussed today.

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1 MR. WILLIAMS: Hello. My name is Steve  
2 Williams. I've been with the NRC for almost five  
3 years in the new reactors division. I've worked in  
4 health physics for over 35 years, 20 years in the  
5 nuclear industry. I'm the technical reviewer, as  
6 Ngola said, for Chapter 11, Radioactive Waste  
7 Management, and this presentation is a summary of  
8 the chapter review open items.

9 In 11.1, the source terms that are used  
10 in the radwaste chapter are incorporated by  
11 reference from the DCD, and there are no COL  
12 information items.

13 11.2, the staff has had discussions with  
14 the applicant on their initial response to this open  
15 item. And as they stated, will provide a revised  
16 response to this open item with additional  
17 information concerning the evaporation pond, the  
18 design, sample points, locations and representative  
19 samples and cover that in detail in their revised  
20 response.

21 Section 11.3, as they discussed, the gas  
22 waste management system again is covered. I think  
23 it had four RAIs and essentially no open items.

24 Section 11.4, the open item again that  
25 they discussed. We've had discussions with them

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1 again on their initial response. And again, as  
2 they've stated, they'll provide a revised response,  
3 additional information concerning design details  
4 such as ventilation, structural requirements,  
5 shielding, as was mentioned before, waste capacity,  
6 airborne activity, rad monitors, along with the  
7 acceptable programs and procedures to comply with  
8 regulatory guidance.

9 CHAIRMAN STETKAR: Steve, does the scope  
10 of this open item and the question address some of  
11 the items that -- issues that Mike Ryan was raising  
12 regarding not only design of the facility under some  
13 snapshot of current expectations but design of the  
14 facility to handle what they expect they might need?  
15 You know, in terms of, you know, physical design,  
16 physical plant, right, Mike?

17 MEMBER RYAN: You know, I guess you can  
18 envision under normal operating circumstances dry  
19 active waste and other waste that has to be either  
20 processed and/or disposed. But if you're in the  
21 business of storing resin and other irradiated  
22 hardware and things like that, it's a whole  
23 different ball game. You know, some of those waste  
24 packages can be in the R to tens of R per hour. So,  
25 I'm just curious what the scope is here at this

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1 point. I know that's a little bit of a crystal ball  
2 question.

3 MR. WILLIAMS: Yes, it's a projection  
4 more or less, but --

5 MEMBER RYAN: There are plants that have  
6 thought that or have added to their facilities and  
7 done pretty well at it, and there are some that are  
8 boxed in by they don't have the space or they don't  
9 have the capability. And I'm just curious with the  
10 existing plants and the new plants being added on  
11 the same site how that shapes up in this case.

12 MR. WILLIAMS: Well, I think you got it  
13 right as far as it is a crystal ball and projection  
14 as far as what they'll handle. At the same time,  
15 they have, you know, 1 and unit 2 storage available  
16 to them also. Besides, looking ahead and  
17 considering a facility like this that's still in the  
18 planning stages can incorporate a lot of changes and  
19 revisions to take care of what it is you're talking  
20 about.

21 MEMBER RYAN: Oh, yes, I mean, we're way  
22 away from needing the facility, but I mean, I guess  
23 I'm just curious what the scope of the plan is at  
24 this point from your perspective and analysis. I  
25 mean, are they going to be able to handle irradiated

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1 hardware and everything down from that, or is it  
2 just going to be a resin facility, or a DAW facility  
3 with a little bit of resin? And what's your insight  
4 as to what they'll be able to do?

5 MR. WILLIAMS: I guess the only thing I  
6 can say on that is they've projected some numbers as  
7 far as what they plan with normal operations. Now,  
8 obviously things could change and they could have  
9 additional radwaste that they hadn't planned on.  
10 Like you said, it's a crystal ball type thing.

11 MEMBER RYAN: Yes, but it's not  
12 altogether a crystal ball, because if you're looking  
13 at a 10 or 20-year period where there's significant  
14 maintenance activities, you will have irradiated  
15 hardware, highly activated metals, other things that  
16 go with it that you won't in routine operations for  
17 five years. So my point is there's a change in  
18 scope as to what level of waste you need to handle  
19 on site, if you're talking about relatively short  
20 periods versus a few decades. So I'm just curious  
21 what strategies are in place here from your  
22 perspective. Maybe that's a question we can take  
23 away and think about for our next visit.

24 MR. WILLIAMS: Yes, okay.

25 CHAIRMAN STETKAR: That's why I asked,

1 because you have an open item on this. You know, I  
2 don't know what sort of scope the questions and what  
3 sort of responses you're expecting back.

4 MR. WILLIAMS: Yes, in covering another  
5 design, I mean, they projected a lot of that, and I  
6 think that's what I expect to see from these guys,  
7 too, as far as what their projection is.

8 CHAIRMAN STETKAR: Okay. And I think  
9 that's a little bit of what Mike was asking about.

10 MR. WILLIAMS: Yes.

11 CHAIRMAN STETKAR: But projection over  
12 what sort of time horizon, you know, if it's five  
13 years, it's different than --

14 MR. WOODLAN: Well, can I have the floor  
15 a little bit again?

16 CHAIRMAN STETKAR: Please.

17 MR. WOODLAN: Maybe I should have  
18 mentioned earlier, when we scoped the size of this  
19 building, we went back to our radiation protection  
20 experts for units 1 and 2. And what we tried to  
21 assure ourselves is that we had enough storage -- or  
22 that we're building the building large enough for  
23 storage up to 10 years. And that's relying on their  
24 experience from operating 1 and 2 for the past 20  
25 years, what they projected the type of materials we

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1 would need, the setups that are necessary to store  
2 those materials for a 10-year period for all four  
3 units. So that's what our going in design  
4 objectives were.

5 MEMBER RYAN: Okay. Well, you know,  
6 based on the experience for the existing two units,  
7 that's a pretty good starting place I guess in my  
8 view.

9 MR. WOODLAN: Yes, I don't have any  
10 numbers, but their expertise is what we relied on.

11 MEMBER RYAN: Yes, yes. Okay. Well,  
12 maybe we will hear more about that as time goes on.  
13 Okay. Thanks.

14 MR. OTTO: 11.5, the Process Effluent  
15 Radiation Monitoring and Sampling System. Again,  
16 essentially I think there were four RAIs with  
17 various questions and the review of this section  
18 does not have any additional open RAIs.

19 And the next page is some acronyms. And  
20 at this point any questions, additional questions?

21 CHAIRMAN STETKAR: Members have any  
22 questions?

23 PARTICIPANT: No.

24 PARTICIPANT: No, sir.

25 CHAIRMAN STETKAR: Great. Since we're

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1 ahead of schedule -- I'm sorry. Steve?

2 MR. MONARQUE: When you're done, I  
3 wanted to go over the take away items, make sure we  
4 understand them.

5 CHAIRMAN STETKAR: Oh, okay. Sure. I  
6 think we're done, so let's do that.

7 MR. MONARQUE: Okay. One item I had was  
8 concern by staff regarding configuration control  
9 between the DCD and the COL with regard to control  
10 of bypass line in the DCD. And I think there was a  
11 question asked of whether or not it was a departure.

12 CHAIRMAN STETKAR: That's correct.

13 MR. MONARQUE: Okay. And that was --

14 CHAIRMAN STETKAR: Well, and, you know,  
15 something to take back to --

16 MR. MONARQUE: Something to take back.

17 CHAIRMAN STETKAR: -- the DCD folks.  
18 the questions that were raised during your review of  
19 the COL FSAR --

20 MR. MONARQUE: Yes.

21 CHAIRMAN STETKAR: -- are actually more  
22 pertinent for the DCD.

23 MR. MONARQUE: Right, and we'll  
24 communicate that --

25 CHAIRMAN STETKAR: Okay.

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1 MR. MONARQUE: -- through the DCD  
2 project.

3 CHAIRMAN STETKAR: I mean, they should  
4 be raised in the context of the certified design,  
5 not in the context of --

6 MR. MONARQUE: Correct.

7 CHAIRMAN STETKAR: -- necessarily of  
8 this proceeding.

9 MR. MONARQUE: Right. I don't want to  
10 walk away and not --

11 CHAIRMAN STETKAR: Yes, okay.

12 MR. MONARQUE: You know, I wanted to  
13 make sure we understood this.

14 And then the other one was there was a  
15 discrepancy in the FSAR regarding the location of  
16 the discharge line which says unit 1 turbine  
17 building.

18 CHAIRMAN STETKAR: Right.

19 MR. MONARQUE: And I think that was  
20 brought up. And the next one, the last one was  
21 change in scope and storage for low-level waste  
22 facility, possibility of strategy.

23 CHAIRMAN STETKAR: Yes, that's just  
24 basically --

25 MR. MONARQUE: Yes.

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1 CHAIRMAN STETKAR: I think, you know,  
2 we're interested -- as you heard, we sort of raised  
3 the question and would be interested to see how that  
4 open item that you have on the interim waste  
5 facility gets resolved. Perhaps, you know,  
6 sufficient information will be available in the  
7 responses to the RAIs to close out that open issue,  
8 the open item that, you know --

9 MR. HAMZEHEE: And usually when we come  
10 back to you we let you know how we closed all the  
11 open items.

12 CHAIRMAN STETKAR: Yes, yes, yes. But I  
13 mean, this is just sort of a reminder to you that we  
14 want to hear about sort of how they did those  
15 projections.

16 MR. WILLIAMS: Yes, that's -- normally  
17 with an operating plant it usually makes it a little  
18 easier.

19 CHAIRMAN STETKAR: Oh, yes. Yes. No,  
20 sure. Their experience from units 1 and 2 and  
21 getting input from the people who, you know, are  
22 tired of stuffing things in really small closets is  
23 probably, you know, a good thing.

24 MEMBER RYAN: There's only so much you  
25 can do with compaction and super compaction.

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1                   CHAIRMAN STETKAR: That's right. With  
2 that, I think to keep us moving and because I'm a  
3 task master, I think I'll ask Luminant to come up  
4 and see if we can get through Chapter 12 from  
5 Luminant at least before we take our break.

6                   MR. EVANS: Whenever you're ready, we'll  
7 start Chapter 12.

8                   CHAIRMAN STETKAR: We are ready, Todd.

9                   MR. EVANS: Okay. Good morning. My  
10 name is Todd Evans. I'm the Manager of Engineering,  
11 Project Management and Operating Systems for  
12 Luminant for the new build Comanche Peak 3 and 4  
13 project. And today I'm glad to present to you  
14 Chapter 12 of the FSAR which deals with radiation  
15 protection.

16                   Similar to John's presentation, after a  
17 little bit of an introduction we'll give an overview  
18 of the chapter, the SER open item that we have,  
19 proposed license conditions and the site-specific.  
20 Then we'll get into each section on the site-  
21 specific aspects.

22                   The FSAR uses incorporated-by-reference  
23 methodology. No departures from the US-APWR DCD are  
24 taken from Chapter 12. All of the COL items are  
25 addressed in the FSAR. There is one SER open item

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1 which we'll discuss in a little more detail here in  
2 a minute. There were 23 SER confirmatory items for  
3 Chapter 12. The majority of these have been  
4 incorporated into Rev 2 of the COLA, the FSAR.  
5 There are a few that were done after Rev 2 of the  
6 COLA and those would be incorporated into Rev 3.  
7 There are five proposed license conditions and there  
8 are not contentions pending before the ASLB.

9 For an overview of the chapter, this  
10 table gives an account of the number of questions  
11 that were asked for the different sections. There  
12 were a total of 24 questions that have been asked so  
13 far. And as you can see, each section was handled  
14 separately except for 12-3 and 12-4 questions came  
15 together.

16 As far as the SER open item, license  
17 conditions have been proposed to address by-product,  
18 source and special nuclear material being received  
19 prior to full implementation of the plant's  
20 emergency plan and security plan in order to meet  
21 the requirements of Parts 30, 40 and 70. The  
22 resolution, a response to the questions have been  
23 submitted and it's currently under the NRC staff's  
24 review. There is a remaining issue on that and we  
25 feel like that we will be able to resolve that and

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1 be able to close out this RAI and this open item.

2 For the proposed license conditions the  
3 first four are listed here on this slide; 12-1  
4 through 12-4. These all deal with implementation of  
5 the RP Program and they include implementation of  
6 the RP Program prior to initial receipt of by-  
7 product, source and special nuclear materials.  
8 Also, prior to fuel receipt and prior to fuel load,  
9 and then prior to the first shipment of radiative  
10 waste. These are actually being proposed by us to  
11 be combined into two license conditions.

12 The first license condition would be  
13 associated with 12-1, and then 12-2, 3 and 4 would  
14 be combined into a single license condition, similar  
15 to what John described in the table that he showed  
16 for Chapter 11. Then the final license condition,  
17 as mentioned earlier, dealing with the Ground Water  
18 Monitoring Program, the licensee shall implement the  
19 Process Effluent Monitoring and Sampling Program,  
20 including the Ground Water Monitoring Program prior  
21 to fuel load. So we intend to commit to that  
22 license condition.

23 CHAIRMAN STETKAR: Todd, I didn't look  
24 at the right drawing probably. Do you have ground  
25 water monitoring wells down gradient and in

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1 reasonably close proximity to the evaporation pond,  
2 that being a source of tritiated water that's -- you  
3 know, I know the liners never leak, but --

4 MS. WHITE: Are you asking, sir, if  
5 we're going to place them in that area, or do we  
6 currently have a --

7 CHAIRMAN STETKAR: I'm asking you will  
8 there be.

9 MS. WHITE: That will certainly go into  
10 consideration. That will be one of the deciding  
11 weighting criteria for placement of a monitoring  
12 well, yes.

13 CHAIRMAN STETKAR: Okay. But and I'm  
14 talking in reasonable close proximity, not out at  
15 the fence line.

16 MS. WHITE: Understand. That's correct.

17 CHAIRMAN STETKAR: Okay.

18 MS. WHITE: That would be one of the  
19 major deciding factors for --

20 CHAIRMAN STETKAR: But you haven't  
21 actually decided on a placement of the wells yet?

22 MS. WHITE: No, sir.

23 CHAIRMAN STETKAR: Okay.

24 MS. WHITE: We're going to wait until we  
25 finish up with actual post-construction drawings and

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1 finalize that, look at the gradients and everything  
2 else before we decide --

3 CHAIRMAN STETKAR: Okay.

4 MS. WHITE: -- the best approximate  
5 locations for those wells.

6 CHAIRMAN STETKAR: Okay. Thank you.

7 MEMBER RYAN: That seems like a real  
8 reasonable answer. I'm guessing you've got a pretty  
9 decent understanding of the geohydrologic model for  
10 the site now. I'm also guessing that you realize  
11 that two new units will change it a lot.

12 MS. WHITE: Yes, sir.

13 MEMBER RYAN: So do you have a strategy  
14 where you're going to kind of reevaluate your entire  
15 ground water monitoring and modeling effort to  
16 accommodate the new units and all the rest of the  
17 features of facilities that you've described?

18 MS. WHITE: Yes, sir. We have a  
19 commitment to take a look at post-construction and  
20 take a look at again of how the ground water  
21 modeling would flow through this site post-  
22 construction. And then that would be a deciding  
23 factor for determining where we put those wells in.

24 MEMBER RYAN: Yes, and I guess, I mean,  
25 it would seem reasonable to me that that is not

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1 something you're going to do in year one after you  
2 finish. It's probably a multi-year kind of effort  
3 to see how things equilibrate, I guess is the best  
4 way to say it.

5 MS. WHITE: Yes, sir.

6 MEMBER RYAN: So, okay. Thanks.

7 MR. EVANS: Okay. Next we'd like to go  
8 into the site-specific aspects and go through each  
9 of the five subsections of this chapter.

10 12.1, Ensuring That Occupational  
11 Radiation Exposures are ALARA. Compliance with Reg  
12 Guides 1.8, 8.8 and 8.10 by utilizing NEI 07-08A,  
13 which is "Generic FSAR Template Guidance for  
14 Ensuring that Occupational Radiation Exposures are  
15 ALARA." Operational considerations for achieving  
16 ALARA are provided by utilizing NEI 07-03A, which is  
17 "Generic FSAR Template Guidance for Radiation  
18 Protection Program Description." And then  
19 development and implementation of operational  
20 procedures for SSCs which could be potential sources  
21 of contamination with the objective of limiting  
22 leakage and the spread of contamination with the  
23 plant provided by utilizing guidance in Reg Guide  
24 4.21, "Minimization of Contamination." Our intent  
25 is to comply with these Reg Guides and with the NEI

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1 guidance.

2 CHAIRMAN STETKAR: And you will be  
3 installing the zinc injection system?

4 MR. EVANS: That is our plan at this  
5 point. In unit 1 and 2 we have not employed that  
6 yet, but the plans are -- based on the industry  
7 experience they're proceeding in that direction, so  
8 our chemistry folks feel like that we definitely  
9 would do that for unit 3 and 4.

10 CHAIRMAN STETKAR: Thanks.

11 MR. EVANS: Section 12.2 is on radiation  
12 sources, most of which obviously are covered in the  
13 design control document. But site-specific  
14 radiation sources include the interim radwaste  
15 storage building that was discussed as part of the  
16 Chapter 11 discussion. Likewise, the evaporation  
17 pond and then the standard calibration check and  
18 radiography sources required for plant operation and  
19 construction.

20 MEMBER RYAN: I'm guessing the  
21 radiography sources are vendor owned and just on  
22 site. You have provisions to bring them onto the  
23 licensed site and take them off?

24 MS. WHITE: Yes.

25 MR. EVANS: I think it can be done

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1 either way, but typically that would be the -- yes.

2 Section 12.3 deals with radiation  
3 protection design features. The site-specific  
4 designs include Mobile Liquid Waste Processing  
5 System, ultimate heat sink, Startup Steam Generator  
6 Blowdown System and the evaporation pond.

7 The Mobile Liquid Waste Processing  
8 System, as mentioned earlier, has shield walls  
9 surrounding the area to maintain lower radiation  
10 zones and special connectors to prevent cross-  
11 contamination and equipped with drain collection to  
12 transfer spills and leaks to the Liquid Waste  
13 Management System.

14 Ultimate heat sink is our on site  
15 cooling towers as discussed in another part of the  
16 FSAR and it interfaces with the Essential Service  
17 Water System and is designed to minimize  
18 contamination.

19 And I think we've kind of discussed the  
20 evaporation pond and the Startup Generator Blowdown  
21 System already.

22 Continuing on with 12.3, underground  
23 piping is site-specific, especially as far as the  
24 route and to things like such as the evaporation  
25 pond. Some of the features of the underground

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1 piping system that we will employ concrete pipe  
2 trenches which are coated with epoxy and equipped  
3 with a sealed cover and manholes for inspection and  
4 have leak monitoring points. We'll use double-wall  
5 HDPE for buried piping with manholes along the  
6 routing pathway.

7 MEMBER RYAN: So the manholes will give  
8 you access to the double-walled pipe exactly how?  
9 Will this be a culvert and you'll be able to -- is  
10 the double-wall piping going to be --

11 MR. EVANS: It would be sloped --

12 MS. WHITE: Slowed to the --

13 MR. EVANS: -- to a manhole.

14 MS. WHITE: Right. We don't want to --  
15 and we're going to select intervals for the manholes  
16 so that if you do get a leak, you can collect it in  
17 a manhole and then we have to possibly dig up a  
18 small section to repair. So that's the  
19 consideration given there.

20 MEMBER RYAN: Okay. I'm trying to  
21 understand if it's all flowing downhill in one  
22 direction.

23 MR. EVANS: I think it would depend on  
24 -- well, it would flow to a manhole.

25 MEMBER RYAN: Yes.

1 MR. EVANS: A particular section between  
2 two manholes would flow to the manholes. So it  
3 would be sloped to flow to the manhole.

4 CHAIRMAN STETKAR: Manholes will be  
5 effectively drain slopes, sumps for leakage, right?

6 MS. WHITE: Right.

7 MEMBER RYAN: Okay. So you'll have  
8 something like -- I don't know what the length would  
9 be. One hundred feet or two hundred feet of pipe  
10 would be represented in one manhole? Something like  
11 that. Maybe 50 or maybe 1,000. I don't know what  
12 the range of the pipe is, but --

13 MR. SANG: Again, this is Irving Sang.  
14 Currently our plan is to stage the manhole roughly  
15 about 300 feet apart.

16 MEMBER RYAN: Three hundred feet apart?

17 MR. SANG: Yes.

18 MEMBER RYAN: And have you decided that  
19 that's going to give you a sufficient collection  
20 volume so you'll know what fraction is leaking or  
21 not, or you're collecting it all? That's the hard  
22 part of manholes is you don't know what your volume  
23 really is. So you don't know what fraction --

24 MR. SANG: That's correct. That's  
25 correct.



1           MEMBER RYAN: You do not know, you know,  
2 what fraction could be leaking.

3           MR. SANG: And we don't -- we can't --  
4 with the current -- there are two types of leak  
5 detection system. One is the current method of  
6 manholes in between and the wall pipe going through.  
7 And there's a basin at the end, bottom of the  
8 manhole. These manholes are six foot in diameter  
9 with a ladder going down to -- for maintenance and  
10 calibration purpose. And there's a basin, a simple  
11 floating device as a liquid level detecting  
12 instrument. And with that kind of instrument is  
13 very difficult to detect exact location of a leak or  
14 the volume of the leak. But as soon as leak water  
15 is accumulated in the basin, it will initiate the  
16 alarm signal. I think this address the Reg Guide  
17 4.21 issue, early detection. So I agree with the  
18 comment that it's very difficult to --

19           MEMBER RYAN: It certainly gives you the  
20 early detection piece, but it doesn't tell you -- I  
21 guess I'm having a hard time figuring out -- the  
22 flow is going be inside a pipe and I guess what  
23 you're relying on is that the pipe goes through this  
24 manhole area and if there's any accumulation outside  
25 the pipe in this culvert, this manhole, whatever it

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1 is, that tells you there's a leak. But it doesn't  
2 give you any idea about the magnitude or the point  
3 of origin of that leak, right?

4 MR. SANG: That's correct.

5 MEMBER RYAN: So you'd only know for 300  
6 foot --

7 MS. WHITE: You only know between  
8 manholes, basically.

9 MEMBER RYAN: Yes, I mean, between two  
10 manholes you know something happened.

11 MS. WHITE: Right.

12 MEMBER RYAN: Okay.

13 MR. EVANS: So once you get the alarm,  
14 then you would --

15 MEMBER RYAN: Yes, then you've got to --

16 MR. EVANS: -- take a sample and  
17 determine whether it's just rain water or whether it  
18 was actual, you know, leak, that kind of thing and  
19 then do your investigation to try to locate --

20 MEMBER RYAN: How deep is the pipe?

21 MR. SANG: It depends on the terrain,  
22 where the location is, but general they are about  
23 five, six feet.

24 MEMBER RYAN: Five or six feet is your  
25 unsaturated zone? Must be a little deeper than

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1 that, I'm guessing. I'm just trying to think of the  
2 ground water scheme you're in, because all those  
3 factors can really influence whether you're actively  
4 monitoring anything or not.

5 MS. WHITE: Yes. The answer's yes it's  
6 deeper than six feet.

7 MEMBER RYAN: Yes, I guess you haven't  
8 got to that detailed of a drawing yet.

9 MS. WHITE: No.

10 MEMBER RYAN: Okay.

11 MR. EVANS: Okay. Anymore questions on  
12 that slide?

13 (No response.)

14 MR. EVANS: Okay. The last part of  
15 12.3, we have some more site-specific aspects.  
16 There are some radiation zones which are site-  
17 specific. These are primarily in the yard areas and  
18 those are designated in the FSAR. Operational  
19 programs. Programmatic considerations are  
20 consistent with NEI 08-08A, "Generic FSAR Template  
21 Guidance for Life Cycle Minimization of  
22 Contamination."

23 And operational/programmatic programs  
24 include: Periodic review of operational practices  
25 to ensure operating procedures reflect installation

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1 of new or modified equipment and personal  
2 qualification and training are current; maintaining  
3 of records to facilitate decommissioning by  
4 retaining before and after construction surveys;  
5 site conceptual model development that aids in  
6 understanding the plant footprint and the effect on  
7 the environment; performing final site configuration  
8 that aids in understanding the migration of  
9 radionuclides off site; and on site contamination  
10 monitoring program along the potential pathways.

11 And then the FSAR also discusses that we  
12 have availability of portable radiation detection  
13 equipment as needed in different various areas of  
14 the plant.

15 Section 12.4 is dose assessment. The  
16 site-specific aspects of this section deal with dose  
17 to construction workers. And we have it that direct  
18 radiation dose will be less than 2.5 millirem per  
19 year, and that the gaseous and liquid effluent dose  
20 would be significantly smaller than that.

21 We have evaluated for a multi-unit site  
22 for contained sources of by-product, source and  
23 special nuclear materials. I would like to note  
24 that the direct radiation dosage figure we're giving  
25 here of 2.5 millirem is as estimated at the unit 1

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1 and 2 protected fence so that the actual doses to  
2 construction workers should be significantly lower  
3 due to the distance between unit 1 and 2 and unit 3  
4 and 4.

5 CHAIRMAN STETKAR: Those doses will  
6 effectively be controlled by the units 1 and 2 ODCM  
7 during the construction period, right?

8 MR. EVANS: Right.

9 CHAIRMAN STETKAR: The integrated ODCM  
10 won't become operational until units 3 and 4 start  
11 up. I mean, you won't have any sources over on --

12 MR. EVANS: Yes, they're --

13 CHAIRMAN STETKAR: -- except for  
14 radiography.

15 MR. EVANS: There are -- yes, exactly.  
16 There are different milestones for implementation,  
17 but that's correct.

18 And the last section in Chapter 12,  
19 12.5, Operational Radiation Protection Program. The  
20 program is in accordance with NEI 07-03A and  
21 includes such aspects as instrument calibrations,  
22 performance of radiation surveys, monitoring of the  
23 RWSAT, refueling water storage auxiliary tank and  
24 the primary makeup water tank, and boric acid  
25 evaporator room monitoring as required by the DCD,

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1 source term reduction strategies, control of access  
2 to VHRAs, very high radiation areas, utilization of  
3 NEI 08-08A for contamination minimization, and for  
4 respiratory protection aspects.

5 And that concludes discussion of Chapter  
6 12.

7 CHAIRMAN STETKAR: Members have any  
8 questions?

9 (No response.)

10 CHAIRMAN STETKAR: Thank you.

11 MEMBER BROWN: I do have one, and I  
12 think I missed this when I was reading. It was your  
13 dose thing that you just made relative to the direct  
14 radiation dose. There was a table in Chapter 11  
15 that talked about dose to the population from  
16 gaseous effluent and all the rest of the numbers in  
17 this table, table 11.3.1, were down in the millirem,  
18 and this one popped up at 1.6 person-rem per year.  
19 Is that the total body? And I'm not a radiation  
20 health guy. Just the numbers. Everything else was  
21 in the millirem per year.

22 MR. EVANS: Which table?

23 MEMBER BROWN: Table 11.3.1.

24 MR. EVANS: In the FSAR?

25 MEMBER BROWN: Yes, I believe that's

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1 correct. Chapter 11?

2 MR. EVANS: Oh, Chapter 11?

3 MEMBER BROWN: And I apologize for being  
4 late.

5 MR. EVANS: It's okay. Now, which one  
6 were you referring --

7 MEMBER BROWN: Table 11.3.1.

8 MR. EVANS: Okay. Parameters?

9 MEMBER BROWN: Yes. Well, it says  
10 estimated site gaseous effluent dose calculations.

11 MS. WHITE: 12.3.1 maybe?

12 MR. EVANS: 12.3.1.

13 MEMBER BROWN: That might well be the  
14 case. I'm looking at the SER with open items right  
15 now and they reference FSAR Section 11.3.3.1 for  
16 just tables.

17 11.3.1 DCD SER, so the reference is --  
18 there's a note that says gaseous effluent doses from  
19 FSAR Section 11.3.3.1 in tables 11.3-9R, or 11.3-  
20 204.

21 MR. EVANS: Oh, there we go. Okay.

22 MEMBER BROWN: And the low was doses to  
23 the population from gaseous effluent at a factor of  
24 10 greater than everything else in the table  
25 roughly. That's why it caught my attention.

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1 Oh, I'm sorry you're right.

2 MS. WHITE: Millirem versus rem.

3 MEMBER BROWN: It's a factor of 100  
4 more. Maybe even 1,000.

5 MR. EVANS: Beta dose in air, 1.62? Is  
6 that you --

7 MEMBER BROWN: It says total body and  
8 then person-rem thyroid were the two items. And  
9 there were the two tables. I didn't go back and  
10 look at the FSAR. I just looked at the -- just all  
11 the numbers in the SER. Just a big difference. And  
12 it was site-specific calculated dose.

13 MR. EVANS: Get up the SER here and see  
14 if we can get on the same page with you.

15 CHAIRMAN STETKAR: Charlie?

16 MEMBER BROWN: Yes?

17 CHAIRMAN STETKAR: I was looking for the  
18 table. It's 11.3-9R in the FSAR?

19 MEMBER BROWN: It lists three tables.  
20 There's three table references. It's 11.3 --  
21 Section 11.3.3.1 and tables 11.3-9R, 11.3-204 and  
22 11.3-205.

23 MS. WHITE: These are calculated for a  
24 single unit. This is for total in both units.  
25 That's one difference.

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1 MEMBER BROWN: It says CNPP units 3 or  
2 304. That's in the description column.

3 MR. EVANS: What page of the SER are you  
4 looking at?

5 MEMBER BROWN: 11-40.

6 MR. EVANS: 11-40?

7 CHAIRMAN STETKAR: If it's the SER, it  
8 might be easier to ask the staff.

9 MEMBER BROWN: Yes, but I was just --  
10 the staff did a reference with their note, the  
11 appropriate tables in the FSAR, and that's why, you  
12 know, I kind of lost the bubble going through  
13 Chapter 11, so it fully escaped the applicant here.

14 MR. ROACH: Hi. This is Ed Roach from  
15 Health Physics Branch. In the -- I think it's page  
16 11-34 of the SER for the COL, it addresses our  
17 evaluation of what the applicant did calculate to  
18 show how they met the requirements for Part 20 and  
19 Part 50, Appendix I, as well as the EPA regs 40  
20 C.F.R. 190. And the population dose is a  
21 calculation of the whole body, total body and  
22 thyroid doses, and those were on the order of 1.58  
23 person-rem and 1.98 person-rem, but that's to the  
24 population to the entire --

25 CHAIRMAN STETKAR: That's within 50 --

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1 MR. ROACH: Fifty mile --

2 CHAIRMAN STETKAR: -- radius. So it's  
3 the integrated collective population dose --

4 MR. ROACH: Right.

5 CHAIRMAN STETKAR: -- within 50 miles.

6 MEMBER BROWN: Is that it?

7 CHAIRMAN STETKAR: Yes.

8 MEMBER BROWN: Okay. So it's a total of  
9 everybody that's out there in the relative --

10 MEMBER RYAN: It's collective dose, yes.  
11 Added up all the doses, yes.

12 MEMBER BROWN: All right. It just was a  
13 big dose to the population. Like I say, I'm not a  
14 health radiation health guy. Just that I noticed  
15 the difference in the numbers as I was going through  
16 the table. If our resident expert understands, I'm  
17 happy as a pig in a mud wallow.

18 CHAIRMAN STETKAR: You good?

19 MEMBER BROWN: Yes, I'm fine. Just the  
20 discontinuity between sizes, magnitudes and numbers.

21 CHAIRMAN STETKAR: Sure.

22 MEMBER BROWN: Thank you.

23 CHAIRMAN STETKAR: Any other question  
24 for Luminant?

25 (No response.)

1 CHAIRMAN STETKAR: With that, I think we  
2 will recess for a break before the staff comes up.  
3 We will recess until 10:25.

4 (Whereupon, the above-entitled matter  
5 went off the record at 10:05 a.m. and resumed at  
6 10:24 a.m.)

7 CHAIRMAN STETKAR: Okay. We are back in  
8 session and we'll hear from the staff on Chapter 12.

9 MR. OTTO: Good morning again. I'm  
10 Ngola Otto. I'm the project manager for Chapter 12,  
11 Radiation Protection, and we're going to discuss the  
12 staff's review of Chapter 12. To my right is Ron  
13 LaVera. He's our reviewer for the chapter. He's  
14 going to discuss the open items. We have one open  
15 item is Chapter 12 out of the 25 questions we've  
16 asked so far. And I'll go ahead and turn it over to  
17 Ron.

18 MR. LaVERA: Good morning. My name is  
19 Ron LaVera, as Ngola mentioned. My experience is 30  
20 years of experience at PWR utility plants. I'm a  
21 certified health physicist. I have six years of  
22 experience in the Navy. I completed senior reactor  
23 operator school. So that's my background.

24 Before I begin I would like to take a  
25 moment to thank the applicant for the professional

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1 manner in which they dealt with our questions and  
2 concerns. It certainly facilitated my review of  
3 this section.

4 In addition to the information that the  
5 applicant talked about in their presentation, the  
6 staff also sought additional clarification on  
7 several items, including: Site-specific design  
8 features to satisfy 10 C.F.R. 20.1406; minimization  
9 of contamination; operational program elements for  
10 minimizing the contamination source term in the  
11 reactor coolant system; documentation of facility  
12 construction for the purposes of facilitating  
13 eventual decommissioning; site-specific provisions  
14 for implementing zinc injection; content and control  
15 of site-specific sources, in particular the  
16 evaporation pond; processes for maintaining  
17 construction worker dose ALARA; compliance with 10  
18 C.F.R. 20.1301 and 1302 for the members of the  
19 public; uses of standards for the selection and  
20 calibration of radiation protection  
21 instrumentations; respiratory protection program  
22 consistency with Reg Guide 8.15 on respiratory  
23 protection; program elements associated for primary  
24 to secondary leakage minimization and program  
25 elements for ESF. That's --

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1 MR. MONARQUE: Engineer safeguards.

2 MR. LaVERA: -- engineer safeguard  
3 facilities. Thank you very much. Sorry. Did a  
4 short circuit there. Engineering safety features  
5 and leakage minimization program elements. Sorry  
6 about that.

7 The only open item we have is the  
8 question related to the 10 C.F.R. Part 30s, 40 and  
9 70s, license materials. We are in the process of  
10 reviewing the applicant's response to that.

11 And that concludes my presentation. Are  
12 there any questions?

13 CHAIRMAN STETKAR: No questions?

14 PARTICIPANT: No.

15 CHAIRMAN STETKAR: Well, that was good.  
16 Thank you very much. I'm almost sorry we didn't go  
17 through that before the break, but there you go.

18 Thank you.

19 And I'd like to again thank the  
20 applicant and the staff for good discussions for  
21 both Chapters 11 and 12. I think 12 worked pretty  
22 quiet, so --

23 MR. MONARQUE: And I wanted to confirm,  
24 there's no takeaway items on Chapter 12.

25 CHAIRMAN STETKAR: I didn't hear any.

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1 MR. MONARQUE: Okay.

2 CHAIRMAN STETKAR: Now is the staff --

3 MS. BERRIOS: They're going to be ready  
4 in 10 minutes for the --

5 CHAIRMAN STETKAR: Now I'm really sorry  
6 I didn't -- let's go off the record just so that we  
7 can speak at will here.

8 (Whereupon, the above-entitled matter  
9 went off the record at 10:28 a.m. and resumed at  
10 10:49 a.m.)

11 CHAIRMAN STETKAR: Okay. We are back in  
12 session, and we'll hear from the staff I guess first  
13 about risk-managed technical specifications. And as  
14 you're aware, this is a very interesting topic to us  
15 because this is the only applicant, at least that  
16 we're aware of so far among any of the new reactor  
17 design centers, that is proposing to adopt risk-  
18 managed technical specifications going on. So this  
19 is kind of a first of a kind, so we're pretty  
20 interested in the process and how it's going to be  
21 implemented and how the staff is going to -- what  
22 level of detail the staff is going to do in their  
23 reviews and so forth. So really appreciate the  
24 opportunity to have this briefing.

25 For the record and for members; benefit,

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1 this is an information briefing. There isn't an SER  
2 on any of this yet, so we'll be revisiting this  
3 topic under the context of probably both Chapter 16  
4 and Chapter 19, the PRA and the tech specs of the  
5 COL application. And, you know, pending the  
6 vagaries of scheduling, we're trying to keep those  
7 meetings together. But they're quite a bit out in  
8 the future right now, so this isn't something that  
9 we're going to be hearing about in terms of an SER  
10 or formal review for --

11 MEMBER BROWN: For the COLA?

12 CHAIRMAN STETKAR: For the COLA.

13 MEMBER BROWN: Oh, okay. Because, I  
14 mean, there are SERs on the NEI documents that they  
15 reference.

16 CHAIRMAN STETKAR: That's right. There  
17 are SERs on the NEI documents already. Those have  
18 already been approved by the staff.

19 With that introduction, I don't know  
20 who --

21 MEMBER SHACK: I just had a quick  
22 question. Is anybody doing risk-informed ISI, which  
23 sort of strikes me as the easiest risk-informed  
24 application to take. I mean, somehow it just seems  
25 like a big leap.

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1 PARTICIPANT: No, no.

2 MR. HAMZEHEE: The answer is no.

3 CHAIRMAN STETKAR: Typically what you  
4 see is they say, well, you know, we'll get through  
5 the COLA process and then we'll do it after we get  
6 our license.

7 MR. HAMZEHEE: This is the first risk-  
8 informed application in the new reactors, as John  
9 said.

10 MR. MONARQUE: Okay. My name's Steve  
11 Monarque with the Office of New Reactors and thank  
12 you for giving us the opportunity to present this  
13 informal briefing today on risk-managed tech specs.

14 I want to introduce two presenters  
15 today. Bob Tjader, who will go first and give a  
16 historical perspective on all this, and followed by  
17 Nick Saltos, presentation.

18 We've been communicating -- we've had  
19 meetings and dialogues with Luminant for the past  
20 three years since our initial application, and I  
21 think even before their application regarding risk-  
22 managed tech specs, so this has been an ongoing  
23 three-year review. And with that, I'll go ahead  
24 and --

25 MEMBER BROWN: Go ahead. I just wanted

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1 to make -- there's two pieces from what I saw in the  
2 agenda. There's the risk-informed tech specs and  
3 then there's the risk-informed or risk-managed --

4 MR. MONARQUE: Surveillance.

5 MEMBER BROWN: -- surveillance and  
6 completion times.

7 MR. TJADER: Well, I'll get into that.  
8 The risk-informed completion time and the  
9 Surveillance Frequency Program. Each of those are  
10 one of the initiatives. There are two parts to our  
11 presentation, which I'll discuss briefly here.

12 CHAIRMAN STETKAR: Well, give your  
13 presentation.

14 MR. TJADER: Good morning, members of  
15 the ACRS. I'm Bob Tjader. I am in the Technical  
16 Specifications Branch of NRO and I'm responsible for  
17 the overall responsibility for the review of both  
18 the US-APWR and the Comanche Peak technical  
19 specifications. What I am going to present is a  
20 brief overview of the risk-management tech spec  
21 initiatives as they exist.

22 Now, as has been alluded to, US-APWR MHI  
23 is the only vendor, the only design cert that is  
24 incorporating what we call the risk-management tech  
25 spec initiatives. Basically that is, when we say

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1 that, we mean basically Initiatives 4b and 5b,  
2 because they're the significant ones, which I'll get  
3 into briefly here. Some of the others have some of  
4 the other less significant ones like missed  
5 surveillances and things like that, but they're the  
6 ones that have come in and basically wanted to adopt  
7 the scope as approved currently.

8 The risk-management tech spec  
9 initiatives; as we can see in this slide there are  
10 eight of them, they were conceived by a joint task  
11 force of NRC staff and industry in basically as a  
12 response to the NRC policy statement on PRA, the use  
13 of PRA and risk in regulatory decision making. And  
14 in about the 1998 time frame, we and the industry  
15 got together and tried to conceive of ways in which  
16 we could improve tech specs through risk  
17 information. And at that time we came up with eight  
18 initiatives, and these are the eight initiatives  
19 that we deal with today primarily.

20 When they were conceived they weren't  
21 conceived -- in other words their numerical order  
22 wasn't conceived on the degree of complexity. It  
23 was just as basically they occurred to us.

24 MEMBER BLEY: What point in time did  
25 this happen?

1 MR. TJADER: Nineteen-ninety-eight was  
2 when the first eight initiatives were written down,  
3 so to speak. And from that point on we, the staff  
4 and industry together, have worked to review and --  
5 they've proposed and we've reviewed and approved.  
6 And it's taken many years to get approval on these  
7 things, on these initiatives.

8 Basically this slide here presents them  
9 in the order of relative complexity, if you will.  
10 The first two initiatives approved, Initiative 2 and  
11 3; 2 is missed surveillances and 3, mode change  
12 flexibility, basically rely on the use of the risk  
13 -- or the Maintenance Rule (a)(4) Program as it  
14 exists to licensee. It does not require any  
15 necessarily quantitative approach, but it does  
16 require an approach that they utilize, the licensee  
17 would utilize in implementing their (a)(4) Program.  
18 Maintenance Rule (a)(4) just briefly says that prior  
19 to performing maintenance or surveillances you have  
20 to assess and manage risk. Okay?

21 Okay. Initiative 2 and 3; they were the  
22 first two approved -- Initiative 2 basically -- if  
23 you missed a surveillance in the past, you used to  
24 have to -- at power. Let's say it was -- you missed  
25 it and you determined you missed it at power and

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1 there's something that you have to be performed at a  
2 shutdown mode. You would have to shut down to  
3 perform that surveillance. Now, this allows for  
4 risk assessment to determine whether or not you can  
5 remain at power prior to performing missed  
6 surveillances up to one surveillance frequency.

7 Mode change flexibility. Similarly in  
8 the past prior to starting up all surveillances and  
9 all equipments had to be completed. If in the  
10 process of starting up now you find that you  
11 inadvertently missed an inoperable piece of  
12 equipment, you can transition up in mode to power as  
13 long as you restore that equipment to operable  
14 status within the existing completion time of the  
15 condition and required action of that tech spec.

16 MEMBER BLEY: As if you were at power  
17 essentially?

18 MR. TJADER: As if you were at power.  
19 Now it doesn't apply to all systems. Now, this one  
20 here, there has to be a pre-assessment of the  
21 systems of which you're applying. It assumes that  
22 the risk of mode 1 bounds the risk of the other one.  
23 So in other words, the highest risk you would  
24 experience with inoperable equipment would be in  
25 mode 1 where you have a condition and a required

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1 action that can be performed. Now, there are some  
2 -- like diesels, this does not apply to diesels. It  
3 doesn't apply to, you know, RHR systems and some of  
4 the others. And there are notes in the specs that  
5 that doesn't apply to.

6 The next three require an analysis, a  
7 quantitative analysis prior to approval of these for  
8 the systems for which they apply. Initiative 1  
9 modified end states. Basically that allows you to  
10 shut down the hot shutdown rather than all the way  
11 to cold shutdown to repair and restore equipment and  
12 then you can proceed up.

13 Initiative 6 is the only one that has --  
14 mode 1 has been approved for some vendor types, but  
15 not all. Initiative 6 has not yet been approved.

16 It's been in negotiation this whole while.

17 Basically that adds additional time to 3.0.3  
18 shutdowns. If you do not have a condition that  
19 addresses a condition of inoperability in a tech  
20 spec, then you have to enter 3.0.3, which is the  
21 shutdown. Or, if you find that you have not  
22 completed the required actions within the allowed  
23 completion times, then you have to shut down and  
24 enter 3.0.3. This allows additional time prior to  
25 completing the 3.0.3 shutdown, or prior to entering

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1 to 3.0.3 in certain cases. This has sort of evolved  
2 over time, but it's -- and it's under negotiation.

3 CHAIRMAN STETKAR: Bob, how is that --  
4 and I really appreciate this, because you know, this  
5 is the first coherent summary of these initiatives  
6 that I've heard. How is that Initiative 6  
7 conceptually different from 4b?

8 MR. TJADER: Conceptually it's very  
9 similar. In fact, because basically --

10 CHAIRMAN STETKAR: 4b allows you --

11 MR. TJADER: Yes, the --

12 CHAIRMAN STETKAR: -- no additional  
13 time.

14 MR. TJADER: Yes. Conceptually they're  
15 the same other than the fact of say that Initiative  
16 6 would allow a specific period of time for an  
17 existing condition prior to entering 3.0.3. It's  
18 not a -- you could conceivably apply 4b to that  
19 condition.

20 CHAIRMAN STETKAR: Yes.

21 MR. TJADER: And perhaps proposals will  
22 come in house that do that. In fact --

23 CHAIRMAN STETKAR: Okay. I was just  
24 trying to --

25 MR. TJADER: But it is in a risk-

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1 informed completion time that can be adjusted,  
2 depending upon the risk associated with  
3 configuration of the plant. It is a specific time  
4 that is additional to restore the equipment prior to  
5 entering shutdown.

6 CHAIRMAN STETKAR: But I mean, if for  
7 example you did a 4b analysis and determined that  
8 you've got, you know, 67.25 hours to restore a piece  
9 of equipment to service, risk-informed completion  
10 time. Then you get up to 67.25 hours. You would  
11 then normally trigger 3.0.3. And you're saying --

12 MR. TJADER: Well, no, in risk-informed  
13 completion time if you use up the completion time,  
14 then you're treating it as the specs treat  
15 completion times now. You then take the next  
16 logical -- it could be 3.0.3.

17 CHAIRMAN STETKAR: Could be 3.0.3.

18 MR. TJADER: It could be shutdown --

19 CHAIRMAN STETKAR: Well, I was trying to  
20 obviously --

21 MR. TJADER: -- but you then take the  
22 next -- enter the next logical action.

23 CHAIRMAN STETKAR: Let's suppose you did  
24 enter normally 3.0.3. Would 6 then give you an  
25 additional window?

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1 MR. TJADER: Yes, if --

2 CHAIRMAN STETKAR: Okay. Beyond what  
3 you calculated in -- beyond your 67.25 hours?

4 MR. TJADER: But keep in mind we  
5 haven't --

6 CHAIRMAN STETKAR: I understand you  
7 haven't got there yet.

8 MR. TJADER: We haven't got there yet.  
9 What we haven't done is we -- I don't think we've  
10 envisioned applying 4b to Initiative 6 completion  
11 times. Okay? I don't think we've envisioned that.  
12 That doesn't mean licensees can't propose it, but I  
13 don't --

14 CHAIRMAN STETKAR: Yes, but I'm thinking  
15 about, you know --

16 MR. TJADER: Yes.

17 CHAIRMAN STETKAR: -- holistic risk-  
18 informed tech specs.

19 MR. TJADER: Well, to be honest with  
20 you, we are finding as we are in the process of  
21 reviewing and approving these, we do have to  
22 consciously think about the interactions of these  
23 initiatives, you know? And for instance, there's  
24 mode change flexibility where you can go back up in  
25 time. Well, you know, there's all kinds of

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1 scenarios that can come up. Well, what if you've  
2 come down, you know, to hot shutdown to use -- load  
3 initiative mode 1 to restore equipment, you know,  
4 and then, you know, you don't restore it. And, I  
5 don't know, then you're -- how does that interact  
6 with --

7 CHAIRMAN STETKAR: Well, nobody would  
8 ever --

9 MR. TJADER: -- the change to  
10 flexibility, whatever? I'm not very good at  
11 describing the complexities of the interactions, but  
12 we're finding that it turns out to be somewhat  
13 complex and we have to think about that.

14 MR. HAMZEHEE: Bob, correct me if I'm  
15 wrong, for 3.0.3 it's more generic approach.

16 CHAIRMAN STETKAR: No, I understand.  
17 I'm just trying to understand -- obviously as Bob  
18 was saying, there are interactions that if I do a  
19 risk-informed completion time for restoration of  
20 this particular piece of equipment and determine  
21 it's; let me use a round number, 80 hours, and if I  
22 find that I cannot restore that within 80 hours and  
23 the next step in the tech specs would be enter 3.0.3  
24 and shut down, I'm curious whether Initiative 6  
25 would then somehow give me --

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1 MR. HAMZEHEE: Add more time.

2 CHAIRMAN STETKAR: -- add more time,  
3 because this -- that 80 hours was in principle --

4 MR. TJADER: I guess I'd like to -- let  
5 me qualify a couple things first of all. Initiative  
6 is very limited in scope. Okay? It does not  
7 apply to loss of function. Okay? Initiative 4b  
8 does not apply to loss of function. You just can't  
9 do that at all. I think back in the beginning when  
10 we thought of Initiative 6 we were thinking of 3.0.3  
11 in general where it could conceivably apply to loss  
12 of function, but that has now been taken off the  
13 table as part of the review process. Okay? So it  
14 is very limited in scope, initiative 6, at this  
15 point in time.

16 CHAIRMAN STETKAR: Well, because it  
17 doesn't apply to loss of function, in my mind it  
18 even -- and neither does 4b.

19 PARTICIPANT: That's right.

20 CHAIRMAN STETKAR: In my mind it gets  
21 even a bit more muddly about how they interact with  
22 one another.

23 MR. SALTOS: Yes, as it stands right  
24 now, Initiative 6 is not included in 4b. 4b  
25 excludes 6. The purpose of 6 was to extend the one

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1 hour. In other words, you find the system is not --  
2 loss of function, especially with some systems that  
3 are not as risk-significant or some systems that are  
4 not even included in the PRA, some radiological  
5 control systems. To extend that to four hours, six  
6 hours so they can perform the maintenance, that was  
7 the idea. It was not intended to use this together  
8 with 4b.

9 CHAIRMAN STETKAR: Okay. Charlie?

10 MEMBER BROWN: Yes, I mean, if you go  
11 look at whatever it's the total of Part 4, I mean,  
12 under 5.5-18 it says, "The program shall ensure the  
13 assessment of configuration-specific risks to  
14 support the extension of completion times." Item A  
15 says, "When entering the spec, the following actions  
16 shall be taken in accordance with NEI 06-09 within  
17 the completion time of the referencing spec  
18 determined that the plant configuration is  
19 acceptable beyond the completion time. Then you  
20 calculate the risk-informed completion time and you  
21 can restore the system to operable status within the  
22 RIC or the backstop of 30 days."

23 So to me, when I read this, plus 06-09,  
24 plus your SER, it said -- the way I read that is  
25 they're putting in place the program to extend the

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1 completion time beyond it. As long as you do your  
2 calculation within the completion time to say I'm  
3 okay --

4 MR. SALTOS: But you don't have loss of  
5 function.

6 MEMBER BROWN: -- then it's a risk-  
7 informed analysis.

8 MR. SALTOS: There is no loss of  
9 function.

10 MR. TJADER: Yes, no loss of function.  
11 But in addition to that --

12 MEMBER BROWN: That wasn't real clear  
13 when I read it.

14 MR. TJADER: Well, it is in 06-09. It  
15 explicitly states in 06-09.

16 MEMBER BROWN: Hey, that was 60 pages of  
17 stuff.

18 MR. TJADER: But keep I mind too -- no,  
19 it's very explicit, it does not apply to loss of  
20 function. But let me further say that it doesn't  
21 apply to all completion times. It only applies to  
22 completion times within which they reference the  
23 program. So in other words, there are a limited set  
24 of conditions and required actions. In fact,  
25 Luminant takes a very limited and conservative

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1 approach to that --

2 MEMBER BROWN: You said that.

3 MR. TJADER: -- you know, in that they  
4 only apply it to a limited number of systems and  
5 they only apply it to basically when one train of  
6 their four trains are out. Okay? So they have even  
7 limited it more voluntarily. But it only applies to  
8 those required actions where the completion time  
9 explicitly calls out the risk-informed completion  
10 time. So there's a all slew of conditions and  
11 required actions where risk-informed completion  
12 time, Initiative 4b, does not apply.

13 MEMBER BROWN: Two questions relative to  
14 that because in their paper, the white paper they  
15 submitted just said exactly what you did. They had  
16 a limited range. One train. Then they had the  
17 second train or third train. They had that  
18 explanation. But there was no discussion in here of  
19 how this gets cranked or incorporated into the COLA.  
20 This is just a paper. I didn't -- there was no  
21 reference --

22 MR. TJADER: Yes, well it's cranked into  
23 the tech specs themselves.

24 MEMBER BROWN: No, I mean, this document  
25 that they presented is -- I mean, this limitation --

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1 MR. TJADER: They have --

2 PARTICIPANT: Let him get through and  
3 you'll get an idea of what --

4 MR. TJADER: No, I think what the -- is  
5 this in here?

6 Basically this limitation, what it does,  
7 it's a description of the -- oh, that's a program.  
8 The Initiative 4b incorporation into both the DCD  
9 and the Comanche Peak specs, it incorporates the  
10 program and it incorporates the specific specs. And  
11 there are -- there is a specific required action,  
12 which says -- I don't know have the Luminant  
13 specific wording, but basically there's a specific  
14 action that, you know, within -- if -- and it's a  
15 voluntary entry.

16 If you don't anticipate restoring the  
17 system or equipment within the allowed completion  
18 time, perform a risk assessment to determine the  
19 quantified risk-informed completion time and  
20 determine what that is and apply it. So it only  
21 applies to very specific not only specs, but  
22 specific conditions and for risk-informed completion  
23 time. It is not a carte blanche application to all  
24 completion times. It is not that. Okay?

25 So but at any rate, good questions.

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1 Basically what I'm going to do is I'm going to talk  
2 a little bit more; I think we're doing that right  
3 now, of Initiatives 4 and 5, which are the  
4 significant ones, the ones that have been termed the  
5 risk-management tech specs. I'll talk about them a  
6 little bit more. If you're interested in some of  
7 these others, I have slides, backup slides on those.

8 CHAIRMAN STETKAR: We have a little bit  
9 of time here.

10 MR. TJADER: Okay.

11 CHAIRMAN STETKAR: And we have to break  
12 at noon --

13 MR. TJADER: Okay.

14 CHAIRMAN STETKAR: -- is our only  
15 constraint.

16 MR. TJADER: Okay.

17 CHAIRMAN STETKAR: But, you know, we're  
18 running ahead of schedule.

19 MR. TJADER: Okay.

20 CHAIRMAN STETKAR: So if you could, go  
21 through -- just as you said earlier, this is kind of  
22 the first time I think that many of us have seen all  
23 of the initiatives laid out. So if you could, you  
24 know, briefly go through Nos. 7 and 8 just so we  
25 understand what those, and then back to 4 and 5,

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1 which are really the crux of what we're going to  
2 learn about.

3 MR. TJADER: Okay. Initiative 7 briefly  
4 is --

5 MEMBER BROWN: Are we going to have some  
6 more on -- I mean, the application of 6 to 4 seemed  
7 to me to have some credibility -- I mean, not  
8 credibility, some application. There's an  
9 interaction there that you got to deal with, isn't  
10 it? I mean --

11 CHAIRMAN STETKAR: Luminant is not  
12 proposing anything regarding Initiative 6, are they?

13 MR. TJADER: Well, keep in mind  
14 Initiative 6 is not yet approved.

15 CHAIRMAN STETKAR: Right.

16 MR. TJADER: It's not even out on the  
17 table for adoption by even operating plans. It's  
18 not -- because it is difficult and we have concerns  
19 about the interaction and things like that. They're  
20 not easy things to review and approve. You can  
21 imagine, the NEI 06 and the 04-10 document took  
22 years to negotiate. They took literally years to  
23 negotiate, I mean, from '98 to 2007, you know? And  
24 so they're not easy things. And because of some of  
25 these complexities, with 6 -- like I said, the scope

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1 of 6 over time has been narrowed because of concerns  
2 of applying it, you know? Perhaps -- I don't know,  
3 it is not yet approved.

4 MEMBER BROWN: But their paper  
5 recommended changes -- or not changes, additions to  
6 NEI 06-09 and 04 whatever, because they're a new  
7 plant as opposed to an operating plant.

8 CHAIRMAN STETKAR: Well, we're getting  
9 -- Let's wait until we talk more about 4b and 5b.

10 MEMBER BROWN: All right.

11 MR. HAMZEHEE: I just want to say that  
12 Bob has put together a very good presentation that  
13 covers most of these, so to go through --

14 CHAIRMAN STETKAR: That's what --

15 MR. TJADER: Well, I put together a  
16 brief presentation. If I had known that we wanted  
17 to dive in deeper, I probably should have made it a  
18 little more detailed, and I --

19 CHAIRMAN STETKAR: It's an information  
20 briefing, so it's --

21 MR. TJADER: But any rate --

22 CHAIRMAN STETKAR: Go ahead.

23 MR. TJADER: But, no, the revisions with  
24 06-09 and 04-10 that may arise are a result of  
25 concerns about the quantitative metrics of Reg

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1 Guides 1.174 and 1.177 as they apply to the new  
2 operating plants. And the Commission has directed  
3 the staff to assess that through some tabletop  
4 discussions which are ongoing. And those  
5 recommendations haven't been made yet.

6 But depending on whether or not; and  
7 that's a whether or not, a big one, whether or not  
8 there needs to be changes to quantitative metrics or  
9 whether or not there even need to be changes to  
10 defense in depth or something like, then there may  
11 need to be some supplement to the NEI 06-09. I  
12 think that's what that's referring to.

13 MEMBER BROWN: But they were making  
14 these modifications as part of the implementation to  
15 the program in their COLA. That's the way it was  
16 read. Because they're a new plant and they were  
17 introducing -- we don't have experience, therefore  
18 our PRAs aren't going to be as complete based on  
19 the --

20 MR. TJADER: Well, they --

21 MEMBER BROWN: -- supporting background  
22 data.

23 MR. TJADER: There are two trains going  
24 down the track and we anticipate those trains  
25 getting to the station at the same time. And one is

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1 the evaluation of the new metrics, what the  
2 Commission directed us to, and their applicability  
3 to new reactors, the existing risk guidance, is it  
4 acceptable for new reactors? Okay? If we find it's  
5 not, then Comanche Peak has got a different problem.  
6 Then they've got a problem of extracting this from  
7 their tech specs because then we're not going to  
8 meet their schedule.

9 CHAIRMAN STETKAR: Charles? Charlie?

10 MEMBER BROWN: I'll stop.

11 MR. TJADER: Maybe some of it will be  
12 clarified in the Luminant --

13 MEMBER BROWN: I'm going to stop. I  
14 just had to get all of my -- I had to do a data dump  
15 here.

16 STETKAR: Well, I'd just suggest from  
17 what I've seen -- Bob's given us the whole  
18 background and the next talk is going to be Comanche  
19 Peak.

20 MR. TJADER: Well, actually what I had  
21 actually envisioned was giving you a brief  
22 background on the tech specs --

23 MEMBER BLEY: Yes.

24 MR. TJADER: -- and sort of putting in a  
25 perspective as to why Initiative 4b and 5b -- why

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1 it's significant with regard to scheduling Comanche  
2 Peak and the PRA and how it affects the program.

3 Basically --

4 CHAIRMAN STETKAR: Let's see if we can  
5 get through that by noon.

6 MR. TJADER: Okay.

7 CHAIRMAN STETKAR: This is brief --

8 MR. TJADER: Okay.

9 CHAIRMAN STETKAR: -- and there's about  
10 25 slides here.

11 MR. HAMZEHEE: He already covered most  
12 of them.

13 CHAIRMAN STETKAR: I understand. Then  
14 the rest of them will go quickly.

15 CHAIRMAN STETKAR: So again, back to  
16 Initiative 7.

17 MR. TJADER: Initiative 7 is basically  
18 systems that are not in specs; snubbers -- snubbers  
19 at one time were in spec, but that gets into the  
20 whole history of the thing. But in the revised  
21 standard tech specs and in the new reactor specs  
22 there is not a snubber tech spec. And so if  
23 snubbers are inoperable, it de facto makes the  
24 support systems inoperable. And basically that  
25 could provide -- in light of the fact that we

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1 perform maintenance at power, could provide and  
2 inadequate amount of time to perform snubber  
3 maintenance at power.

4 And so, since the old snubber specs  
5 provided a 72-hour completion time; i.e., 72 hours  
6 to do snubber specs, industry proposed a snubber  
7 inoperability spec, which in the standard tech specs  
8 is basically a 308 spec, depending on the standard  
9 we're looking at. Basically it provides time to  
10 perform snubber maintenance. Okay?

11 And then the other one is barriers.  
12 Barriers -- if a hazard barrier, you know, water  
13 tight barrier or fire barrier or something is  
14 inoperable, it de facto would make the supported  
15 system inoperable. And at times that would be sort  
16 of a drastic -- and the end result would be a  
17 drastic response in the tech specs to perhaps  
18 something where a watch could be stationed or things  
19 like that. So that allows time for hazard barriers  
20 to become fouled, inoperable, whatever and restored  
21 to status without taking Draconian tech spec  
22 actions. That's what basically Initiative 7 does.

23 MEMBER BLEY: And what's its status?

24 MR. TJADER: Well, both snubber and  
25 hazard barrier inoperabilities have been approved.

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1 MEMBER BLEY: Have been approved?

2 MR. TJADER: Have been approved. There  
3 was actually at one time thoughts of applying this  
4 to much more wide variety of systems, but I think  
5 that due to the complexity of doing these generic  
6 risk assessments that that probably -- I don't  
7 envision at this point in time 7 being any more than  
8 those two initiatives at this time, the snubber and  
9 the hazard barrier unavailabilities.

10 CHAIRMAN STETKAR: People have folded  
11 Initiative 7 into their fire protection programs?  
12 Is that how it's implemented basically, or is -- how  
13 is it -- I mean, how is that initiative --

14 MR. TJADER: It doesn't in fact require  
15 fire protection revisions or -- yes, I don't  
16 believe. They may have some procedures in their  
17 fire protection program or something that, you know,  
18 addresses this, but there's nothing that is  
19 explicitly required.

20 CHAIRMAN STETKAR: No. 8.

21 MR. TJADER: Okay. Eight is basically  
22 -- there was an 8a and an 8b. 8a is basically to --  
23 10 C.F.R. 50.36 has four criteria. They were part  
24 of the initial Commission paper on improving  
25 standard tech specs. The fourth criteria is that

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1 you have to incorporate a system if engineering  
2 judgment or if the staff finds it's risk significant  
3 and has to be incorporated into the specs.

4           There were a few systems; RICT and some  
5 RHR systems, that the staff determined initially way  
6 back when the Improved Standard 92 was created that  
7 should be in specs. And industry did not agree with  
8 us, but they were included nonetheless. And  
9 industry has promised through -- in Initiative 8b a  
10 review of those systems and assessment of those  
11 systems to in fact have them removed to tech specs.  
12 We're waiting for that from industry and I don't  
13 know if we're ever going to receive it because it's  
14 been a number of years.

15           CHAIRMAN STETKAR: The equivalent of a  
16 50.69-type analysis, or what?

17           MR. TJADER: Well, that's for industry  
18 to determine what kind of analysis they want to do  
19 on removing those systems. I don't know. But, yes,  
20 that could be some sort of 50.69, system  
21 significant, things like that.

22           And then 8b is in fact probably an  
23 extension of 50.69, and 8b is sort of futuristic,  
24 pie-in-the-sky-type things where we envision having  
25 maybe risk-based rather than risk-informed tech

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1 specs and using risk to actually determine whether  
2 or not things should be in specs. So that would  
3 probably require rulemaking and things like that,  
4 but that is not yet the scope.

5 CHAIRMAN STETKAR: Essentially the whole  
6 Initiative 8 is still --

7 MR. TJADER: Yes, that's --

8 CHAIRMAN STETKAR: -- on the table.

9 MR. TJADER: -- still off --

10 CHAIRMAN STETKAR: Or off the table.

11 MR. TJADER: -- the table and in the  
12 future.

13 CHAIRMAN STETKAR: Okay.

14 MR. TJADER: Things like that. But the  
15 big one's, Initiatives 4b and 5b, are not only on  
16 the table, they've been approved for some plants  
17 already.

18 Yes, the next slide. Where this becomes  
19 particularly significant for Luminant and Comanche  
20 Peak is that ISG-08 -- the Commission has determined  
21 that at the time a corporate licensing is issued  
22 tech specs have to be complete. And that means in  
23 accordance with ISG-08, that either the plant-  
24 specific value, the limit has to be in the specs  
25 that -- or a bounding value has to be in specs, or

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1 that a tech spec program -- that's a 55 -- that's  
2 the admin control section of 55, program has to be  
3 implemented using an NRC-approved methodology.

4 And this is what Nick's presentation's  
5 going to get into, is a tech spec methodology for  
6 ensuring that a PRA is acceptable for the  
7 applications envisioned; 4b and 5b, when the plant  
8 needs to implement them; i.e., a PRA -- at the time  
9 the COL is issued, the PRA will not yet be final.  
10 The systems, instrumentation systems and other  
11 things will not be in place where the plant-specific  
12 PRA can be completed. It will be completed, the  
13 PRA, sometime prior to fuel load. Okay?

14 So that means that in accordance with  
15 ISG-08 we have to have a methodology in tech specs  
16 to ensure that the PRA is capable. And this applies  
17 to 4b and 5b. Particularly 4b is what this applies  
18 to, is that the -- in other words, to do a  
19 quantified risk assessment for a risk-informed  
20 completion time, the PRA has to be adequate to  
21 ensure that you're addressing the risk associated  
22 with the configuration of the plant and determining  
23 an appropriate completion time. And that's where  
24 that comes in.

25 And that methodology that has been

1 proposed we are currently reviewing. We've had RAIs  
2 out on it. We're negotiating it currently with  
3 Luminant. I think you may have a copy of that. I  
4 think that's what was referred to. And Nick is  
5 going to get into that in a little more detail, or a  
6 lot more detail. And basically that will be  
7 essential for approving 4b for Luminant.

8 Okay. The next slide.

9 CHAIRMAN STETKAR: Bob, when did ISG-08  
10 come out?

11 MR. TJADER: I believe it was probably  
12 about two years ago. Originally I think it came --  
13 it became necessitated through and apparent that it  
14 was necessary because of instrumentation systems,  
15 the fact that you wouldn't have the full package of  
16 instrumentation readily available at the time and  
17 you had to have then a setpoint control program, a  
18 methodology for determining your instrumentation  
19 setpoints, which are required in tech specs. That's  
20 where it first, I think, came to light and that  
21 was --

22 CHAIRMAN STETKAR: Yes, I understand  
23 that --

24 MR. TJADER: I believe it was like 2009  
25 time frame.

1 CHAIRMAN STETKAR: I understand that  
2 concept. I was curious how it relates to, you know,  
3 expanding methods for determining PRA adequacy to  
4 support things.

5 MR. TJADER: Well, as long as you can  
6 have, you know, an acceptable methodology for  
7 determining something, a process that you find  
8 acceptable and confident in, then --

9 CHAIRMAN STETKAR: Okay.

10 MR. TJADER: -- you can apply that  
11 methodology.

12 CHAIRMAN STETKAR: Well, we'll talk --

13 MR. TJADER: Basically NEI 06-09 and 04-  
14 10 are methodologies for 4b and 5b, and they are  
15 referenced in the tech specs. 06-09 and 04-10 are  
16 referenced in tech specs and the requirements  
17 contained therein become in essence tech spec  
18 requirements.

19 Okay. The next slide? Going back to  
20 4b; I think we've discussed this a lot, but  
21 basically Initiative 4b is the real time quantified  
22 calculation of a completion time based upon the  
23 configuration of the plant and it is a quantified  
24 risk assessment that deals not only with tech spec  
25 equipment, but whatever equipment are reflected in

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1 the PRA.

2 Basically you can extend the existing  
3 framework of -- the tech specs exists as -- in other  
4 words, the existing standard-type framework exists.  
5 What you have then is overlaid on this, the I 4b  
6 format. In other words, you apply then -- you add  
7 required actions and completion time. The required  
8 is is that you have to perform -- if you determine  
9 that you may exceed your front stop -- we call the  
10 existing completion time the front stop. If you  
11 find that -- if the licensee finds that they may  
12 exceed that front stop, then within that front stop  
13 they have to do this quantified risk assessment to  
14 determine what an appropriate risk-informed  
15 completion time is, and then they can apply that.  
16 And they can either apply the risk-informed  
17 completion time or 30 days, whichever is less. In  
18 other words, there's a 30-day what we call backstop.  
19 They cannot take a risk-informed completion time  
20 beyond 30 days. Okay?

21 MEMBER BLEY: Bob?

22 MR. TJADER: Yes?

23 MEMBER BLEY: Can I interrupt you?

24 MR. TJADER: Sure.

25 MEMBER BLEY: I appreciated your first

1 slide a lot, because we've been trying to understand  
2 this whole history. One piece, it doesn't look like  
3 you're going to talk about, so I'll ask you to. I  
4 understand what 4b is. We've talked a lot about  
5 that here and otherwise. There must have been other  
6 4a's and c's. What were those and did they  
7 disappear or did they become something?

8 MR. TJADER: No, Initiative 4a is not  
9 the real time calculation of risk to determine a  
10 completion time. It is where either industry,  
11 through the Tech Spec Task Force, revises the  
12 standard tech spec, or a licensee can on their own  
13 want to revise one specific completion time and  
14 change it from 72 hours to 7 days.

15 MEMBER BLEY: From basis?

16 MR. TJADER: Yes, it isn't a risk-  
17 informed completion time, but it uses risk  
18 information to change a completion time from one  
19 value to another.

20 MEMBER BLEY: Okay.

21 CHAIRMAN STETKAR: It's how an applicant  
22 would come in, or a license would come in and say I  
23 want to change my diesel generator time --

24 MEMBER BLEY: Yes, okay.

25 CHAIRMAN STETKAR: -- from 72 hours to 7

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1 days, or 14 days, or whatever.

2 MEMBER BLEY: Thank you.

3 MR. TJADER: And likewise with 5a and  
4 5b. 5a was a licensee came in and requested a one-  
5 time change to a --

6 CHAIRMAN STETKAR: To a specific --

7 MR. TJADER: -- surveillance frequency.

8 CHAIRMAN STETKAR: Yes, and it's a  
9 specific surveillance frequency.

10 MR. TJADER: Now, we have internally and  
11 with industry of course discussed the interaction of  
12 these things, too. In other words, we have to  
13 ensure that we keep in mind the application of 4b in  
14 the 4a approvals and things like that, the  
15 potential. So, let me leave it at that.

16 MEMBER SKILLMAN: Bob, let me ask a  
17 question. I'm Dick Skillman. For Luminant, and  
18 let's presume that they have found an incident where  
19 they wish to exceed your front stop, they're  
20 confident they're not going to exceed their  
21 backstop --

22 MR. TJADER: They cannot, without coming  
23 in for a notice of enforcement discretion, go beyond  
24 30 days.

25 MEMBER SKILLMAN: Got it. But let me

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1 finish my question.

2 MR. TJADER: I'm sorry.

3 MEMBER SKILLMAN: Does the NRC staff see  
4 that process being entirely internal to Luminant, or  
5 does the NRC staff see that risk assessment  
6 communication of exceeding the front stop and basis  
7 to believe continued operability, or whatever that  
8 might be, being a negotiation between the region and  
9 the applicant?

10 MR. TJADER: When the NRC staff approves  
11 the application of I 4b, the implementation of NEI  
12 guidance of NEI requirements contained in NEI 06-09,  
13 when it approves them, we then allow the licensee to  
14 implement the extension of completion times, of  
15 front stop completion times following the  
16 requirements and guidance in NEI 06-09. NEI 06-09  
17 not only has the process in which that's done, it  
18 also has documentation requirements which must be  
19 retained for auditable purposes by the resident  
20 inspector.

21 This is something that -- so far I 4b  
22 has only been approved for South Texas 1 and 2 and  
23 there's -- probably they've entered it maybe a half  
24 a dozen times. And when it's done, the resident is  
25 aware of it and the reviews, the application of it

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1 -- and we're very familiar. In fact, South Texas,  
2 when they've done it for -- in advance and they knew  
3 about it in advance, they've let us know in advance  
4 that they intended to do it. So basically they can  
5 apply it, but we will review it.

6 MEMBER SKILLMAN: Thank you.

7 CHAIRMAN STETKAR: Well, you won't  
8 review it -- well, it's audited by the inspector.

9 MR. TJADER: Yes. Yes. Okay.

10 CHAIRMAN STETKAR: It's open to audit by  
11 the inspector.

12 MEMBER SHACK: There's no prior  
13 approval.

14 CHAIRMAN STETKAR: There's no prior  
15 approval and there's no review. There's only an  
16 audit.

17 MEMBER SHACK: And the discussion is yes  
18 they can do it on their own and the regional  
19 inspector has the option to either audit it or check  
20 to see if they've been doing it or whatever.

21 CHAIRMAN STETKAR: It's logically  
22 equivalent of a 50.59 analysis. You can go in and  
23 audit --

24 MR. SALTOS: Well, there are  
25 requirements to document certain things --

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1 CHAIRMAN STETKAR: Sure. As you have to  
2 document --

3 MR. SALTOS: -- that are spelled out  
4 what they have to document. And even the PRA  
5 analysis, from the PRA analysis.

6 MEMBER SKILLMAN: Thank you.

7 CHAIRMAN STETKAR: Go to the next slide?

8 MR. TJADER: Okay. This is what I've  
9 alluded to is that the NEI 06-09 has certain  
10 requirements. And these are a list, a summary of  
11 the requirements, the decision making process  
12 requirements.

13 CHAIRMAN STETKAR: Be careful your  
14 paper. You're on the microphone.

15 MR. TJADER: Oh, I'm sorry. There are  
16 requirements for PRA adequacy, capability, and there  
17 are requirements for the attributes of the  
18 configuration risk monitor spelled out in 06-09. Of  
19 course it's a quantitative risk assessment. There  
20 are quantified limits that you calculate to in ICDP  
21 and ILERF and things like that. And there are  
22 documentation requirements and there are staff  
23 training requirements in NEI 06-09.

24 CHAIRMAN STETKAR: I'm woefully  
25 uneducated about these documents. Has NEI 06-09

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1       been revised since the SER approved version of it?

2                   MR. TJADER:  No, Rev 0 of 06-09 has --

3                   CHAIRMAN STETKAR:  Is still the

4       operative?

5                   MR. TJADER:  Is still the operative one.

6       04-10 has been revised once.  It's Rev 1.  And that

7       was --

8                   CHAIRMAN STETKAR:  The SER was written

9       on Rev 1, right?

10                  MR. TJADER:  Yes.

11                  CHAIRMAN STETKAR:  Okay.

12                  MEMBER SHACK:  You could change that,

13       but you would have to come back for a review.

14                  MR. TJADER:  Yes, basically the staff

15       would have to review and approve any revision for

16       06-09 that would be applied to Initiative 4b.

17       Whatever is approved would be incorporated into the

18       license, into the tech specs.

19                  CHAIRMAN STETKAR:  My only question was,

20       you know, has the industry gone to here and now, you

21       know, what's in is -- you know, an SER on, you know,

22       some outdated sort of guidance?

23                  MR. TJADER:  In the tech specs the NEI

24       06-09 Revision 0, specific revision, is called out.

25                  CHAIRMAN STETKAR:  Hence my question.

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1 MR. TJADER: And they have to apply  
2 that. Even if Rev 1 is approved, that doesn't  
3 automatically change the specs. They'd have to come  
4 in for a license --

5 MEMBER BROWN: Okay. Within that  
6 context, their paper on what they did, they did call  
7 out -- they say these modifications to 06-09 are  
8 necessary as 06-09 was prepared for an operating  
9 license as opposed to a new -- an already operating  
10 plant as opposed to a new license. So --

11 MR. TJADER: Well, keep in mind --

12 MEMBER BROWN: Let me just make sure I  
13 get my -- I got to get this right in my own mind. I  
14 viewed those as they're taking 06-09 Rev 0 and  
15 saying in order to implement this, based on the  
16 words that are there now, for a new COL, that we  
17 need these modifications to the NEI document. And  
18 just listening to you right now, since you've  
19 already written an SER on Rev 0, I would imagine --  
20 or I would have interpreted that you would have had  
21 to approve or write an SER on their revised  
22 document.

23 CHAIRMAN STETKAR: They will and we'll  
24 see that when they do that.

25 MEMBER BROWN: Yes, but even though 06-

1 09 Rev 0 may not actually be changed by NEI, you  
2 still have to approve as with some of a safety  
3 evaluation for them to apply these modifications in  
4 their application. Is that --

5 MR. TJADER: Yes, those modifications  
6 will eventually be incorporated, but --

7 MEMBER BROWN: Not initially?

8 MR. TJADER: Exactly. That's right.

9 MEMBER BROWN: Okay. So you all would  
10 have to do another SE to cover this in terms of  
11 their --

12 MR. TJADER: Well, we envision that SE  
13 being in the SE for Luminant, you know, a COL.

14 MEMBER BROWN: Well, it will be when you  
15 do --

16 CHAIRMAN STETKAR: It's the SE for  
17 Chapter 16 for the --

18 MR. SALTOS: Chapter 19.

19 CHAIRMAN STETKAR: Sixteen or nineteen,  
20 one of those. Sorry. It'll be 19 for the COL.

21 MR. TJADER: Well, if it is in 19, 16  
22 will certainly reference it.

23 MEMBER BROWN: Well, this is in Part 4,  
24 Tech Specs, Tier 1, Section 5.

25 MR. TJADER: That is the proposed tech

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1 spec changes, exactly.

2 MEMBER BROWN: So that would have to be  
3 applied --

4 MR. TJADER: Right, the methodology  
5 would be under 19 probably.

6 MEMBER BROWN: Okay. All right. I'm  
7 just trying to separate Tier 1, Tier 2, 19, all the  
8 other -- the alphabet soup, or numerology that gets  
9 applied to this. Excuse me. Thank you.

10 MR. TJADER: Next slide. As I've  
11 already said, NEI 06-09, have the program  
12 requirements for applying risk-informed completion  
13 times. The methodology, 06-09 is in the  
14 administrative control section of the tech specs.  
15 Any revisions to NEI 06-09, any modifications that  
16 are not in Rev 0 but we need to incorporate into Rev  
17 0 will be specified one way or another in that  
18 Administrative Controls Program. It will be  
19 referenced there. And then of course any subsequent  
20 changes would require a license amendment to revise  
21 that methodology.

22 Next slide. Now, Initiative 5b is a  
23 Surveillance Frequency Control Program. Basically  
24 what that does is the surveillance requirements  
25 themselves remain in tech specs. The requirement

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1 for a surveillance frequency remains in tech specs.  
2 But where an applicant applies the Surveillance  
3 Frequency Control Program and where we approve it to  
4 be applied, it then references that program and the  
5 specific frequency will be relocated to a license  
6 control document where they will list those  
7 Surveillance Frequency Control Programs, or those  
8 surveillance frequencies.

9 The frequencies that are in that program  
10 are treated just as the frequencies are as they are  
11 in specs. In other words, they're not adjustable as  
12 the risk-informed completion time is or anything on  
13 the fly, okay, or in real time rather than on the  
14 fly. But they're not real time adjustable. Okay?  
15 So they are firm frequencies that are in a program  
16 that are listed outside of specs.

17 What the Surveillance Frequency Control  
18 Program does, 04-10, it allows an approved process  
19 to be applied, a process that takes both a  
20 qualitative assessment and a quantitative  
21 assessment, and applies it to the surveillance that  
22 the licensee desires to change and determines  
23 whether or not it is acceptable to change that  
24 surveillance frequency. There are a whole bunch of  
25 constraints and requirements on this that they need

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1 to follow and to adjust these frequencies. And then  
2 once they've adjusted it, there's also a feedback  
3 loop to determine that in fact the surveillances are  
4 not being failed, you know, frequently or something  
5 like.

6 The intent -- keep in mind that  
7 surveillances, when there are -- surveillances are  
8 checks for system or equipment operability, and the  
9 intent is that when a surveillance is performed it  
10 is passed. So part of the approval process and part  
11 of the -- in fact, there is a whole documentation  
12 sheet in the back of 04-10, a multi-page thing that  
13 the licensee has to fill out and he has to have an  
14 expert panel evaluate both the qualitative and  
15 quantitative assessments that are done to change  
16 these things. And part of the assessment is to  
17 ensure that these surveillances have passed an  
18 overwhelming amount of the time in which they've  
19 been performed in the past for them to even be  
20 considered to be adjusted. Yes?

21 CHAIRMAN STETKAR: Bob, you mentioned  
22 that feedback loop that you were just talking about.  
23 Is there any requirement to revisit, formally  
24 revisit those surveillance frequencies at any fixed  
25 interval, or under any forcing function? What I'm

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1 thinking about is those -- if they're risk-informed,  
2 they've used some version of something called a PRA  
3 at some time in the history of the universe to  
4 generate some quantitative basis for these  
5 surveillance frequencies. PRAs tend to evolve over  
6 time. Data, plant-specific data, generic data  
7 evolves over time. Scope and content of the PRA  
8 evolves over time. You might add a fire analysis to  
9 your PRA that might change your perspectives about  
10 certain surveillance frequencies for certain SSCs.

11 Does that process require a formal  
12 reevaluation of those, because they are fixed, as  
13 you mentioned. They're different than the 4b that's  
14 done on the fly, if you want to call it that way.

15 MR. TJADER: There is the requirement to  
16 monitor. The surveillances that have been changed,  
17 there's a requirement to monitor the --

18 CHAIRMAN STETKAR: Yes, but what I'm  
19 saying is every time I perform the surveillance on  
20 this pump; and I have a surveillance frequency of  
21 once every three years, you know, it's passed every  
22 time in the last 10 years, the three times that I  
23 performed that surveillance. Suppose the  
24 surveillance frequency, instead of three years,  
25 ought to be a year-and-a-quarter because of

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1 evolution of the PRA model, not because it didn't  
2 fail in the last three times I tested it. Certainly  
3 if it had failed twice out of the last three times  
4 I'd be curious about whether or not I should go that  
5 long between tests. That's my question about --

6 MR. TJADER: Well, I think --

7 CHAIRMAN STETKAR: -- revisiting the  
8 basis for that three-year, let's call it.

9 MR. TJADER: -- maybe Nick could address  
10 this better than I can. Here's my perspective on  
11 that: My perspective is that the PRA is going to  
12 assess the risk significance of that equipment or  
13 component. Okay? And the PRA incorporates failure  
14 rates and things like that in coming to their  
15 numerical decision point. There are certain  
16 numericals, IDCF, or whatever. Now, what --

17 CHAIRMAN STETKAR: But those change. My  
18 point is; and maybe Nick is better, but my point is  
19 those IDCFs and conditional core damage  
20 probabilities, CCDPs, can change over time as both  
21 the data input to the PRA and the PRA models  
22 themselves --

23 MR. TJADER: Right.

24 CHAIRMAN STETKAR: -- change over time.  
25 The PRA model is not a fixed beast. And if it is,

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1 that's a problem.

2 MR. TJADER: Well, what that will do is  
3 that PRA will then reflect the risk significance of  
4 the system. But if the surveillance still passes  
5 all the time, you know --

6 CHAIRMAN STETKAR: It passed every time  
7 I tested it. Three times in 10 years it passed.

8 MR. TJADER: Then --

9 CHAIRMAN STETKAR: But I've operated for  
10 a decade when according to the risk significance of  
11 this thing I should have been testing it more  
12 frequently because my measuring stick, my PRA has  
13 changed, my understanding of the risk significance  
14 has changed.

15 MR. TJADER: I think that if it were  
16 risk significance -- and I think the PRA would  
17 determine it would be more frequency if in fact it  
18 fails --

19 MEMBER SHACK: No. no. You're looking  
20 at the reliability. You're saying the reliability  
21 hasn't changed. John is saying the consequences of  
22 the failure have changed, therefore its risk  
23 importance has changed.

24 MR. TJADER: But keep in mind the  
25 surveillance is checked to ensure operability. And

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1 if it passes every time you do the surveillance,  
2 that means it's still operable.

3 CHAIRMAN STETKAR: Suppose it fails the  
4 next time, the next three years? Now I've gone 12  
5 years and I've suddenly decided that, oh my God,  
6 this thing has a much higher unavailability than I  
7 thought it would have had.

8 MR. TJADER: Well, if the surveillance  
9 had been increased and then there was a requirement  
10 to monitor the subsequent performance of that  
11 surveillance, and if it then fails, there has to be  
12 an evaluation as to whether or not that frequency  
13 needs to be reset. But keep in mind, surveillances  
14 that have not been changed in accordance with the  
15 Surveillance Frequency Control Program, that are not  
16 extended, we don't have any existing requirement to  
17 reassess the surveillance frequencies that are in  
18 tech specs right now.

19 CHAIRMAN STETKAR: That's true. But  
20 they're arbitrarily set by --

21 MEMBER BLEY: Let me narrow John's  
22 question a little bit and relate it to something  
23 else that's going on. We're going to be doing this  
24 work early on and then at some point in time the PRA  
25 is going to be finalized and the plants as-built and

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1 you're going to be starting it up, and there's a  
2 change. There's about to be -- or sometime in the  
3 future there will be a change to Part 52 with  
4 respect to ITAACs, even though you closed the ITAACs  
5 at some point, that just before startup they have to  
6 go back and confirm that nothing has changed such  
7 that the ITAAC closures are in fact still valid. Is  
8 there going to be something like that for this set  
9 of tech specs? Just before startup are we going to  
10 have to go back and see has anything changed such  
11 that the PRA analysis that was used to establish the  
12 tech specs is still giving us the same information?

13 MR. SALTOS: This is part of our tech  
14 spec methodology that I would be talking next  
15 actually.

16 MEMBER BLEY: Okay. We'll look for  
17 that. Given the answer to that one, John's question  
18 is in the future is there some kind of updating that  
19 will be done to --

20 CHAIRMAN STETKAR: In other words,  
21 you've said --

22 MEMBER BLEY: -- keep current?

23 CHAIRMAN STETKAR: -- that the last  
24 bullet here is over 40 percent of the operating  
25 plants have already adopted or requested, you know,

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1 5b, which -- so my question would apply, you know,  
2 to the current operating fleet, regardless of  
3 Dennis' concern about the period between COL  
4 issuance and fuel load, or whatever, and then on out  
5 into the future.

6 MR. HAMZEHEE: John, if I may say just  
7 conceptually when the staff came up in 1998 with  
8 risk-informed applications and use of PRAs, to the  
9 maximum extent practical, at that time, including  
10 the Maintenance Rules, whenever you update and  
11 upgrade your PRAs and the results change, you're  
12 supposed to go back and look at all your risk-  
13 informed applications and make sure that whatever  
14 you use from PRAs are still applicable. And if they  
15 change and your risk profile changes, then you need  
16 to go back and adjust all those risk-informed  
17 applications and programs accordingly.

18 CHAIRMAN STETKAR: And that's a formal  
19 requirement.

20 MR. TJADER: HAMZEHEE: It was -- like  
21 for maintenance, for instance.

22 CHAIRMAN STETKAR: Yes. Okay.

23 MR. HAMZEHEE: When they come out with  
24 risk significance systems, every few years they have  
25 to go back and make sure that list is still the

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1 right list.

2 CHAIRMAN STETKAR: Okay.

3 MR. HAMZEHEE: So, now how we do it for  
4 new reactors and how we're going to formulate this,  
5 I think --

6 CHAIRMAN STETKAR: Well, but I mean, the  
7 process going forward for new reactors conceptually  
8 shouldn't be any different than the process, you  
9 know, for currently operating --

10 MR. HAMZEHEE: Because that's overall.  
11 I'm talking about overall risk informed --  
12 specifically for risk-informed tech specs.

13 CHAIRMAN STETKAR: Okay. Thanks. That  
14 helps a lot.

15 MEMBER REMPE: How often do they have to  
16 upgrade their PRAs or change them, if there's any  
17 requirement?

18 MR. HAMZEHEE: There are requirements  
19 already. Nick, would you like to --

20 MR. SALTOS: Yes, every time they have  
21 any major change, of course they have to incorporate  
22 right away, but periodical I think every two years.

23 CHAIRMAN STETKAR: It's I think three  
24 years for the new reactors.

25 MR. SALTOS: Three years.

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1 CHAIRMAN STETKAR: There's no formal  
2 requirement for frequency, if I'm not --

3 MR. HAMZEHEE: I think the reason is --

4 CHAIRMAN STETKAR: -- wrong.

5 MR. HAMZEHEE: -- for new reactors, the  
6 PRA is not a regulatory requirement.

7 CHAIRMAN STETKAR: Right. Right.

8 MR. HAMZEHEE: Only when you come out  
9 with the risk-informed application then the staff  
10 has a right to go back and question the quality  
11 adequacy of the PRA. On the Part 52, PRA is a  
12 requirement. So we have also identified the  
13 frequency at which we need to go back and update and  
14 upgrade your models and --

15 MEMBER BLEY: Even with current ones.  
16 So if you have a risk-informed application, Reg  
17 Guide 1.200 --

18 MR. HAMZEHEE: Correct.

19 MEMBER BLEY: -- enforces the standard  
20 which does have requirements for --

21 MR. HAMZEHEE: You're absolutely right.

22 MEMBER BLEY: -- updating the PRA on it.

23 MR. HAMZEHEE: That's part of the  
24 maintenance program for the risk-informed  
25 applications. You're right.

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1 CHAIRMAN STETKAR: So even if somebody's  
2 going -- for a current operating plant if somebody  
3 adopts 5b, that's a risk-informed application.  
4 You'd fall under 1.200 and --

5 MR. HAMZEHEE: Yes.

6 CHAIRMAN STETKAR: Okay. good. Thank  
7 you.

8 MEMBER BROWN: You're about to leave --  
9 you're almost finished with this, so I wanted to try  
10 to make a fundamental -- I'm just trying to wrap my  
11 hands around 4b and 5b from a bigger picture. The  
12 way I came away with all this stuff on 4b, on the  
13 risk-informed completion times, was that something  
14 happened. The train was out. Didn't lose your  
15 functionality yet, depending on the plant design.  
16 There's a set of completion times in that. And  
17 within that time you calculate your risk-informed  
18 extension, whatever that is, up to your backstop,  
19 but that's a one-time item. In other words, once  
20 it's back in service and you're back to full four  
21 trains; I'm just using that as an example since that  
22 was in the paper, you've reset back to where you  
23 were before. And now you go along and you operate  
24 for another year. The same thing happens. You have  
25 to do another risk-informed -- in other words, it's

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1 a one-time. You execute, but it doesn't stay in  
2 place. You have to evaluate each one on a case  
3 basis as it occurs. Is that a fair --

4 MR. TJADER: Yes.

5 MEMBER BROWN: Now, on the surveillance  
6 part though is an assessment using whatever the  
7 analysis or risk-informed basis you use of you want  
8 to increase the surveillance time, that is a  
9 permanent change. You've allowed them to make a  
10 permanent change unless you've had a change in  
11 configuration of a system and/or you fail later.  
12 You fail. You know, you've gone --

13 MR. TJADER: Unless the monitor  
14 determines that in fact we shouldn't have increased  
15 the surveillance frequency and we need to reset it.

16 MEMBER BROWN: Well, if it doesn't fail,  
17 when would you ever figure out -- instead of doing  
18 it every year and now you're doing it every three  
19 years, why would you ever change it back to a year  
20 if it didn't fail in one of the three -- what's the  
21 other criteria to reset it back to one again? If  
22 you had a system change, I could understand that.

23 MR. TJADER: Well, if there's a redesign  
24 change --

25 MEMBER BROWN: That's what I meant,

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1 right.

2 MR. TJADER: -- then I think probably as  
3 part of the plant change --

4 MEMBER BROWN: Okay. I understand.

5 MR. TJADER: -- then I think we would  
6 evaluate --

7 MEMBER BROWN: Oh, yes.

8 MR. TJADER: -- that every part that you  
9 evaluate, yes.

10 MEMBER BROWN: Yes, I understand that.  
11 I'm just saying the system has not changed. You  
12 went from one year to -- you know, we've been doing  
13 this for 10 years. It's passed every year for 10  
14 years. You change it to every three years for  
15 whatever reason. Now you go along and 16 years,  
16 now, ooh, it failed. You have to do a reassessment.  
17 That's what I got. Now, you may decide to stay with  
18 the three years, depending on what the failure was,  
19 but you do have to do a reassessment at that time to  
20 determine whether you got to reset it backwards. Is  
21 that not -- okay. So I've got a picture of what --

22 MR. TJADER: There has to be an  
23 assessment. There isn't anything that says you  
24 failed, you know, the first time after you increased  
25 the frequency, therefore you have to reset it.

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1 There's no hard statement.

2 MEMBER BROWN: Understood.

3 MR. TJADER: But I mean, if it fails  
4 twice, I think we the staff would take a pretty dim  
5 view of that extension and would encourage them to  
6 reset it, but there's nothing that --

7 MEMBER BROWN: You really wouldn't know  
8 it. The region would --

9 MR. TJADER: Yes.

10 MEMBER BROWN: Your regional inspectors  
11 would know that --

12 MR. TJADER: That's right.

13 MEMBER BROWN: -- presumably.

14 MR. TJADER: Yes. If we audited it or  
15 reviewed it and we found that, then --

16 MEMBER BROWN: All right. I just wanted  
17 to kind of calibrate my --

18 MR. TJADER: Limerick was the pilot on  
19 this and I think that they have got the program.  
20 And they have only applied this on maybe at most a  
21 dozen systems so far. So it's not like we've given  
22 them the power to do this and now they're going to  
23 go crazy. Okay? They're doing it responsibly as  
24 they should. And also, keep in mind, as I said, the  
25 intent of surveillances is that they pass when they

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1 are performed. If you find that you don't -- if you  
2 pass a surveillance, if it's not met, actually  
3 during performance or otherwise -- if you know a  
4 surveillance wouldn't be met if it was performed in  
5 the middle, then you have to take the required  
6 action. If surveillance fails, you have to enter a  
7 condition in the tech spec. You have to enter --  
8 what we say, enter the LCO. You then have a  
9 condition of inoperability. If you fail, there a  
10 few surveillances where there aren't conditions that  
11 apply to them. And in those few cases, then you're  
12 entering 3.0.3. Okay?

13 MEMBER BROWN: Okay.

14 MR. TJADER: Yes, so that type of thing.  
15 So the licensee does not want to fail surveillances  
16 because that means they are entering tech spec  
17 required actions they do not want to enter. They  
18 want to pass surveillances. So I don't think  
19 they're going to willy-nilly extend all of these  
20 surveillances, because then they're going to have a  
21 whole bunch more failures and they're going to have  
22 a bunch more tech spec entries and they're not going  
23 to like that, I don't think.

24 MEMBER BROWN: Thank you very much.

25 MR. TJADER: Sure. Next slide, please.

1 Now what this is just sort schematically is an  
2 attempt to show basically 4b and 5b. And the new  
3 issues that are raised as a result of the new  
4 reactors issues. In other words, the fact that the  
5 PRA has to be capable for applying these. And that  
6 includes the performance of peer review. Nick will  
7 get into these things.

8           There are procedures at the time of  
9 issuance that may not be complete. Training may not  
10 be complete at the time of issuance. And plus  
11 there's the risk metrics which I indicated we are in  
12 a parallel train path evaluating and hopefully get  
13 to the station at the same time that Comanche Peak  
14 wants to issue their COL.

15           So the idea for this is just to show  
16 some of the issues that are raised with the  
17 application of 4b and 5b and the effects that are  
18 associated primarily with PRAs.

19           The next slide. And this basically just  
20 summarizes I think what the whole thing that I've  
21 been driving to. In other words, that 4b and 5b  
22 require capable PRAs. They will not be complete  
23 until after COL issuance, sometime prior to fuel  
24 load. Plant-specific PRAs are required for new  
25 reactors. And plant-specific PRA and infrastructure

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1 are required. They won't be ready at the time of  
2 COL issuance. Therefore, in accordance with ISG-08  
3 a methodology is determined to be the appropriate  
4 solution for applying these risk initiatives with  
5 tech specs and to finalize the tech specs at COL  
6 issuance through a methodology which Nick will  
7 discuss.

8 And as I said, the backup slides deal  
9 with the initiatives in a little bit more detail.

10 MEMBER BLEY: I just want to whine  
11 actually, Bob.

12 MR. TJADER: Okay.

13 MEMBER BLEY: You show this slide about  
14 what do you need in the PRA. I think you ought to  
15 add Reg Guide 1.200 on your list.

16 MR. TJADER: Okay.

17 MEMBER BLEY: What is a PRA?

18 MR. TJADER: I'll add that.

19 CHAIRMAN STETKAR: It's a big deal.

20 Thank you.

21 Any other questions for Bob?

22 (No response.)

23 CHAIRMAN STETKAR: hearing none, I'm  
24 sure he's relieved. And thanks a lot. You know, as  
25 much as we were babbling at you, we really

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1 appreciate the overview, because as I mentioned  
2 earlier, it's the first time I've really seen in the  
3 four years I've been on the Committee all of the  
4 initiatives in one place in sort of an idea of how  
5 they do or may fit together eventually. And I guess  
6 after lunch we'll hear a little bit more about 4b  
7 and 5b and in particular the Comanche Peak approach.

8 And with that, we will recess for lunch  
9 and come back at 1:00.

10 (Whereupon, the hearing was recessed at  
11 11:54 a.m. to reconvene at 1:00 p.m. this same day.)

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

2 1:00 p.m.

3 CHAIRMAN STETKAR: Okay. We are back in  
4 session and we're going to hear from the staff on  
5 more Comanche Peak-specific stuff. But I've been  
6 told that perhaps Lynn Mrowca would like to start  
7 off the discussion. Is that --

8 MS. MROWCA: At a higher level. My name  
9 is Lynn Mrowca and I'm the PRA and Severe Accidents  
10 Branch Chief in the Office of New Reactors. And I  
11 apologize for being later. I had another commitment  
12 that kept me until 11:00. So I wanted to be here to  
13 give some opening remarks when we started to kind of  
14 put this meeting in context.

15 And this idea, you think, is pretty  
16 simple that we have an applicant that comes in;  
17 Mitsubishi and then Luminant that comes in and asks  
18 for risk-managed tech specs, 4b, 5b, on something  
19 that we've approved for an operating plant and that  
20 it would be a very easy thing to just say let's  
21 supply that to new reactors and go. But it has been  
22 a long road and we've had to make some decisions.  
23 We've had some struggles along the way.

24 And what we wanted to do today was to  
25 share those thing with you and the points that we

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1 had struggled with and where we are today, and to do  
2 it in this information meeting prior to meeting for  
3 the actual document review, which is probably  
4 scheduled for mid-next year, something like that.  
5 And that if you had any questions or concerns about  
6 what we're doing and the approach that we're taking,  
7 the laborious trail we got to get here, that we'd  
8 rather hear from you now than later when we come  
9 back for Chapter 19 review.

10 So what we on the higher level were  
11 trying to do is instead of -- typically I think the  
12 applicant goes first and provides you with I guess a  
13 summary of their application. Then the staff comes  
14 in with the review. But this being an information  
15 meeting, we thought we'd first start with Bob Tjader  
16 from the Tech Spec Branch talking about what these  
17 tech specs really are, and then from a tech spec  
18 perspective what was one of the bumps in the road?  
19 And he mentioned it already, and that was ISG-08,  
20 that tech specs must be complete at the time of COL  
21 issuance. And in the schematic that he showed it  
22 pointed out some of the differences that we found  
23 between, you know, applying for this as an operating  
24 plant and applying for this as a COL applicant, for  
25 instance.

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1           And so we're going to go into that in  
2 more detail with Nick's talk about what some of  
3 those specific issues are and how we got to the  
4 point where we think this methodology and the  
5 deltas, the changes that we're showing in the NEI  
6 documents is a way that we can move forward and say  
7 that this is okay. We're still in the midst of our  
8 review. We still have some things to work out, but  
9 we think the concept of this methodology is the best  
10 way to go.

11           After we're finished with our  
12 presentation, then Luminant will come up and talk  
13 about their specific -- how this is actually written  
14 into the tech specs, the changes that they're  
15 actually making to the methodology document so you  
16 have a better idea of, you know, once we start here  
17 with our background of what tech specs are and the  
18 issues that we found and some of the resolution  
19 you'll see in the methodology document that Luminant  
20 will present. So I just wanted to give you context  
21 for why we're here and the issues that we've had on  
22 this path and to answer any questions, and hopefully  
23 hear from you any concerns that we can try and take  
24 care of now and address before we come back for tech  
25 review.

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1 MR. MONARQUE: Okay. And with that,  
2 we'll turn it over to Nick Saltos for his  
3 presentation.

4 MR. SALTOS: I'm Nick Saltos from the  
5 PRA Branch in the Office of New Reactors and I'm  
6 going to be presenting mostly the risk specs of this  
7 exercise.

8 The following will be discussed: PRA  
9 regulations for new reactors, the Regulatory Guide  
10 related to risk-informed applications. Then I will  
11 talk a little bit on the application-specific  
12 guidance. And then I'll present the challenges for  
13 new reactors in using existing guidance. And  
14 finally, I will talk about -- I will address how  
15 these challenges will be resolved and talk about the  
16 status and the path forward.

17 MEMBER BLEY: Nick, are you going to  
18 talk about the Comanche Peak methodology, or are we  
19 going to wait to hear that from them?

20 MR. SALTOS: I'm going to talk about the  
21 methodology in general and the one that we're using  
22 for the Comanche Peak.

23 MEMBER BLEY: Okay.

24 MR. SALTOS: Okay. The PRA regulations  
25 are the 10 Code of Federal Regulations 52.79(a)(46)

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1 which basically requires that COL applications has  
2 to contain a PRA, description of the PRA, plus  
3 specific PRA results. 10 Code of Federal  
4 Regulations 50-71(h) (1) requires that the COL holder  
5 shall develop a level 1 and a level 2 PRA that  
6 covers initiating events and modes for which NRC-  
7 endorsed standards exist one year prior to the  
8 scheduled date for the initial fuel load. And the  
9 10 Code of Federal Regulations 50.71(h) (2) which  
10 requires that the COL holder must maintain an  
11 updated PRA.

12 CHAIRMAN STETKAR: Before you guys --  
13 and I hate to do this to you, but it is an  
14 informational meeting. The first bullet up there,  
15 the COL application must contain a description of  
16 the plant-specific PRA and its results. What is a  
17 plant-specific PRA? And let me give you an example.

18 Suppose that the design certification  
19 PRA includes a subset of the equipment in systems.  
20 Doesn't include all of the equipment. Even though I  
21 can look at a P&ID for the design as it's available  
22 in the design certification document, if I look at  
23 all the pumps and pipes and valves in there, not all  
24 of the pumps and pipes and valves are included in  
25 the PRA model because somebody decided it was okay

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1 to do a simplified PRA model. Because for the  
2 design certification process all I need to do is to  
3 demonstrate adequate assurance that the level of  
4 safety from my new plant design is better than the  
5 existing plants and that I have some risk-  
6 information that I could use qualitatively to do  
7 things like populate reliability assurance program  
8 lists or RTNSS lists for the passive plant so that I  
9 have a PRA that's a simplified approximation to even  
10 the information that's in the design certification.  
11 Is that a plant-specific PRA for the COL applicant?

12 MR. SALTOS: Well, this is the language  
13 that is used in the Code of Federal Regulations  
14 52.79 --

15 CHAIRMAN STETKAR: And attorneys not  
16 risk assessors, so I'm asking you as a risk  
17 assessment professional.

18 MR. SALTOS: Yes. No, this is not my  
19 definition. Plant-specific -- you cannot have a  
20 plant-specific PRA at the COL application stage, in  
21 my opinion, because you don't -- it's simple. You  
22 haven't built the plant yet.

23 CHAIRMAN STETKAR: Okay.

24 MR. SALTOS: But this is the language  
25 that's taken out of Code of Federal Regulations

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1 52 --

2 CHAIRMAN STETKAR: Well, if somebody  
3 comes in, let's say; and let me twist it around, and  
4 says, well, I used this design certification PRA  
5 that's named Wow and we named that design  
6 certification PRA my, quote, plant-specific PRA,  
7 unquote, and submit it at my COL application. Does  
8 that mean anything in regulatory space? In other  
9 words, when they go to load fuel, can they say,  
10 well, I have a plant-specific PRA that has been  
11 accepted by the NRC staff in the COL licensing  
12 process and therefore I don't need to make any  
13 changes to it because it is my plant-specific PRA?

14 MR. SALTOS: Yes, but --

15 CHAIRMAN STETKAR: You've had a chance  
16 to look at it, you know, at the COL application  
17 stage and you didn't identify any deficiencies that  
18 were not plant-specific. It is --

19 MR. SALTOS: We are aware of that.  
20 We're well aware of that. Our methodology is going  
21 to include the process for how to go there to a  
22 plant-specific PRA.

23 CHAIRMAN STETKAR: Okay. Good.

24 MR. SALTOS: They don't have a plant-  
25 specific PRA now.

1 CHAIRMAN STETKAR: And the methodology  
2 that you're developing --

3 MR. SALTOS: Yes.

4 CHAIRMAN STETKAR: -- would address that  
5 gap?

6 MR. SALTOS: Yes, to a higher level.  
7 You know, I will talk about how it's going to --

8 CHAIRMAN STETKAR: Well, high level is  
9 what I want to get to, because --

10 MEMBER BLEY: I'd like to offer one  
11 thing more: If you look at his second bullet on  
12 50.71(h)(1), that requires that the PRA at fuel load  
13 follow NRC-endorsed standards. And I think that  
14 means the PRA you were talking about isn't the same  
15 thing as this one.

16 CHAIRMAN STETKAR: Right.

17 MEMBER BLEY: Okay.

18 MS. MROWCA: I'll add something to that.  
19 Plant-specific PRA, you could say maybe the  
20 Mitsubishi design, the US-APWR is the plant and so  
21 plant-specific could be used as -- you know, that  
22 could be used as the COL PRA. I like to kind of  
23 talk about it as a site-specific --

24 CHAIRMAN STETKAR: You mean the fact  
25 that they didn't use the BWR marked 1 PRA?

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1 MS. MROWCA: Well, plant versus site-  
2 specific PRA. Sometimes people think that this  
3 might mean --

4 CHAIRMAN STETKAR: I'm sorry, Lynn.  
5 You're starting to sound more like an attorney  
6 than --

7 MS. MROWCA: Oh.

8 CHAIRMAN STETKAR: -- an engineer.

9 MS. MROWCA: Well, plant-specific, the  
10 difference between the DC PRA and this one for the  
11 COL application is that they address external  
12 hazards. And sometimes they address it in different  
13 ways for different design centers. So for instance,  
14 if -- like, you know, high winds, if that wasn't  
15 addressed in the DC, then -- or shown that they had  
16 a bounded value that now the COL is within, then  
17 they need to do that as part of the COL.

18 CHAIRMAN STETKAR: I understand that and  
19 they in principle will add -- for example, if they  
20 -- and I don't know the details of this particular  
21 applicant. I'm asking this in more of a generic  
22 sense.

23 MS. MROWCA: Yes.

24 CHAIRMAN STETKAR: That if they  
25 reconfigured their service water system or

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1 reconfigured their off-site power supply system or  
2 something like that for a site-specific, they need  
3 to make sure that those differences are captured in  
4 the PRA, or at least addressed somehow at the COL  
5 stage. I'm asking more of a fundamental question,  
6 that the DCD PRA, for things that are completely  
7 unchanged at the COL application, you know, safety  
8 systems and things like that, is yet incomplete  
9 because it has not included all of the equipment,  
10 all of the failure modes, you know, things like  
11 that.

12 MS. MROWCA: Yes, and the level of  
13 detail at fuel load will be different. For  
14 instance, we have a standard that we've endorsed on  
15 seismic PRA, so we expect to have a seismic PRA and  
16 not seismic -- well, seismic margins, comparisons,  
17 but also a seismic PRA.

18 CHAIRMAN STETKAR: But the real key is  
19 that transition from the first bullet to the second.  
20 Regardless of whether you call a plant-specific PRA  
21 a Ralph or a Mary, or a whatever it is, it's just  
22 simply that has -- something that has a name at this  
23 stage of this process. Okay.

24 MR. SALTOS: Okay. Next slide includes  
25 regulatory guidance that we use in general for this

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1 kind of risk-informed applications that we're  
2 talking about here. And these are basically risk-  
3 informed technical specifications programs which are  
4 based on staff-approved methodology. And these  
5 methods, the licensee is going to be able to use and  
6 make changes in the completion times or in the  
7 surveillance frequencies. This guidance is based  
8 primarily on the Reg Guide 1.174 on risk-informed  
9 decisions on plant-specific changes to the licensing  
10 basis and Regulatory Guide 1.177 on risk-informed  
11 changes to the technical specifications.

12           Guidance also is included that Bob  
13 Tjader talked about before, the Interim Staff  
14 Guidance-08 that would require that at the time of  
15 the COL the tech specs have to be complete. And Bob  
16 talked about three ways of completing those. One is  
17 the methodology. We're using this approach, this  
18 option, the methodology. We're having the  
19 application-specific guidance for these two  
20 initiatives, Initiatives 4b and 5b, which are  
21 documents and provide criteria and requirements of  
22 how to implement this tech spec programs.

23           CHAIRMAN STETKAR: Nick; and I have to  
24 again the lack of familiarity, those documents  
25 provide guidance about how to implement the

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1 initiatives given an acceptable PRA, right? Do they  
2 provide any --

3 MR. SALTOS: They provide guidance on  
4 the PRA also. What is an acceptable PRA?

5 CHAIRMAN STETKAR: Okay.

6 MR. SALTOS: At the high level.

7 CHAIRMAN STETKAR: But I mean, they  
8 refer back to 1.200?

9 MR. SALTOS: Oh, yes. Yes.

10 CHAIRMAN STETKAR: Okay.

11 MEMBER BROWN: Is that really 06-10 or  
12 is that 04-10?

13 MEMBER SHACK: Typo.

14 MEMBER BROWN: I just wanted to make  
15 sure there wasn't another document thrown in here;  
16 that's all.

17 CHAIRMAN STETKAR: There is and it's  
18 6,000 pages long and we expect a report on it next  
19 week.

20 MEMBER BROWN: Don't hold your breath.

21 MR. SALTOS: And then of course is  
22 Regulatory Guide 1.200 that we're using to -- that  
23 NRC is endorsing all this SME standards, all the PRA  
24 standards that provide guidance on how to develop an  
25 acceptable PRA for different risk-informed

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1 applications.

2           Okay. Now the application-specific  
3 guidance that we have, that exists for operating  
4 reactors is mostly applicable also to new reactors,  
5 but several changes to this guidance have been  
6 proposed to address the following issues: There is  
7 several issues that stem from the difference in  
8 timing of the review of the approval process with  
9 respect to new reactors. For operating reactors is  
10 after you have the PRA, after you have the  
11 infrastructure. And this is before. This is -- you  
12 don't have the plant-specific PRA that we talked  
13 before. You don't have all the infrastructure is  
14 needed to -- in order to be able to implement this  
15 risk-informed tech spec programs.

16           And there are some other issues that  
17 stem from some -- for example, initial lack of  
18 plant-specific operational experience. In your  
19 plant you don't have plant-specific operational  
20 experience, although you have the industry  
21 experience. There is limited or no operational  
22 experience with novel features. You have -- in this  
23 design you have of course digital I&C, you have gas  
24 turbine steam generators for AC power, on-site AC  
25 power. You have passive accumulators as part of the

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1 high-pressure injection.

2           Then there are some regulations also  
3 that impact the existing guidance. These  
4 regulations; for example, like the Code of Federal  
5 Regulations 50.71(h)(1), require that a PRA model  
6 should be developed once you have endorsed standards  
7 for additional initiating events and modes of  
8 operation that you have for operating reactors right  
9 now. And of course, there is the potential erosion  
10 of enhanced safety of new reactors, which is the  
11 risk metrics issue that is addressed parallel with  
12 this.

13           Now, what are the challenges for new  
14 reactors? Basically there are two main issues here.  
15 One is to have complete tech specs at the COL stage,  
16 and the other is to determine whether the current  
17 guidance, the current application-specific guidance  
18 ensure that there is not going to be degradation of  
19 enhanced safety that the Commission expects for  
20 these new reactors.

21           Now, with respect to having complete  
22 tech specs at the -- that are required per ISG-08  
23 for COL applicants, existing NRC-endorsed industry  
24 guidance assumes that they're available at Category  
25 II, Capability Category II PRA. Also, application-

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1 specific infrastructure. For example, configuration  
2 risk management tool and procedures and training and  
3 integrated risk part of -- I don't remember exactly  
4 the terminology that is used.

5 MEMBER SHACK: (Off microphone.)

6 MR. SALTOS: I'm sorry?

7 MEMBER SHACK: The decision making.

8 MR. SALTOS: Decision making for 5b.

9 Actually it's a panel of experts that has to be  
10 established and take all the qualitative and  
11 quantitative and work them through and consider  
12 monitoring. So these are things that have --

13 MEMBER SHACK: Does Comanche Peak have a  
14 5b Program for the existing plans?

15 MR. SALTOS: No, not that I'm aware of.  
16 They can -- so all this infrastructure that is not  
17 available at this point, but it has to be available  
18 when -- before this tech spec programs are going to  
19 be implemented I assume when the plant goes into  
20 operation. So for tech spec completeness at the COL  
21 stage an NRC-approved tech spec methodology is  
22 needed that specifies how the criteria that are  
23 addressed in the existing guidance will be met  
24 before the risk-informed tech spec programs are  
25 implemented.

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1                   With respect to the other issues that  
2 we're talking about here with the risk-informed  
3 regulatory guidance, the risk metrics for new  
4 reactors, there is higher safety performance  
5 expectations for new reactors and we need to  
6 determine whether current guidance can maintain this  
7 enhanced safety. And this is not the subject of  
8 this presentation. We're just talking about --  
9 we're going to continue discussing the issues we  
10 have with respect to have complete tech specs at the  
11 COL issuance.

12                   MEMBER BROWN: You're talking about the  
13 risk metric guidance in general here, not  
14 necessarily as it applies to completion times and/or  
15 surveillance frequencies. I was trying to decouple  
16 this.

17                   MR. SALTOS: We're talking in general,  
18 but is a crucial input to this --

19                   MEMBER BROWN: Well, no, I understand  
20 that.

21                   MR. SALTOS: Yes.

22                   MEMBER BROWN: It's just that completion  
23 times --

24                   MR. SALTOS: Yes.

25                   MEMBER BROWN: Inherent safety

1 expectations don't necessarily -- from a plant  
2 design standpoint, these are somewhat administrative  
3 things in terms of how you operate, how you check  
4 stuff or how long before you -- how long you allow  
5 somebody to go on. There was a differentiation  
6 relative to this enhanced -- you didn't want to  
7 degrade your enhanced capability, theoretically the  
8 new reactors, and I didn't -- just maybe I wasn't  
9 thinking broadly enough that this really degraded  
10 that fundamentally enhanced design feature.

11 MR. SALTOS: Well, if you extend the  
12 completion intervals more and more and you extend  
13 the surveillance testing intervals more and more,  
14 you -- eventually you will degrade --

15 MEMBER BROWN: Oh, yes, on the limit.

16 MR. SALTOS: And the point is that this  
17 regulatory guidance, the risk metrics, they put some  
18 thresholds out there so they don't go -- the risk  
19 that is accumulated --

20 MEMBER BROWN: My biggest concern is the  
21 risk metrics is not here. But was on actual -- what  
22 you expect out of a -- systems we're putting in  
23 where you're -- or the analyses that you use where  
24 you --

25 MEMBER SHACK: This is the man that dies

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1 over 30 days for the DAS.

2 MEMBER BROWN: I'm still dying over 30  
3 days. Well, that because they had no DAS left after  
4 -- you know, for 30 days and that wasn't a matter of  
5 having one. It was nothing left for 30 days. So  
6 that was a functionality issue, not a 30-day put-a-  
7 stake-in-my-heart issue. I'll take the stake out  
8 every now and then. But they're different. That's  
9 all I'm -- we can argue some more later, I'm sure.

10 Thank you. Just trying to calibrate  
11 myself; that's all.

12 MS. MROWCA: Yes, and these two things,  
13 like Nick said, they're running in parallel. The  
14 second one was already presented in front of the  
15 ACRS Subcommittee on PRA and reliability.

16 MEMBER BLEY: Oh, yes.

17 MS. MROWCA: I don't remember how long  
18 ago. Not that long ago.

19 MEMBER BLEY: Not very long. You know,  
20 it seems like as soon as I see -- that was said with  
21 tongue in cheek, in jest, sort of.

22 CHAIRMAN STETKAR: Okay. Next slide?

23 MR. SALTOS: Okay. Now the changes to  
24 existing guidance to ensure complete tech specs at  
25 the COL issuance involve additional guidance with

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1 respect to the following items: PRA technical  
2 adequacy; application-specific infrastructure; PRA  
3 scope and standard; and uncertainties associated  
4 with novel features and lack of plant-specific  
5 operational experience.

6 MEMBER SKILLMAN: Nick, I'm Dick  
7 Skillman. Like to ask a question, please.

8 Is this information Tier 1, Tier 2 star  
9 or Tier 2? Where does this fit?

10 MR. SALTOS: My understanding is Tier 2,  
11 but it's tech specs basically. Maybe Bob --

12 MR. TJADER: Yes, tech specs are Tier 2.

13 MEMBER SKILLMAN: Thank you. That's all  
14 I have. Thanks.

15 MEMBER BROWN: Yes, but the place where  
16 they're incorporating stuff is in Tier 1, Part 4.  
17 That's where the Luminant stuff -- at least that's  
18 where I extracted this 5.5. program stuff.

19 MR. WOODLAN: That's in COLA Part 4.

20 MEMBER BROWN: Yes, COLA Part 4.

21 MR. WOODLAN: Right. Tier 1 is DCD.

22 MEMBER BROWN: Oh, okay. All right. I  
23 stand corrected.

24 MEMBER SKILLMAN: I asked the question  
25 because I was trying to test in my own mind if the

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1 applicant goes down this path; this is the first  
2 applicant to have this process in place, if they  
3 make a change, do they have to come back to the  
4 staff, or can they make that change on their own as  
5 they do in Tier 2 with a 50.59-like process? It  
6 sounds like it's really Tier 2, but there might be  
7 some strings attached to it.

8 MR. TJADER: Well, the tech specs are a  
9 part of the license.

10 MEMBER SKILLMAN: Understand that.

11 MR. TJADER: So if they make a change,  
12 any change at all to the tech specs, it is a license  
13 amendment. They have to come back to us. Now, tech  
14 specs obviously cover systems that are -- you know,  
15 and programs that might be Tier 1, but the specs  
16 themselves are considered Tier 2.

17 MEMBER SKILLMAN: Thank you. Thanks for  
18 the clarification.

19 MR. SALTOS: Okay. PRA technical  
20 adequacy. Risk-informed tech spec programs require  
21 PRA models which realistically reflect, to the  
22 extent practicable, the as-built, as-operated plant.  
23 And we know that the PRA capability, the required  
24 PRA capability required for a certain risk-informed  
25 application depends on the application itself. And

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1 these capabilities are identified in the  
2 application-specific guidance, like the guidance  
3 that we talked before for the two initiatives, 4b  
4 and 5b.

5 The PRA is peer reviewed per NRC-  
6 endorsed guidance. So this PRA is not considered  
7 peer reviewed yet, although it is reviewed -- the  
8 design certification and the COL application PRA is  
9 reviewed by the staff, it is reviewed by the ACRS,  
10 but is not considered peer reviewed. And the peer  
11 review is going to happen sometimes before -- at  
12 least a year before fuel is put into the reactor and  
13 it is going to be an integral peer review. Is not  
14 going to be just part of it, parts done later or  
15 anything like that. It's going to be everything  
16 from scratch basically.

17 CHAIRMAN STETKAR: But the staff will  
18 not separately review that PRA, will they, perform a  
19 review of the PRA?

20 MR. SALTOS: My understanding is that  
21 they are not going to put fuel in and perform a  
22 review per se, but they can audit the PRA. As part  
23 of this initiative the PRA is available anytime the  
24 staff they feel like going to the site.

25 CHAIRMAN STETKAR: No, I understand

1 that. Yes.

2 MR. SALTOS: And the other thing is  
3 typically operating reactors requesting NRC-approved  
4 risk-informed programs such as the risk-management  
5 technical specifications have plant-specific PRA  
6 models with a required capability available. But  
7 that's not true for new reactors. New reactors do  
8 not have at the COL stage detailed plant-specific  
9 PRA models needed to support risk-informed tech spec  
10 programs.

11 As-built, as-operated information is not  
12 available at this stage. Design certification and  
13 COL PRAs may not be detailed enough to support the  
14 risk-informed programs such as this that we're  
15 talking about here. Risk-informed tech spec  
16 programs have specific PRA capability requirements.  
17 For example, in order to be able to implement risk-  
18 managed tech specs, the PRA has to be able, capable  
19 of assessing configuration-specific impacts. In  
20 other words, the systems have to be modeled. Some  
21 assumptions about relative significance -- this is  
22 not significant with respect to another one,  
23 therefore, I'm not modeling it. That can screw up  
24 the --

25 CHAIRMAN STETKAR: Things like assuming

1 pump A is always running and pump B is in standby  
2 messes things up.

3 MR. SALTOS: Yes, well, this is --

4 CHAIRMAN STETKAR: It does.

5 MR. SALTOS: Okay. But there are  
6 issues. For example, I modeled the operating error,  
7 which is 10 to the minus 2, or minus 3. Why should  
8 I model the failure of the equipment themselves,  
9 with an order of magnitude less or more, which, if  
10 you're using that to calculate configuration-  
11 specific impacts, can make a big -- the other thing  
12 is asymmetries. There are many asymmetries in the -  
13 - especially in this PRA. Always this train fails.  
14 But that's not true. So this can screw up the  
15 calculations and the results if -- has to be  
16 addressed before the PRA capability support is --  
17 this application --

18 CHAIRMAN STETKAR: Nick, have you seen  
19 -- I'm assuming that -- well, maybe that's the wrong  
20 term. Have peer reviews been done of PRAs for  
21 currently operating plants that have applied -- I  
22 know 4b has not been applied very much, but at least  
23 5b. Is there guidance for those peer reviewers out  
24 there to be sensitive to these types of issues?

25 MR. SALTOS: For sure there is a

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1 guidance to meet a Category II, the Category II PRA.  
2 But also, the application --

3 CHAIRMAN STETKAR: But in some sense you  
4 can meet a Category II PRA, I think --

5 MR. SALTOS: Yes.

6 CHAIRMAN STETKAR: -- and still --

7 MR. SALTOS: Yes.

8 CHAIRMAN STETKAR: -- and still have  
9 some of those issues that you were just talking  
10 about, artificially-induced asymmetries and things  
11 like that.

12 MR. SALTOS: Yes, the rest is included  
13 in the application-specific guidance. For example,  
14 in order to be able to use for risk-managed tech  
15 specs to extend the completion times, you -- it says  
16 -- it provides guidance on how to make sure that all  
17 these systems that are in 4b are included in our  
18 model. You understand if there are any weak points  
19 in the model. You understand the uncertainties.  
20 You consider the uncertainties. If you are not sure  
21 about the uncertainties, how big they are, then may  
22 conservative assumptions. So all included, there is  
23 a guidance there that is not in the -- it talks  
24 about they have to have this configuration --

25 CHAIRMAN STETKAR: I was just curious

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1 because the staff relies quite a bit on the quality  
2 and experience of those peer reviewers as a  
3 surrogate for an in-depth staff review of the PRA  
4 with audits performed by whomever performs the  
5 audits. I was just curious whether you had any  
6 actual real world experience from the current  
7 operating fleet on how effective those peer reviews  
8 may be in identifying some of these concerns,  
9 because the concerns are not unique to new plant  
10 PRAs.

11 MR. SALTOS: Oh, yes.

12 CHAIRMAN STETKAR: They're concerns, you  
13 know, that apply to --

14 MR. SALTOS: Except for novel features,  
15 of course.

16 CHAIRMAN STETKAR: Oh, yes. But that's  
17 right.

18 MR. SALTOS: Yes.

19 CHAIRMAN STETKAR: But I mean in terms  
20 of the basic structure of the PRA, level of detail,  
21 level of reality in terms of scope of the equipment  
22 modeled, you know, operating versus standby and that  
23 sort of thing, assumptions about, well, I don't need  
24 to model that valve because I don't think I need to  
25 model that valve. I was just curious about whether

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1 there was any experience from looking at peer  
2 reviews that have been performed to support risk-  
3 informed tech spec, you know --

4 MR. SALTOS: Yes, I think the peer  
5 reviews --

6 CHAIRMAN STETKAR: -- applications for  
7 the operating experience to give you -- essentially  
8 to give the staff confidence that that peer review  
9 process will work such that, you know, in this  
10 first-of-a-kind application for a new reactor it's  
11 kind of okay to rely on that.

12 MR. SALTOS: Okay. I think the peer  
13 reviews are done primarily to meet certain  
14 capability category. Like for this application,  
15 both for 4b and 5b capability, Category II is  
16 needed. I don't think that that peer review is done  
17 to make sure that all the systems are modeled that  
18 are required for the application or to make sure  
19 there are not some weak points in the model that  
20 might impact the results of the applications.  
21 Although I think if they had -- if some licensee is  
22 on detail and significant number of new systems in  
23 the model or made a more detailed model, is required  
24 to have a supplemental peer review.

25 CHAIRMAN STETKAR: Okay.

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1 MR. SALTOS: But at least for the plants  
2 that initially requested to implement these  
3 initiatives, I know that the staff went and audited  
4 the PRAs for at least a week, and I participated in  
5 three of those. And we were a group of 15, with  
6 contractors also. So although these plants were  
7 plants that had significant long experience with  
8 PRAs, using the PRAs, and they had this and send us  
9 many license amendments. And pretty much maybe it  
10 was as piecemeal, but we knew the PRA. A little of  
11 the fact for every license amendment we received, we  
12 had a different part of the PRA. So we felt pretty  
13 confident that they would have a good PRA to use.

14 CHAIRMAN STETKAR: Okay. Thanks.

15 MR. SALTOS: And for the reasons we  
16 talked before, there must be guidance included in  
17 the COL that specifies how this criteria that I  
18 included in current existing guidance regarding the  
19 PRA model are met before these applications are  
20 implemented. For example, before fuel load. And  
21 this guidance should specifically address the  
22 unavailability of information at the COL stage with  
23 respect to the criteria in existing application-  
24 specific guidance.

25 Application-specific infrastructure.

1 New reactors do not have, as we said before also, at  
2 the COL stage detailed infrastructure needed to  
3 support the risk-informed tech spec programs such as  
4 risk-managed technical specifications.

5 Examples of needed infrastructure are a  
6 tool to track and calculate configuration-specific  
7 impacts for Risk-Managed Technical Specification  
8 Program and integrated decision making for the  
9 Surveillance Frequency Control Program. Therefore,  
10 there must be guidance included in the COL which  
11 specifies how all criteria regarding infrastructure  
12 that are addressed in the application-specific  
13 guidance are met before we go ahead with  
14 implementing these initiatives.

15 PRA scope and standards. Per Code of  
16 Federal Regulations 50.71(h)(1), new reactors are  
17 required to -- that the PRA must cover those  
18 initiating events and mode of operation for which  
19 NRC-endorsed consensus standards on PRA exist one  
20 year prior to the initial loading of fuel.  
21 Consensus standards are currently available for  
22 external events and internal fires and floods and  
23 have been -- and are being developed also for Level  
24 2 PRA and other modes of operation.

25 CHAIRMAN STETKAR: How do you handle --

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1 all right -- current technical specifications apply  
2 not only during plant power operation, but they also  
3 in many cases -- and I haven't looked at the APWR,  
4 but I assume it does apply to certainly some systems  
5 during shutdown modes. There is currently no  
6 guidance, endorsed guidance available for PRA for  
7 shutdown modes, not to mention, you know, the  
8 evaluation of fires and floods and everything else  
9 that can happen during plant shutdown. I don't know  
10 whether in particular the scope of -- I assume,  
11 because it's just a process, in principle applies to  
12 risk-managed technical specifications for Comanche  
13 Peak during shutdown also. Is that correct?

14 MR. SALTOS: Not for 4b. 4b is  
15 basically when you're at power.

16 CHAIRMAN STETKAR: Well, but doesn't --

17 MR. TJADER: Most of this -- the risk-  
18 management tech spec initiatives are designed  
19 primarily for at power operations.

20 CHAIRMAN STETKAR: I know what  
21 historically what they've been designed for, but  
22 don't the tech specs also have completion time  
23 requirements for equipment that's out of service  
24 during shutdown modes?

25 MR. TJADER: Yes, there are a few of

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1 those, but I mean --

2 CHAIRMAN STETKAR: There are a few.

3 MR. TJADER: There are a few, but 4b is  
4 not --

5 MR. SALTOS: Is not applicable there.  
6 It's applicable to Mode 1, 2, 3 basically for PWR.

7 CHAIRMAN STETKAR: Okay. So if I look  
8 in the Comanche Peak tech specs, I won't see under  
9 any of the shutdown mode conditions that reference  
10 to -- I always forget the numbers, but whatever the  
11 5.5. something or other. Is that right?

12 MR. TJADER: Yes. Well, no, not for  
13 shutdown. In fact, the specs that cover Modes 1  
14 through 4, there are notes where we apply risk-  
15 informed completion time. There are notes that  
16 explicitly exclude Mode 4.

17 CHAIRMAN STETKAR: Okay.

18 MR. SALTOS: Okay. So they're not  
19 applied for shutdown except 3, Mode 3, of course.

20 CHAIRMAN STETKAR: Okay. I haven't --  
21 as I said, I didn't look at the specific tech specs  
22 and test that, but that solves my concern. Because  
23 if it was just generically listed everywhere through  
24 all modes as, you know, if you don't need X or Y or  
25 the risk-informed completion time, then it would be

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1 a real problem during shutdowns. Thanks.

2 MR. SALTOS: Of course for 5b you need  
3 to consider the shutdown risk also for surveillance  
4 testing evidence. You have to consider the risk  
5 from all sources from all initiators for all modes  
6 of operation. But that's the good thing for the new  
7 reactors is -- for the new reactors they're going to  
8 have more detailed PRAs because standards have been  
9 developed for -- already they've been developed for  
10 example for internal fires. They've been developed  
11 for Level 2. They're going to be developed for  
12 shutdown by the time -- for seismic also. Operating  
13 reactors don't have that. Operating reactors, they  
14 have to use qualitative and semi-qualitative and  
15 bounding type analysis regarding many external  
16 events, even including internal fires.

17 CHAIRMAN STETKAR: Yes, that's true.

18 MR. SALTOS: So here --

19 CHAIRMAN STETKAR: You know, I'm aware  
20 the standards for Level 2 and shutdown are being  
21 developed in the sense that the age of the universe  
22 is also increasing. The question is, you know --

23 MEMBER BLEY: There was a draft 12 years  
24 ago.

25 CHAIRMAN STETKAR: Yes, it was --

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1 thanks. If we're confident that indeed those  
2 standards will reach fruition before -- and because  
3 this is the first and only so far, you know, within  
4 one year before Luminant loads fuel, which I  
5 recognize is also somewhere out in the future,  
6 that's okay, you know? But just saying positive  
7 statements that they're being developed doesn't  
8 necessarily mean that we won't be having this  
9 discussion, you know, one year prior to their  
10 loading fuel just because the standards haven't made  
11 it yet.

12 MR. SALTOS: If there are no standards  
13 for some initiating event, they are going to use the  
14 bounding approach that we use with operating  
15 reactors.

16 CHAIRMAN STETKAR: Well, but if they're  
17 not going to be for shutdown PRA, it's not clear at  
18 all how you use a bounding approach quantitatively,  
19 for example, to 5b.

20 MR. SALTOS: Well, it's been used -- for  
21 5b it's been used.

22 MS. MROWCA: And for instance,  
23 50.71(h)(1) says that they shall develop a Level 1  
24 and Level 2 PRA. So even if a Level 2 standard  
25 isn't available, they'd still have to develop one.

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1 CHAIRMAN STETKAR: That's interpreted as  
2 a quantitative PRA.

3 MR. SALTOS: Oh, yes, if there are  
4 standards, PRA standards for that, there's going to  
5 be a quantitative -- it's going to be --

6 CHAIRMAN STETKAR: I'm more concerned  
7 about the shutdown stuff.

8 MR. SALTOS: Because of these reasons  
9 there must be guidance included in the COL to ensure  
10 that the COL licensee will use results and insights  
11 from the available detailed PRA model in  
12 implementing risk-informed tech specs programs and  
13 not making bounding analysis like operating  
14 reactors. So this is a change also in the plant  
15 application-specific guidance.

16 Okay. Another difference now with  
17 respect to operating reactors is treatment of  
18 uncertainties. Of course, operating reactors have  
19 to consider key uncertainties in their methodologies  
20 that are used to extend completion times and  
21 surveillance testing intervals, but here we have  
22 some additional stuff. We have novel features,  
23 novel design features, but we don't have operational  
24 experience or not much operational experience or  
25 operational experience in this country. And also of

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1 course we don't have plant-specific operational  
2 experience.

3 MEMBER BLEY: So when they do their PRA  
4 at this stage to use for tech specs; and let's say  
5 for initial lack of operating experience and  
6 information they don't have operating procedures,  
7 they don't have a crew, are you expecting them to  
8 account for the range of possible situations  
9 associated with those procedures to incorporate  
10 something in their uncertainty analysis to show that  
11 depending on how the training and procedures are all  
12 put together the results could be fairly high or  
13 fairly low in terms of risk?

14 MR. SALTOS: Well, the procedures are  
15 going to be developed by the time that the plant  
16 comes into operation.

17 MEMBER BLEY: They will, but not by the  
18 time they develop the tech specs based on the PRA  
19 that they have for the COL. I mean, they're using a  
20 PRA now --

21 MR. SALTOS: Yes, but the PRA is --

22 MEMBER BLEY: -- to develop their tech  
23 specs, so I'm reading this -- I'm hoping that when I  
24 read "uncertainty" here that we're counting on them  
25 to include some extended uncertainties on these

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1 issues that aren't yet established.

2 MR. SALTOS: Well, no, it does include  
3 uncertainty for not developing a procedure or  
4 developing a procedure that is not good. These  
5 uncertainties are included here. We assume that  
6 they're going to develop the procedures and the  
7 procedures are based on assumptions made in the PRA.  
8 And if they are developed according to these  
9 assumptions and -- they're supposed to be --

10 MEMBER BLEY: Last time I looked at --

11 MR. SALTOS: They're not supposed to  
12 come uncertainty.

13 MEMBER BLEY: I haven't looked at the  
14 PAR for US-APWR yet. I've looked at several other  
15 DCD PRAs and the HRA analysis wasn't in any way  
16 specific about assumptions about procedures. It was  
17 a fairly sketchy rough HRA that needed to be  
18 extended once procedures and training were in place.  
19 So it didn't even say what it thought things would  
20 like. It just was a real cursory analysis.

21 MR. SALTOS: Yes, that's possible. And  
22 this is an issue that is related to the PRA, to have  
23 a capable PRA. PRA capability, in other words.

24 MEMBER SHACK: But I mean, let me just  
25 -- I'm assuming that the actual tech specs will be

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1 formed on the fuel load PRA. It'll have nothing to  
2 do with the COL PRA. Your process will be set up so  
3 that they will develop that, but the actual numbers,  
4 for example, would come out of the fuel load PRA,  
5 not the --

6 MEMBER BLEY: ISG-08 requires the tech  
7 specs to be --

8 MR. SALTOS: I think their procedures  
9 are not developed based on the PRA. The PRA  
10 insights are good.

11 MEMBER SHACK: No, but to say the 5b  
12 surveillance frequencies which comes out of the fuel  
13 load PRA. What will go into this thing is a process  
14 for doing that. At least that's the way I'm  
15 thinking that it's happening.

16 MR. SALTOS: Yes, we're talking about  
17 procedures for how -- for example, the operator is  
18 going to -- what to do here is --

19 MEMBER SHACK: Well, but I keep hearing  
20 Dennis saying the COL --

21 MEMBER BLEY: No, you're right. You're  
22 right.

23 MEMBER SHACK: -- and the COL PRA has  
24 really nothing to do with this.

25 MR. TJADER: Keep in mind surveillance

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1 frequencies in the program, the initial surveillance  
2 frequencies are the standard tech spec frequencies.

3 MEMBER SHACK: Right.

4 MR. TJADER: Okay? And the completion  
5 times, the front stop completion times are those in  
6 the standard tech specs --

7 MEMBER SHACK: And -- okay.

8 MR. TJADER: -- or that we approve in  
9 the review process, primarily standards. So, I  
10 mean, there's nothing contingent upon PRA at that  
11 point or existing frequencies and --

12 MR. SALTOS: Of course if the plant-  
13 specific PRA finds something is wrong with a  
14 procedure or with the tech specs, probably will  
15 point it out.

16 MEMBER BLEY: Thank you. Very good.  
17 No, I back off of everything I was saying a moment  
18 ago.

19 CHAIRMAN STETKAR: Nick, one thing: You  
20 say -- we've had numerous discussions about how one  
21 models digital I&C systems in a PRA. And in the  
22 sense of standards for shutdown PRA and Level 2 PRA,  
23 it's not clear to me what the future holds in terms  
24 of kind of a consensus on methods of how to do that.  
25 When you say in that second bullet that additional

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1 guidance is needed to account for novel design  
2 features, for example, digital I&C software, I think  
3 I know how to handle a gas turbine generator in  
4 particular and I think I probably know how to handle  
5 an advanced passive accumulator. I'm not sure I  
6 understand how to handle digital I&C software.

7 So in the sense of this particular  
8 presentation and this particular application, do you  
9 mean that within the context of the Comanche Peak  
10 COLA they will need to have explicit guidance on how  
11 to treat uncertainties in particular on digital I&C?

12 MR. SALTOS: In particular the digital  
13 I&C software. Digital I&C software -- digital I&C  
14 system in general, but the software in particular is  
15 modeled in the PRA design certification. The COL is  
16 going to continue to be in there in the final plant-  
17 specific PRA. But this is a very small number.  
18 There is -- the basic software has a probability of  
19 10 to the minus 6, I believe.

20 CHAIRMAN STETKAR: Yes, but that's a  
21 number in the sense that it's just a number.

22 MR. SALTOS: Yes, it's a number.

23 CHAIRMAN STETKAR: It's a place holder  
24 that everybody recognizes as simply a place holder.  
25 That doesn't mean anything. It's just a box. Okay?

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1 MR. SALTOS: Yes, but -- yes and no,  
2 because when you use the methodology to extend your  
3 testing intervals, this number might have a very --

4 CHAIRMAN STETKAR: Okay. But again,  
5 that gets back to the whole purpose of the design  
6 certification PRA in regulatory space is only to  
7 give us adequate assurance that the safety of the  
8 new plant design has been evaluated and we have  
9 assurance that it's improved safety over currently  
10 operating plants. That's why I've seen applicants  
11 come in. It's not used for anything. So that 10 to  
12 the minus 6 number, you know, could be a 10 to the  
13 minus 3 number and you could still have adequate  
14 assurance that this plant design is substantially  
15 better than current operating plants.

16 So the fidelity in that number really  
17 doesn't mean anything unless it's identified as a  
18 very, very risk-significant issue. It's safety-  
19 related, so it's in the tech specs. So you don't  
20 have to worry about its significance for RTNSS or  
21 DRAP or any of that kind of stuff -- DRAP in this  
22 sense.

23 MR. SALTOS: It might make a difference  
24 in decision making.

25 CHAIRMAN STETKAR: Not necessarily at

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1 the design certification stage.

2 MR. SALTOS: No. Oh, yes. Of course.

3 CHAIRMAN STETKAR: But now as we  
4 transition to that; and not at the COLA stage,  
5 because we're not using the PRA for anything at the  
6 COLA stage, at the fuel load stage, at that time  
7 when we're actually going to use that PRA, whatever  
8 we call it at the -- the fuel load PRA, let's call  
9 it, then we need to have assurance that we either  
10 have adequately detailed models for the digital I&C  
11 hardware and software that meets some sort of PRA  
12 standard, or that we have in place, as you  
13 characterize it here, guidance so that we understand  
14 how to address either incompleteness in those models  
15 or uncertainties.

16 Now, my question now, backing way up to  
17 where we are now, or you know, the process that  
18 we're going through in real time now, is do you  
19 expect the -- in this particular case, Luminant, as  
20 the COL applicant, to have in their COL application  
21 a methodology that the staff can review and accept  
22 on how to address uncertainties for digital I&C?

23 MR. SALTOS: Yes.

24 CHAIRMAN STETKAR: You do? Okay.

25 MR. SALTOS: And they already have

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1 included --

2 CHAIRMAN STETKAR: Okay. Okay. But  
3 that's something that --

4 MR. SALTOS: I don't know if they're  
5 talking digital I&C specifically, but --

6 CHAIRMAN STETKAR: Uncertainties in  
7 other -- like I said, I can handle gas turbines. I,  
8 you know --

9 MR. SALTOS: Well, yes.

10 CHAIRMAN STETKAR: But because we've  
11 been struggling with this notion, the fundamental  
12 notion of how to model digital I&C --

13 MR. SALTOS: Well, we're not going to  
14 discover something new here, but because we cannot  
15 -- we don't know how to model the system in details,  
16 does not mean that we cannot plug a number in there  
17 that is defensible and we -- and experience can  
18 support. Ten to the minus -- I think it's ten to  
19 the minus seven for the basic software. Ten to the  
20 minus seven might be a good number, but we don't  
21 know. It's very --

22 CHAIRMAN STETKAR: Well, or it might --

23 MR. SALTOS: -- very shaky now.

24 CHAIRMAN STETKAR: Or it might be one  
25 under some types of scenarios.

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1 MR. SALTOS: Well, I don't --

2 CHAIRMAN STETKAR: So, that's a range.

3 MEMBER BROWN: How can anybody --

4 MR. SALTOS: No, it seems to me that a  
5 number 10 to the minus 4 is definitely defensible  
6 based on --

7 CHAIRMAN STETKAR: Or it might be one  
8 under some scenarios.

9 MR. SALTOS: One? I don't see any  
10 scenarios.

11 MEMBER BROWN: Well, just a minute.  
12 Hold it. I mean, you're talking about modeling or a  
13 failure number for software; 10 to the minus 4, 10  
14 to the minus 5, 10 to the minus 6, when you don't --  
15 there's no basis for that. I mean, software -- what  
16 type of failures are you looking for? I mean,  
17 whether you've got an interrupt-driven system,  
18 whether you've got a fixed sample time system,  
19 whether you've got -- whether type of data that  
20 comes into, whether you've got analog data being  
21 moved from one microprocessor to another, whether  
22 you've got high-speed serial data links, all of  
23 that's different. And how you can come up --  
24 anybody walks up to me and says 10 to the minus 7,  
25 okay, I would throw up on that; and excuse my being

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1 graphic, but I think that's just an unreasonable  
2 number.

3 MR. SALTOS: Yes, that's the reason that  
4 we want this -- instead of this number to use a  
5 number that is more -- is defensible when they do  
6 the calculations to determine how much they can  
7 extend this surveillance testing interval or this  
8 completion time. Because 10 to the minus 7 is not  
9 -- to me is not acceptable.

10 MEMBER BROWN: I spent 22 years --

11 MR. SALTOS: Might be through though, I  
12 don't know.

13 MEMBER BROWN: Just a minute. Okay? I  
14 spent 22 years on 40 different systems, okay, trying  
15 to come up with perfect software. Tested it, tested  
16 it. We tested it for two-and-a-half years  
17 constantly in an active plant -- a set of equipment  
18 with real hardware and we kept coming up -- for two-  
19 and-a-half to three years we kept detecting errors  
20 in the code. And we'd go fix it. Then we'd test it  
21 some more and another error would pop up. They just  
22 kept popping up. I mean, there was a lot of them at  
23 first and then, you know, it gets less and less.  
24 But they never go away. And this was -- we're  
25 talking 10,000, 15,000 lines of code, not a half a

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1 million or 200,000. So, you know, tossing a number  
2 in, you know, like that and say, hey, we can predict  
3 the performance of this code under all these various  
4 circumstances is --

5 MR. SALTOS: Well, we have experience --

6 MEMBER BROWN: I'm sorry, I lost the  
7 bubble here for a minute. I get very excitable  
8 because we just said it's never going to work  
9 perfectly, so we just assumed it failed. It was one  
10 and we designed our systems and our architectures to  
11 handle that.

12 MR. SALTOS: If you assume one software  
13 failure, then you have a CDF of 10 to the minus 3 or  
14 something.

15 MEMBER BROWN: Sorry.

16 MR. SALTOS: But that's not realistic.

17 MEMBER BROWN: That's life in the big  
18 city.

19 MR. SALTOS: This is not going to be --

20 CHAIRMAN STETKAR: I think, you know,  
21 we're drifting a little bit off here, but it is  
22 relevant. I was more trying to understand within  
23 the scope of this COL application when you say  
24 "additional guidance is needed to address  
25 uncertainties," you know, in particular because of

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1 the parentheses there, about --

2 MR. SALTOS: Well, that's an example.

3 CHAIRMAN STETKAR: -- digital I&C  
4 software. But I mean, it is an example, but it's  
5 probably -- it's a very, very difficult -- there  
6 could be a very, very difficult example, as you can  
7 imagine here.

8 MR. SALTOS: If they --

9 CHAIRMAN STETKAR: And the question is  
10 how -- you know, what is the expectation, and let's  
11 just focus -- you know, get myopic on that topic.  
12 What is the expectation --

13 MR. SALTOS: Well, user number. User  
14 number is 10 to the minus 7. Use 10 to the minus 4.  
15 I think 10 to the minus 4 can be defended based on  
16 industry experience with I&C software. And the way  
17 that this software has been developed and verified  
18 and --

19 CHAIRMAN STETKAR: Okay. I guess -- but  
20 I think, you know, wanted to some feedback from --

21 MS. MROWCA: Yes.

22 CHAIRMAN STETKAR: -- the Committee in  
23 terms of, you know, prescriptive things like, well,  
24 we'll use the 10 to the minus 4 instead of 10 to the  
25 minus 7 may not be --

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1 MS. MROWCA: Or understanding the impact  
2 on how sensitive something is.

3 CHAIRMAN STETKAR: May not be the  
4 appropriate way to do it.

5 MEMBER BLEY: I think they're you're  
6 getting to something. I think --

7 MS. MROWCA: Because that's the bottom  
8 line --

9 MEMBER BLEY: Our committee has been on  
10 record for the last few years of saying until we  
11 really understand the failure modes and digital I&C  
12 software doing meaningful reliability modeling of  
13 that is extraordinarily difficult or has great  
14 uncertainties, maybe more than we're normally  
15 willing to acknowledge. I think on tech specs that  
16 are related to things driven by digital I&C software  
17 it's going to be tougher to make -- to treat the  
18 uncertainty in a way that is really convincing, but  
19 as you were just saying, then there are ways to  
20 bound off the problems so that you could still deal  
21 with things you can calculate well and use that to  
22 do a better job.

23 MS. MROWCA: It may not impact the AOT  
24 that you're specifically looking at.

25 CHAIRMAN STETKAR: Exactly. Right.

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1 MR. SALTOS: Exactly. Not all tech  
2 specs are impacted equally.

3 MEMBER BLEY: That's right. That's  
4 right.

5 MR. SALTOS: Exactly that's my point  
6 here. If you look at my bullets down there,  
7 basically that's trying to say that having key  
8 sources -- identify a list of key source of  
9 uncertainty and then characterize this key source of  
10 uncertainty using sensitivity and importance  
11 analyses results, use appropriate conservative,  
12 defensible though, reliability data for novel  
13 features and calculations, and then incorporate  
14 plant-specific experience into the PRA as it goes as  
15 you get more operational experience. So sensitivity  
16 -- of course, the sensitivity is very important and  
17 the importance is very important. And operating  
18 experience with software is very important. We  
19 don't have zero experience with software, with  
20 digital I&C. I believe we have significant  
21 experience. Even in the nuclear industry we have  
22 some, but also in the defense industry and the  
23 airline industry.

24 MEMBER BLEY: Well, we do, but there are  
25 -- and that experience is sometimes pointed out that

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1 if for odd reasons the input information into those  
2 systems isn't within the range it was tested; and it  
3 could be that it's erroneous information coming in,  
4 you don't know what's going to come out the other  
5 end. And sometimes it's been very uncomfortable.

6 MR. SALTOS: Yes, my understanding is  
7 that these software are tested extensively though  
8 for operations --

9 MEMBER BLEY: Extensively under expected  
10 conditions. When the input conditions, which are  
11 signals, turn out not to be in the range of expected  
12 conditions for operations, very uncomfortable things  
13 happen. And that's happened in systems in all walks  
14 of life, not just in nuclear and in automobiles and  
15 airplanes and medical.

16 CHAIRMAN STETKAR: And even what we've  
17 seen from the nuclear stuff there doesn't seem to be  
18 extensive testing of the type that Dennis is talking  
19 about. It's within design basis parameters and --

20 MEMBER BLEY: And you can't test for  
21 all --

22 CHAIRMAN STETKAR: And you can't test  
23 for all possibilities.

24 MR. SALTOS: Yes, I understand, but  
25 that's the reason we have a probability

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1 favorability. Because if we follow the results of  
2 the tests, we will have zero probably. The number  
3 would be basically zero.

4 MEMBER BROWN: You have to get down to  
5 the details. I mean, even selecting on software,  
6 basically you would start to exceed a range where  
7 you get unexpected data. The default value  
8 programmed in can totally screw up your system. If  
9 you default to the wrong number, all of a sudden  
10 that default number can bias everything else that  
11 goes on. And I know that because we made that  
12 mistake, okay, and had to recover from it.

13 So, I mean, there's subtle little pieces  
14 in programming and expected data that's going to be  
15 coming through. It's just -- it's very, very  
16 difficult to anticipate. And Dennis is right on the  
17 money. I mean, if you get -- some of those values  
18 change a little bit or somebody doesn't think of  
19 some outside-the-box circumstances, it just doesn't  
20 work right. Just burps. I mean, the only way to  
21 really defend yourself on that stuff --

22 MR. SALTOS: -- have a diverse actuation  
23 system that is --

24 MEMBER BROWN: Well, that's the point:  
25 You want independence and you want diversity. And

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1 there you can model as long as you maintain -- you  
2 got four trains, for protection channels. As long  
3 as those are truly independent from each other, you  
4 can -- I think you can draw some plausible  
5 conclusions. And then you add a diverse system in  
6 place. Now you have a boundary set of conditions  
7 that you can work with, and I think you can model  
8 that type of stuff. But if you allow -- and I'm  
9 going to back to this other one, the diverse system,  
10 to be out of --

11 CHAIRMAN STETKAR: Charlie?

12 MEMBER BROWN: -- service, then you're  
13 back to square one. Anyway, I'll quit now.

14 CHAIRMAN STETKAR: Let's --

15 MEMBER BROWN: I know, you want --

16 CHAIRMAN STETKAR: Well, but --

17 MEMBER BROWN: We need to get on.

18 CHAIRMAN STETKAR: Well, you know, we  
19 still have ongoing discussions, obviously, on  
20 modeling digital I&C and PRA. And I hate to say it,  
21 but nobody sitting up in the front of the room is a  
22 digital I&C person, so --

23 MEMBER BROWN: No, I understand that.

24 CHAIRMAN STETKAR: We've got a couple  
25 more slides to get through on this, so let's try to

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1 do that.

2 MR. SALTOS: Yes.

3 MEMBER BROWN: Well, I'm just trying to  
4 emphasize from somebody who's got 80 reactor plants  
5 with 80 sets of protection equipment out there that  
6 I was responsible for for 22 years, it was not  
7 painless and we had burps all the time that we had  
8 to deal with. And if you think we have an extensive  
9 knowledge of who else has that long of a history of  
10 stuff and still finds it difficult to say this is  
11 going to perform the way we think it is, even though  
12 we have all these magic rules in place, it's very --  
13 and the V&V that you do on it, very difficult. So  
14 I'm just trying to communicate that as an experience  
15 factor to those who haven't had to live with it and  
16 had phone calls at 2:00 in the morning from a  
17 submarine in the middle of the Indian Ocean where  
18 their stuff is broken. It's just no fun. Excuse  
19 me.

20 MEMBER BLEY: (off microphone.)

21 MEMBER BROWN: Huh? What was that?

22 MEMBER BLEY: It's an old joke. That's  
23 two.

24 MEMBER BROWN: Oh, okay.

25 MR. SALTOS: How we propose to address

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1 the new reactor challenges. For the first big issue  
2 that we have; that is, to ensure completeness of  
3 technical specifications, we propose to -- actually  
4 we been developing Comanche Peak with our review  
5 also is development of tech spec methodology  
6 document as part of the COL. This we intend to  
7 incorporate by reference the existing application-  
8 specific guidance; for example, NEI 06-09 for risk-  
9 managed tech specs, into the tech spec methodology  
10 document and include the additional regulatory  
11 guidance. That is, the changes that we talked about  
12 before into this tech spec methodology document.  
13 And incorporate this tech spec methodology document  
14 into the tech spec administrative controls.

15 CHAIRMAN STETKAR: And that roughly, I  
16 guess, eight-page document that we've seen a draft  
17 of is that document?

18 MR. MONARQUE: This is the June 30  
19 document. This is the Luminant letter dated June  
20 30.

21 MR. SALTOS: The Luminant --

22 CHAIRMAN STETKAR: That is --

23 MR. SALTOS: This is not complete yet.

24 CHAIRMAN STETKAR: Okay.

25 MR. SALTOS: Okay. With respect to the

1 risk-informed regulatory guidance risk metrics, we  
2 have proposed options and requested Commission  
3 directions; have been obtaining stakeholder input;  
4 working on response to staff requirement memorandum;  
5 and the staff response to the staff requirement  
6 memorandum is due June 2012.

7 Status and path forward. Luminant  
8 submitted draft tech spec methodology document in  
9 June 2011. The staff reviewed Luminant's proposed  
10 tech spec methodology document and prepared request  
11 for additional information in September 2011. We're  
12 continuing to work with Luminant on the development  
13 of an acceptable tech spec methodology document.

14 MEMBER BLEY: Will this be -- this  
15 document, given you approve it, essentially part of  
16 the COL, would it get tied into the tech spec  
17 chapter?

18 MR. TJADER: It'll be referenced in the  
19 tech spec --

20 MEMBER BLEY: Okay.

21 MR. SALTOS: Yes, in administrative  
22 controls part. That's right.

23 MEMBER BLEY: Okay.

24 CHAIRMAN STETKAR: And your SER for; I'm  
25 take a shot at it, Chapter 16 would -- essentially

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1 it isn't being reviewed as a separate -- like a  
2 topical report, is it? It's just --

3 PARTICIPANT: Oh, so it'll be part of  
4 the --

5 CHAIRMAN STETKAR: It'll be part of the  
6 Chapter 16 review.

7 PARTICIPANT: Oh, okay.

8 CHAIRMAN STETKAR: So all the RAIs that  
9 are generated relative to that methodology will come  
10 under I guess Chapter 16?

11 MR. SALTOS: Well, right now we are on  
12 Chapter 19.

13 CHAIRMAN STETKAR: One of the two.

14 MR. SALTOS: I don't know where exactly  
15 it would go.

16 MR. MONARQUE: And I think will 16 will  
17 refer to 19.

18 CHAIRMAN STETKAR: Okay.

19 MR. MONARQUE: But both documents will  
20 be tied in --

21 CHAIRMAN STETKAR: I mean, the key is  
22 this isn't being treated as a separate --  
23 essentially as a separate topical report or anything  
24 like that.

25 MR. MONARQUE: No, it's not a topical --

1 CHAIRMAN STETKAR: It's just folded into  
2 the --

3 MR. TJADER: And both Tech Spec Branch  
4 and PRA Branch have reviewed and commented on that.

5 MEMBER BLEY: Since we just tossed those  
6 words around, can you give us a little summary of  
7 the kind of RAIs? You know, is there anything  
8 really substantive that you and Luminant are trying  
9 to work out now on this methodology?

10 MR. SALTOS: Actually we're talking I  
11 guess Luminant. But I can give you a couple of  
12 examples. They fail primarily to uncertainties --

13 MEMBER BLEY: Yes.

14 MR. SALTOS: -- especially uncertainties  
15 to how you treat the key uncertainties with respect  
16 to novel features. This is an important issue in  
17 there.

18 PARTICIPANT: (off microphone.)

19 MR. SALTOS: Oh, okay. Thanks.

20 MS. MROWCA: Do you want us to go over  
21 it in more detail now or do you want to --

22 CHAIRMAN STETKAR: It's really up to  
23 you --

24 MS. MROWCA: -- ensure that Luminant has

25 CHAIRMAN STETKAR: -- because it's kind

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1 of a preliminary interim --

2 MS. MROWCA: -- a chance to discuss --

3 CHAIRMAN STETKAR: Yes.

4 MS. MROWCA: -- their part? We still  
5 have a presentation from Luminant.

6 MR. MONARQUE: We've not received  
7 Luminant's response to the RAIs yet. They're not  
8 going to give it to us until June -- until November,  
9 rather.

10 MEMBER BLEY: Well, let's see if they  
11 mention them when they're up.

12 MR. MONARQUE: Okay. I'll be glad to  
13 answer them.

14 MR. SALTOS: Yes, and of course they're  
15 on the PRA developing an acceptable PRA. There are  
16 questions on all these elements that I discussed  
17 before.

18 CHAIRMAN STETKAR: Okay.

19 MS. MROWCA: We just wanted to get --

20 CHAIRMAN STETKAR: But I think in the --  
21 the only thing I'm trying to do is keep it a little  
22 bit careful because, you know, it's a public meeting  
23 on the record. Obviously you're in the early stages  
24 of asking RAIs about a developing document and we  
25 haven't had the opportunity to see any of this, and

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1 we won't, you know, until it reaches a better degree  
2 of finality.

3 MS. MROWCA: I think our main purpose  
4 today was on the concept of the use of the  
5 methodology and to give you an idea of what's in it,  
6 and if you have any questions or concerns about that  
7 today.

8 CHAIRMAN STETKAR: Do any of the members  
9 have anymore questions for the staff?

10 MEMBER BLEY: Yes, I do, and mine deal  
11 with this trying to come to grips with what we have  
12 at COL time, what we're going to have later. Once  
13 we're doing with the COL, you folks will have a  
14 license and you'll have a set of tech specs that  
15 link to this idea that you can do the risk-informed  
16 completion times. You'll develop the PRA and submit  
17 it at least a year before fuel load.

18 MS. MROWCA: No submittal.

19 MEMBER BLEY: I'm sorry, they won't  
20 submit to you. They'll do it.

21 MS. MROWCA: They'll do it.

22 MEMBER BLEY: And tell they've done it.  
23 And you could audit it at any time. Now what I'm  
24 thinking is once you have a license -- I keep  
25 looking over here where people were this morning.

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1 There's nobody over there. I'll look here. Since  
2 this is a risk-informed application, once that  
3 revised PRA is done for fuel load and it's applied  
4 to developing completion times and frequencies for  
5 the tech specs, doesn't our normal requirements fall  
6 in place that the PRA has to -- or is subject to  
7 inspection to ensure that the results, which in this  
8 case would be the risk-informed tech specs, are  
9 consistent with the version of the PRA that is  
10 applied to them?

11 MR. SALTOS: Well, this is part of the  
12 application-specific guidance. The application-  
13 specific guidance has all this information --

14 MEMBER BLEY: The risk-informed  
15 application-specific guidance is what we're talking  
16 about?

17 MR. SALTOS: Yes, that -- 4b, for  
18 example.

19 MEMBER BLEY: Yes.

20 MR. SALTOS: Or 5b.

21 MEMBER BLEY: Yes.

22 MR. SALTOS: This guidance is talking  
23 about they do not have to extend the completion  
24 times.

25 MEMBER BLEY: Right, but they could.

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1 MR. SALTOS: If they believe that there  
2 is a problem with -- they have -- there is some  
3 uncertainty or they don't -- the PRA model can  
4 support something, they can say we're using the  
5 front stop. They don't have -- in other words, the  
6 completion time --

7 MEMBER BLEY: Right, they don't have to  
8 make it a risk-informed application.

9 MR. SALTOS: They don't have to make  
10 anything --

11 MEMBER BLEY: But if they decide --

12 MR. SALTOS: But if they decide --

13 MEMBER BLEY: -- to do a risk-informed  
14 application and change the completion time --

15 MR. SALTOS: They have -- first of all,  
16 if they decide that, they have to document. We were  
17 -- and this is --

18 MEMBER BLEY: Just as an operating plant  
19 would have to do.

20 MR. SALTOS: Yes. We are in this  
21 configuration. This and this and this and this  
22 trains or systems are out. We did the PRA. We made  
23 these assumptions with respect -- we consider these  
24 key uncertainties. We addressed in this and this  
25 way and we came to these results. Then the NRC

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1 inspector can go inspect that. Actually will  
2 inspect that stuff.

3 MEMBER BLEY: Okay.

4 MR. SALTOS: And if we see that they did  
5 something inappropriate or the PRA that they're  
6 using is not -- has something that grossly  
7 underestimate or compromises safety, then of course  
8 we would take an appropriate action.

9 CHAIRMAN STETKAR: What happens there  
10 though, Nick? That's a kind of reactionary  
11 approach, that if I'm a licensee, I make a decision,  
12 you know, it's the middle of the night Sunday night  
13 and I call in my PRA staff and I'm in a particular  
14 plant configuration and they say, lo and behold, you  
15 know, you can extend the 72 hours out to 3½ weeks.  
16 Fine. Go forward. And six months later, you know,  
17 an audit staff comes in and says, hey, wait a  
18 minute, you know, your PRA wasn't capable of making  
19 that determination. What happens then? I mean, you  
20 know, they get cited?

21 PARTICIPANT: Sure.

22 CHAIRMAN STETKAR: But the whole PRA now  
23 is at fault. You know, how many decisions did they  
24 make --

25 MR. SALTOS: Well, I don't think they

1 can do for the PRA --

2 CHAIRMAN STETKAR: -- based on that tool  
3 that was faulty?

4 MR. SALTOS: They can look if was some  
5 -- if they -- they did -- they didn't consider  
6 something, you know, important.

7 CHAIRMAN STETKAR: Now wait a minute.  
8 You said they can't? They who? The inspectors  
9 can't look at the PRA?

10 MR. SALTOS: Yes, they can look at the  
11 PRA, yes, if they think there is a problem. You are  
12 -- of course. If they say in a recommendation that  
13 they used the PRA and they hand the concepts for  
14 that part that they're using in the decision making,  
15 and that's not true, then yes, they have to go  
16 through their significant determination process I  
17 guess to the reactor.

18 MR. TJADER: That may be with the PRA,  
19 but with respect to tech specs, the tech specs have  
20 the PRA requirements in there. They have the  
21 methodology to ensure that the PRA is adequate. If  
22 we find that the PRA is not adequate for that  
23 application, then you're in tech spec space. They  
24 cannot then enter for instance a completion time  
25 where the PRA does not support it. That would be a

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1 violation of tech spec requirements. And  
2 potentially if we find in hindsight that they have  
3 invoked this initiative inappropriately, I think we  
4 could in hindsight invoke a tech spec violation on  
5 them.

6 CHAIRMAN STETKAR: But the whole point  
7 is that the determination that the PRA is  
8 technically adequate for this purpose is made solely  
9 by a peer review of that PRA that is subject to  
10 staff audit. It is not based on an NRC staff review  
11 of the adequacy of that tool.

12 MEMBER BLEY: Just as it is for  
13 operating plants.

14 CHAIRMAN STETKAR: Just as it is for  
15 operating plants.

16 MR. SALTOS: But it's not completely  
17 true given that we have extensively reviewed the  
18 design certification PRA and the COL PRA. I do not  
19 anticipate to see a PRA that will be drastically  
20 different. So, I mean, you know --

21 CHAIRMAN STETKAR: Well, we haven't seen  
22 the PRA yet either, so --

23 MR. SALTOS: Well, you're going to find  
24 there are issues there that come to be connected  
25 with respect to operating plants. There are. But I

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1 don't think that this -- you see this -- if they  
2 change the completion time and they extend it, okay,  
3 then I'll accumulate a little bit more risk. This  
4 risk eventually, we will find out that they're doing  
5 that. How many times -- it's important how many  
6 times they do that because it's the sum of all this  
7 accumulations that -- and this is trended every two  
8 years, it's trended to see where they go.

9 MEMBER BLEY: Yes, but unless you go in  
10 and look, you never know. Or if they go and look  
11 and report that they made a mistake -- that can  
12 happen.

13 MR. SALTOS: But the philosophy of this  
14 risk-informed application is that they are going to  
15 be documented and then the NRC will look at that.  
16 If we don't look at that, that's -- what can I say?

17 MS. MROWCA: Yes, just to clarify is  
18 that in terms of inspection of the fuel load PRA,  
19 that is not required. I think we understand it's a  
20 prudent thing to do, and there has been precedent  
21 with the plant that has implemented 4b that there  
22 was an implementation inspection afterwards. And so  
23 I think --

24 MR. SALTOS: TJADER: Well, there was an  
25 audit prior to also.

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1 MS. MROWCA: Yes, there was an audit  
2 prior to that, but there was an inspection  
3 afterwards.

4 CHAIRMAN STETKAR: But there was a  
5 specific focused inspection?

6 MS. MROWCA: Yes. And like I said, I  
7 think that we feel it's a prudent thing to do.

8 MR. TJADER: Yes, while it's not  
9 required; and I can't state that we will in fact do  
10 it, I would be surprised if we don't.

11 MEMBER BLEY: Well, it's important that  
12 it was done on the one case where this has been --

13 MS. MROWCA: Right, there has been a  
14 precedent for doing an implementation inspection.

15 CHAIRMAN STETKAR: And, you know,  
16 precedent -- we are -- this is the first one. Might  
17 be the only one, but it's the first one. You know,  
18 the sense of prudence and sense of confidence in how  
19 the process is actually working, I think is  
20 important.

21 Anything more, Dennis?

22 MEMBER BLEY: No, I've just been  
23 spinning in my head. Somewhere along the line we  
24 usually do -- well, on COLs I don't know that we do.  
25 Do we do -- have we typically done an interim letter

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1 from --

2 CHAIRMAN STETKAR: We haven't, but --

3 MEMBER BLEY: What I'm thinking is if we  
4 do and -- if you come in and we do an interim letter  
5 somewhere along the way, I think we ought to at  
6 least go on record about having looked at this  
7 process.

8 CHAIRMAN STETKAR: Yes, I think we  
9 haven't -- and this -- you know, unfortunately we  
10 probably won't visit this in terms of the draft SER  
11 with open items until middle of next year sometime.  
12 At that point, yes, we can always write an interim  
13 letter. And we haven't been doing it as much for  
14 COLs because there typically aren't issues that come  
15 up. We do do it somewhat more routinely for, you  
16 know, the DCD process. And certainly, you know, we  
17 always say if there's something that we feel is  
18 important enough that rises to the attention of the  
19 full committee, we'll send an interim letter out to  
20 essentially alert the staff, you know, formally to  
21 the concern.

22 MEMBER BLEY: I guess I'm thinking this  
23 is --

24 CHAIRMAN STETKAR: It's interesting --

25 MEMBER BLEY: -- interesting enough and

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1 significant enough that having a full committee  
2 meeting on this issue sometime before you're all the  
3 way done makes a lot of sense.

4 CHAIRMAN STETKAR: Yes, and that might  
5 be -- it's certainly too premature to do it now.

6 MEMBER BLEY: Yes.

7 CHAIRMAN STETKAR: Perhaps when the  
8 draft SER comes out on --

9 MR. MONARQUE: And we would probably  
10 do --

11 CHAIRMAN STETKAR: -- 19, 16, whatever I  
12 want to call it, you know?

13 MR. MONARQUE: And we will probably do  
14 16 and 19 together in the same meeting.

15 CHAIRMAN STETKAR: Yes, I mean, that's  
16 -- we've been trying to schedule a subcommittee  
17 meeting --

18 MR. MONARQUE: Yes.

19 CHAIRMAN STETKAR: -- to do that because  
20 it's so integrated, and that might be the  
21 appropriate time to think of a full committee  
22 meeting.

23 MR. MONARQUE: Do you see need for a  
24 second informational meeting, informal meeting?

25 CHAIRMAN STETKAR: Let's hear what

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1 Luminant has to say.

2 MR. MONARQUE: Okay.

3 CHAIRMAN STETKAR: And then we'll kind  
4 of go around the table at the end and see how the  
5 subcommittee feels.

6 MR. SALTOS: But is important to  
7 underline here that we're concentrating in the  
8 difference between operating reactors and new  
9 reactors. We aren't looking at the whole of  
10 approach for risk-informed tech specs for --

11 CHAIRMAN STETKAR: Right.

12 MR. SALTOS: -- operating reactors also  
13 because that's been discussed and approved.

14 MEMBER BLEY: And I think; this is a  
15 personal opinion, the way you've -- it's been set up  
16 seems to transition you from the new reactor to  
17 something like operating reactors and what at least  
18 at first blush seems a reasonable --

19 CHAIRMAN STETKAR: Yes, it does. It's  
20 just that that transition getting from what it is at  
21 the COL stage; and when I say "what it is," the  
22 tools and the process, to what it is once you're in  
23 the operating stage, which I think we do have some  
24 experience with, making sure that that transition --  
25 nothing gets lost in that transition, or

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1 misinterpreted or something like that.

2 Any other questions for the staff?

3 MEMBER BLEY: But you still got to make  
4 sure you're consistent on 16 and 19, whatever's done  
5 there, that Part 4 gets done consistently also  
6 because there's two programs in there, 5.5-18 and  
7 19, which deal with configuration of risk-management  
8 and surveillance frequency, whatever the other words  
9 are, control programs. So right now they're a  
10 little bit more general, but whatever falls out on  
11 the rest of this you can't just leave that one out.

12 CHAIRMAN STETKAR: You reminded me of  
13 something, Charlie.

14 Bob, if you're the right guy to ask, I  
15 know at the COL stage, the COL -- we have COL tech  
16 specs right now. They exist. They have a hook into  
17 5.5-18, or whatever the heck it is, for risk-  
18 informed completion times.

19 MR. TJADER: Yes.

20 CHAIRMAN STETKAR: Will the Comanche  
21 Peak COL tech specs have risk-informed surveillance  
22 frequencies, explicit frequencies of you shall do  
23 this surveillance once every 37.26 days?

24 MR. TJADER: For those --

25 CHAIRMAN STETKAR: Because those

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1 specific numbers. They are not a fly -- you know,  
2 on-the-fly-type calculation.

3 MR. TJADER: Comanche Peak going to  
4 adopt it as any other plant would. In other words,  
5 those surveillance frequencies for which we're  
6 applying the Surveillance Frequency Control Program,  
7 those frequencies will be in the program.

8 CHAIRMAN STETKAR: Okay.

9 MR. TJADER: They will be there.

10 CHAIRMAN STETKAR: So as a separate  
11 document that's --

12 MR. TJADER: It's a separate document.

13 CHAIRMAN STETKAR: -- referred to out of  
14 the techs? Okay.

15 MR. TJADER: But as I said, they're  
16 treated just the same as if they were in tech specs.

17 CHAIRMAN STETKAR: But the numbers in  
18 that program won't be generated until fuel load, is  
19 that right?

20 MR. TJADER: No. Those numbers are the  
21 existing standard tech spec numbers as they are  
22 today.

23 MEMBER BROWN: In the DCD?

24 MR. TJADER: Yes, the DCD has the number  
25 or the Surveillance Frequency Control Program. The

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1 number that will be in Comanche Peak's program will  
2 be that number, that DCD number where it says the  
3 number or.

4 CHAIRMAN STETKAR: But, okay, at the COL  
5 stage, that's true. But in principle that number in  
6 the Surveillance Frequency Control Program could  
7 change?

8 MR. TJADER: Yes. Yes.

9 CHAIRMAN STETKAR: Okay.

10 PARTICIPANT: But you don't know when it  
11 will change.

12 CHAIRMAN STETKAR: You don't know  
13 whether it will? It certainly will not change --

14 MR. TJADER: It certainly won't  
15 change --

16 CHAIRMAN STETKAR: -- at the COL stage.

17 MR. TJADER: It won't change at the COL  
18 stage. And in fact, it won't change until they  
19 obtain some operating experience.

20 CHAIRMAN STETKAR: Oh, so you even got  
21 a --

22 MR. TJADER: You know, I mean, I think  
23 we'd be -- that's part of the program is that they  
24 have to look at their personal -- their plant-  
25 specific operating experience. And if they have

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1 none, there's no change immediately.

2 CHAIRMAN STETKAR: I got it.

3 MR. TJADER: And it would be some time  
4 in the future.

5 CHAIRMAN STETKAR: Thanks.

6 MEMBER BLEY: I have one last question.  
7 Early, Bob, you were talking that the tech specs are  
8 not Tier 1 or Tier 2 because that's the DCD, but  
9 they are part of the license and if you want to  
10 change one, it's a license amendment. How does what  
11 goes into the COL -- if it's not this Tier 1, Tier 2  
12 star, how does that end up -- what is it in the COL  
13 that makes it clear that it takes a license  
14 amendment to change this insertion and it doesn't  
15 take a license amendment to change some of the other  
16 insertions at the COL stage, because I didn't  
17 understand what you said?

18 MR. TJADER: Well, first of all, I think  
19 what you're driving at is, for instance, the  
20 Surveillance Frequency Control Program, the numbers  
21 that are in the program. Any change whatsoever in  
22 the tech specs proper, whether it's a comma, a  
23 change in a capital or -- you know, a letter of  
24 something like that requires a license amendment.  
25 That's it. Now, you can invoke a methodology, an

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1 NRC-approved methodology to determine some numbers  
2 outside of specs.

3 Now, those surveillance frequencies are  
4 not Tier 1 and they're not Tier 2 star. You know,  
5 those -- there's nothing in the regulations that  
6 explicitly call out either completion times or  
7 surveillance frequencies. And in fact, that is the  
8 underlying -- one of the underlying reasons that we  
9 can even apply a methodology or a program such as  
10 NEI 06-09 or NEI 04-10 to completion times and  
11 frequencies is that they're not explicitly called  
12 out by regulation. Okay? It's an implied  
13 requirement.

14 If you're going to ensure that something  
15 is operable and you're going to perform a  
16 surveillance to ensure that, the implication is  
17 you're going to do that at a certain frequency. And  
18 so we have taken that implied surveillance frequency  
19 requirement and put it in specs. But because it's  
20 not explicitly in regulations, we're now saying that  
21 we can make that determination and put that risk-  
22 manage external to specs.

23 MEMBER BLEY: Okay.

24 MEMBER SHACK: I just want to go back to  
25 this notion that they're going to have to have

1 operating experience before they can do it. I mean,  
2 as I read this, it seems to me that once they have  
3 the PRA and it's been peer reviewed and approved for  
4 the --

5 MR. TJADER: Well, perhaps there's some  
6 industry experience, overriding industry experience.  
7 I won't, you know, exclude that possibility. But if  
8 you take a look at the process, there is both a  
9 qualitative branch and a quantitative branch. And  
10 in fact, since probably most of the changes in  
11 surveillance frequency really wouldn't make -- hit  
12 quantitative triggers, more likely than not it's  
13 going to be qualitative decision making on the panel  
14 that's going to make the determination. That is  
15 with the understanding that the surveillance  
16 frequencies -- we have the experience that they've  
17 passed. So you have to have some experience that  
18 the surveillance frequency reliably passes and  
19 performs its function. And if you have that  
20 experience, then you can make the change.

21 So if there is a new type of equipment,  
22 you know, that performs the same function as it does  
23 in the standard tech specs and things like that and  
24 yet we don't have the experience to ascertain that  
25 in fact doing this surveillance every quarter is

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1 adequate, then they should not make that change.

2 MEMBER BLEY: Of course if you don't  
3 have that experience you don't know that the initial  
4 number is very good either. So I don't see the  
5 distinction, tell you the truth. I think this  
6 process forces at least an engineering judgment by a  
7 collective group that's probably better than a  
8 priori numbers would be.

9 MR. TJADER: Well, frequently the -- I  
10 mean, more often than not surveillance frequencies  
11 initially were done on manufacturers' guidance or,  
12 you know, engineering judgment,, things like --

13 MEMBER BLEY: Right.

14 CHAIRMAN STETKAR: Anything else?

15 (No response.)

16 CHAIRMAN STETKAR: No? Okay. We're  
17 going to take a recess. Thank you very much, by the  
18 way. This was good.

19 Steve, we'll revisit the notion at the  
20 end of the meeting about whether we need another  
21 briefing.

22 MR. MONARQUE: Okay.

23 CHAIRMAN STETKAR: Kind of go around the  
24 table.

25 Let's take a break until five until

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1 3:00, and we'll recess.

2 (Whereupon, the above-entitled matter  
3 went off the record at 2:36 p.m. and resumed at 2:54  
4 p.m.)

5 CHAIRMAN STETKAR: Let's reconvene and  
6 hear from Luminant on their process or methodology.

7 MR. WOODLAN: Okay. And my name is Don  
8 Woodlan. I'm still the licensing manager for  
9 Luminant.

10 CHAIRMAN STETKAR: I was going to say,  
11 there have been people who have come before  
12 subcommittees who have made statements that, you  
13 know, may put those titles in jeopardy. We won't  
14 speak of the names, but we all know who they are.

15 MR. WOODLAN: As in the previous  
16 presentations, we have an agenda here starting with  
17 introductions and opening remarks, and then a little  
18 bit of background, and then we'll get into the tech  
19 spec methodology, which I'm sure you gathered from  
20 the earlier presentations is a pretty key part of  
21 what we're doing.

22 As part of the opening remarks, let me  
23 first of all thank the staff for everything they've  
24 done. They gave my whole presentation already, so  
25 that helps a little bit.

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1 CHAIRMAN STETKAR: Oh, good.

2 MR. WOODLAN: But no really, when we  
3 decided before we filed our application to pursue  
4 the risk-informed tech specs, we did that  
5 recognizing it wasn't going to be easy, but we felt  
6 the safety improvements offered by these programs  
7 were the right thing to do and that we wanted to  
8 pursue them. When we presented it in our  
9 application to the staff, I'm sure there were a good  
10 number of people that wondered why we did that. We  
11 certainly created a challenge for them and a lot  
12 more work, but I can say they never flinched. They  
13 got right on board. They picked up the ball and  
14 they began to run with it. I think we have the very  
15 first meeting like in the spring of 2009. And since  
16 then we've had a series of interactions including  
17 public meetings and exchanges of documents and  
18 products.

19 I think, although they talked a little  
20 bit about it during their presentation, they really  
21 didn't give justice to the amount of work that was  
22 done to get to where we are today, because when we  
23 started out, we weren't even close to knowing the  
24 right answers, and we had a lot of options on the  
25 table. We were looking at license conditions, we

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1 were looking at making it a DAC, we were looking at  
2 other ways of -- back then we still had COL Holder  
3 items. And there were several other options. We  
4 had all these on the table as possibilities.

5 And then we gradually over time, between  
6 the NRC and Luminant, discussed those, discussed the  
7 pros and cons of the various options. Certainly  
8 ISG-08, which I didn't really consider a new  
9 product. It's always been in my mind that you don't  
10 issue a license without finalized tech specs, so to  
11 me that just was a clarification. We know that all  
12 along. And certainly that was a driving force in  
13 helping us decide what was the right solution to  
14 pursue?

15 So with that, I think I'll get going  
16 with the presentation. The next slide. I do hope  
17 you save some questions for us from this morning.

18 Okay. This slides talks about the  
19 background and the conservatism. And again, I'm  
20 probably going to repeat a lot of things that were  
21 said this morning. But like my wife says, who's a  
22 former teacher, this is reinforcement, not  
23 repetition.

24 In order to ensure safe operation of the  
25 plant many things get involved; and I think a lot of

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1 you know, but let me make just a few comments that  
2 many things go into the safe operation of a nuclear  
3 plant and many of those are not obvious and you  
4 can't really see those by looking at the paper. You  
5 know, tech specs and the license, the license  
6 including the tech specs define a level and certain  
7 rules and controls we have to live by.

8 But that's not what makes a safe  
9 operating plant. There's many, many other things.  
10 I've listed a couple here. Conservative decision  
11 making is certainly one of them. One of the very  
12 specific things we do is the way we control  
13 maintenance using the train week concept where you  
14 only work on one train during a given week. The  
15 Maintenance Rule itself and the way it's been  
16 implemented by all the operating plants is a  
17 significant contributor. We feel that adding risk-  
18 informed tech specs is another tool which allows us  
19 to operate these plants safely and allows us to  
20 operate them safer than we might have otherwise.

21 And I list some of the advantages here,  
22 just a few of them. It promotes situational  
23 awareness of equipment being out of service. And  
24 the Maintenance Rule did that as well, but any time  
25 you go into the risk-informed tech specs you're

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1 entering that realm and the entire plant staff,  
2 including the operators, are going to become more  
3 aware of that. We feel that's important.

4 It may; or may not, but somewhere during  
5 the life of a plant there's probably a chance it may  
6 avoid an unnecessary plant shutdown. And that  
7 doesn't necessarily mean a full shutdown. It means  
8 just maybe just starting in the shutdown. And I  
9 think we all agree that taking the plant through  
10 unnecessary excursions is not a good thing and is  
11 not conducive to safety. So if it's not appropriate  
12 to do that, you shouldn't be doing that, and these  
13 risk-informed tech specs help us to not do that when  
14 it's not necessary.

15 And reduce likelihood of NOEDs.

16 MEMBER BLEY: What's that? I don't know  
17 every acronym in the world yet.

18 MR. WOODLAN: Notice of enforcement  
19 discretion.

20 MEMBER BLEY: Okay. Thank you.

21 MR. WOODLAN: And when you think about  
22 it; and to me this is part of the concept, many of  
23 the NOEDs, or enforcement discretion we had to  
24 pursue in the past will probably be avoided because  
25 of the ability to adjust completion times ourselves

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1 based on risk. That's not a trivial thing, I don't  
2 think. It was a dramatic exercise for the utilities  
3 and for the NRC who had to review it. And in many  
4 cases you were relying on assessments, in particular  
5 PRA, because we didn't use PRAs to justify any kind  
6 of enforcement discretion. That had to be done very  
7 much in a rush. By having these processes in place,  
8 now we're more programmatic, we have a process that  
9 everybody understands. To me, it's a better way to  
10 go than NOEDs.

11 Okay. Next slide. Now here's where I  
12 get into some of the stuff that's somewhat  
13 repetitive, but I'll run through it anyhow.  
14 Adoption of risk-informed tech specs first of all  
15 appears in the US-APWR generic tech specs. I think  
16 you're probably aware of how it works between the  
17 design, the US-APWR certified design and how they  
18 create generic tech specs. And then we have to  
19 adopt those pretty much verbatim with the exception  
20 of areas that might be in brackets which allow  
21 plant-specific work to be done to fill in those  
22 brackets with an appropriate number.

23 CHAIRMAN STETKAR: You don't have to  
24 adopt.

25 MR. WOODLAN: Well, pretty much the way

1 the processes and rules are, you pretty much do.  
2 That's the way the process is written. And if  
3 you're going to deviate --

4 CHAIRMAN STETKAR: You can for a rule  
5 change.

6 MR. WOODLAN: Yes. We can for a rule  
7 change; that's right, and I guess that could happen  
8 down the road.

9 And so we've already mentioned even in  
10 the generic tech specs, although it's in brackets,  
11 they -- for these two -- and we worked with  
12 Mitsubishi to get these two into the generic tech  
13 specs. Like I say, we wanted it and so we went to  
14 Mitsubishi and said we want it. Please put it in  
15 the certified design. And they were very  
16 cooperative. They did. They put it in there. They  
17 include bracketed references to the NEI 06-09 and  
18 04-10, which we've already referred to earlier  
19 today. And we included it in our initial  
20 application back in September of 2008.

21 I've already mentioned that we've had a  
22 series of meetings --

23 MEMBER SHACK: I was sort of curious the  
24 Japanese even knew about these when those  
25 applications came in. Now I understand where it

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1 came from.

2 MR. WOODLAN: Yes, I remember a meeting  
3 several months before we filed, maybe six or nine  
4 months, where we sat down with Mitsubishi and  
5 Luminant, expressed why we wanted them and what -- I  
6 wouldn't say they didn't know what they were. I  
7 don't think they understood the value of them. And  
8 we went through that with them a lot, because it  
9 would obviously work for them, too, to now go back  
10 and modify their product to incorporate what we were  
11 asking for here.

12 Yes, like I say, we've had a series of  
13 meetings. We did address ISG-08, which was a key  
14 element in picking the options that we went with.  
15 Risk metrics, as mentioned. When we first started  
16 out it appeared to be a huge mountain. How do we  
17 deal with this? In fact, I believe we probably kind  
18 of forced the issue. Certainly risk metrics was  
19 probably thought of by some people before we  
20 actually filed our application. But once we filed  
21 our application, now it was on the table. You got  
22 to deal with it. You got a new plant that's going  
23 to be out there and you've got these old standards  
24 that were written for operating plants which -- who  
25 have PRAs at a different level now. Doesn't make

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1 sense, and so this issue now had to be dealt with.

2 CHAIRMAN STETKAR: Don, I think I know  
3 the answer to this question, but help me. Has  
4 Luminant been actively involved in the tabletop  
5 exercises that have been and are still ongoing with  
6 regards to risk-informed -- specifically with  
7 regards to risk-informed applications for new  
8 reactors to kind of examine this whole issue of risk  
9 metrics?

10 MR. WOODLAN: Let me answer that by  
11 saying that Luminant is working with Mitsubishi as a  
12 team on the risk-informed tech specs for the US-  
13 APWR, and as this team, yes, we have been involved.

14 CHAIRMAN STETKAR: Okay. I was just  
15 curious. In terms of actually running some of the  
16 case studies and looking at the changes in the  
17 values and -- you have? Okay.

18 MR. WOODLAN: Yes, and I'm --

19 CHAIRMAN STETKAR: But I mean not  
20 necessarily Luminant, but --

21 MR. WOODLAN: Well, your question  
22 reminded me that I forgot to introduce the other  
23 people up here right now.

24 CHAIRMAN STETKAR: The folks who are  
25 nodding their heads like this?

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1 MR. WOODLAN: And that's because they're  
2 the ones that actually did this. Next to me is Dr.  
3 Tanaka. He is very strongly involved in the PRA  
4 development for both the US-APWR design and for the  
5 Luminant activities.

6 Russ Bywater also works for MNES.  
7 Formerly he worked as an SRA, was a PRA person for  
8 the NRC. So both of them have very strong PRA  
9 knowledge.

10 And next to me is Tim Clouser who is  
11 Luminant. Has a lot of operating experience, so if  
12 you have questions like that, we'll get him the  
13 answer it. A former licensed operator for 1 and 2,  
14 so he brings a wealth of experience in that area.

15 CHAIRMAN STETKAR: Good. Thank you.

16 MR. WOODLAN: Okay. The second to the  
17 last bullet there: As we proceeded down the path,  
18 we finally recognized I think that we should look at  
19 the precedents that were out there in technical  
20 specification on how to deal with these challenges  
21 that needed to be part of the specs but you didn't  
22 want to put all the details in there. And there is  
23 precedence on using programs that are described in  
24 the technical specifications that have very specific  
25 processes that are well defined, and those processes

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1 are addressed in the technical specifications, but  
2 the material can be outside. And this seemed to fit  
3 that precedent, so that clearly become the best  
4 approach. And in order to make that work, we needed  
5 methodology. We had the NEI guidance to start with,  
6 but we needed to make sure that it was adequate for  
7 a new plant.

8 Okay. Next slide. This slide may help  
9 a little bit with some of the discussions we had  
10 earlier about how these specs get applied. This is  
11 actually not any given spec. It's a kind of generic  
12 explanation of how the specs work. This is part of  
13 the generic tech specs, or this is what a generic  
14 tech spec would look like. And the key item is the  
15 box that's in red there. Without the red box is  
16 what it would look like if it was just a normal  
17 deterministic tech spec. You would have your item  
18 A.1, do it in 72 hours.

19 With the generic tech specs that has the  
20 option for the modified completion times, you have  
21 that additional step in there, and it's in brackets  
22 because some plants may choose not to adopt risk-  
23 informed tech specs. And it gives you an "or"  
24 statement that, as mentioned earlier, you can apply.  
25 As long as you make your decision within 72 hours,

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1 you can apply the risk-informed completion time  
2 approach.

3 MEMBER BROWN: Which means you could go  
4 for three weeks?

5 MR. WOODLAN: Yes.

6 MEMBER BROWN: I'm just using that as  
7 a --

8 MR. WOODLAN: That's correct. Anything  
9 up to 30 days. Thirty days is --

10 MEMBER BROWN: Thirty days. Twenty-nine  
11 and twenty-three hours.

12 MR. WOODLAN: That's correct.

13 MEMBER BROWN: Yes.

14 MR. WOODLAN: Now, another way to look  
15 at this, let's say we were talking a normal  
16 operating plant now with 200% trains. The first one  
17 there about one required train inoperable. The  
18 specs probably says you need two trains operable for  
19 one to accomplish the function and then redundancy.  
20 This would allow you to apply this to the first  
21 train and the first train only. In the case of our  
22 design where we have four 50% trains, only three  
23 trains would be required to be operable by the  
24 technical specifications. So this would only come  
25 into effect when you're taking one of those required

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1 trains and you're challenged because it has a  
2 problem and it appears to be inoperable. If a  
3 second train is challenged, you can't apply this.  
4 It only applies when one required train is  
5 inoperable.

6 MEMBER BROWN: So the first train -- as  
7 you explained in your other thing, if one train of  
8 the four goes out, it's a nothing?

9 MR. WOODLAN: It doesn't related to tech  
10 specs.

11 MEMBER BROWN: The second of the -- now  
12 you're into the failed -- you don't want -- you can  
13 handle one failure, but now you're going to allow  
14 yourself to keep going with just two --

15 MR. WOODLAN: Yes.

16 MEMBER BROWN: -- for this RICT, risk-  
17 informed completion time, whatever it comes out to.  
18 That's when you would apply it. But the third  
19 train, you're back to square one again?

20 MR. WOODLAN: That's right.

21 MR. CLOUSER: Well, let me just add one  
22 thing I know if I could. That technically is  
23 correct for risk-informed tech specs. When that  
24 first piece of equipment goes out, the first of the  
25 four trains, that's a safety-related piece of

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1 equipment and that's treated very seriously within  
2 the industry and specifically at Comanche Peak.  
3 That's a Critical 2 item That's a defined item  
4 that's safety related and that means that it's  
5 tracked daily.

6 MEMBER BROWN: I didn't mean to blow --  
7 that wasn't my -- the way I phrased that didn't mean  
8 it wasn't going to be taken seriously. I just  
9 means --

10 MR. CLOUSER: No, and I understand that.  
11 I was just taking an opportunity to make sure I got  
12 that information out because we are talking about it  
13 strictly from a legal perspective, but there's a lot  
14 more to it than that.

15 MEMBER BROWN: Understand. Thank you.

16 MR. WOODLAN: I'm glad Tim brought that  
17 up, too, and not just because you made the comment,  
18 because other people -- and as I mentioned at the  
19 very beginning, their perception of what the plant  
20 does is only what's written on the paper. And they  
21 think, well gee, if tech specs isn't required, you  
22 can do anything you want with that fourth train.  
23 And that's not the way you would operate a plant  
24 safely. We maintain and will control that fourth  
25 train.

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1 MEMBER SKILLMAN: I'm Dick Skillman.

2 Let me ask the question now that I asked an hour or  
3 two ago.

4 MR. WOODLAN: Okay.

5 MEMBER SKILLMAN: Is the red box in the  
6 design certification?

7 MR. WOODLAN: In brackets, yes.

8 MEMBER SKILLMAN: Oh, it is?

9 MR. WOODLAN: Yes, in brackets though.  
10 And being in brackets means that the applicant has  
11 the choice of how he uses that, or she, and --

12 MEMBER SKILLMAN: Okay. Thank you.  
13 That's all I need.

14 MR. WOODLAN: Okay.

15 MEMBER SKILLMAN: Thank you.

16 MR. WOODLAN: All right. You're  
17 welcome.

18 MEMBER SKILLMAN: Okay.

19 MR. WOODLAN: Anymore questions on --

20 MEMBER BLEY: Yes, I had a question.  
21 You're allowed to do this, so you do it. Is there a  
22 requirement -- since they are LCOs, once you do  
23 develop a risk-informed completion time and start  
24 using that, do you have to notify NRC?

25 MR. WOODLAN: Well, that came up a

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1 little bit this morning. Let me elaborate a little  
2 bit. Every time you pursue this you redo the  
3 assessment, because assessment is based on the  
4 current plant configuration. And every time you go  
5 into it the plant configuration is going to be  
6 different.

7 MEMBER BLEY: Yes, that I understand.

8 MR. WOODLAN: Okay.

9 MEMBER BLEY: But my question was do you  
10 have to tell NRC --

11 MR. WOODLAN: No.

12 MEMBER BLEY: -- our completion time's  
13 no longer 72 hours; it's 150 hours?

14 MR. WOODLAN: For this given event, no,  
15 we don't have to tell them that.

16 MEMBER BLEY: Don't have to? Okay. So  
17 they don't necessarily know what your completion  
18 times are at any particular point in calendar time?

19 MR. WOODLAN: Okay. I answered you  
20 based on requirements. We are not required --

21 MEMBER BLEY: Yes, well, that's what I  
22 mean. By requirements --

23 MR. WOODLAN: We're not required to tell  
24 the NRC, no.

25 MEMBER BLEY: You aren't required? Yes,

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1 that's --

2 MR. WOODLAN: The reality is --

3 MEMBER BLEY: Of course you have a site  
4 inspector who --

5 MR. WOODLAN: There will be a resident  
6 there. We would not do this without calling the  
7 resident. We have a standard -- at Comanche Peak we  
8 have a standing order that anytime we do something  
9 significant with respect to the operations of the  
10 plant, if the resident isn't there to tell them, we  
11 call him at home and we say, hey, we're doing this.  
12 And I'm not going to speak too much for the staff,  
13 but I wouldn't be surprised at all about what their  
14 response and action is, very similar to -- like I  
15 say, this is much like an NOED, but their response  
16 is going to be very similar to when we do NOEDs  
17 today and they're going to be very interested in how  
18 we did it and what we did. When we do an NOED  
19 today, we provide them our assessment of the risk  
20 and they frequently run a parallel assessment based  
21 on their own models. And if the numbers don't match  
22 up, they come back to us and say something doesn't  
23 look right here. Please explain.

24 I think -- Bob, do you have a comment?

25 MR. TJADER: Yes, excuse me for

1 interrupting. Yes, this is Bob Tjader. I just  
2 wanted to make something clear which may not be  
3 clear, and I apologize if it is clear and I'm just  
4 being redundant.

5 But the fact is that with risk-informed  
6 completion times, when you voluntarily enter a risk-  
7 informed completion time, you've done the  
8 calculation, you determine what it is and you're not  
9 extending your completion time out to whatever it  
10 is, up to 30 days, that is done on a one-time basis.  
11 That is, that on this entry it is now 14 days. On  
12 this entry it is 14 days. And in fact, when you're  
13 in risk-informed completion times, what the  
14 requirements have is that any time there is a plant  
15 configuration change that affects the PRA, it has to  
16 be recalculated and the risk-informed completion  
17 time adjusted.

18 When all systems -- once you're in a  
19 risk-informed completion time and now you've  
20 restored systems to operable status and you're out  
21 of the risk-informed completion time, everything  
22 resets. The original completion time goes back to  
23 72 hours and the next time you enter, if you want to  
24 go beyond 72 hours, you recalculate again.

25 MEMBER BLEY: So if you wanted to reset

1 a bunch of these permanently, you'd have to go in  
2 with a license amendment?

3 MR. TJADER: Exactly.

4 MEMBER BLEY: Okay. It's --

5 MR. TJADER: Okay.

6 MEMBER BLEY -- only the one time?

7 MR. TJADER: So if one stops, it  
8 would --

9 MEMBER BLEY: I missed that.

10 MR. TJADER: -- remain the same.

11 MEMBER BROWN: Yes, that was the  
12 question I asked when we were talking --

13 PARTICIPANT: Yes, I know, but I slid  
14 past.

15 MEMBER BROWN: -- for the RICT. This is  
16 -- it's a case-by-case basis.

17 MR. TJADER: Exactly. That's --

18 MEMBER BROWN: For a surveillance  
19 frequencies you can change it and it stays there  
20 unless you meet some other metrics to have to go  
21 back and readjust or reevaluate.

22 MR. TJADER: Exactly. Yes. That's  
23 correct.

24 MEMBER BROWN: And the DCD does have  
25 this -- no, I just went and looked. It's there.

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1 MR. TJADER: Yes, the -- Don is  
2 absolutely right. In the DCD it's bracketed where  
3 it has "or," you know, and then un-bracketed. Now,  
4 Don will get into it further with surveillance --

5 MR. WOODLAN: Good clarification. It's  
6 not redundant. It's reinforcement.

7 MR. TJADER: Okay. Thanks.

8 MR. WOODLAN: Okay. More questions on  
9 this slide?

10 (No response.)

11 MR. WOODLAN: Here is an equivalent  
12 slide for the Surveillance Frequency Control  
13 Program. And just like before, the portions that  
14 the applicant can work on are in brackets. In this  
15 case it's in the frequency column, the two red  
16 blocks there. The seven days is the number that is  
17 recommended by the generic tech specs. It's also in  
18 brackets because if you're using different equipment  
19 or something, you may need to modify that number  
20 just as a base number. But it includes that "or"  
21 statement which allows you to go over to the  
22 Surveillance Frequency Control Program. And of  
23 course in our tech specs the brackets won't be  
24 there. It'll be there without the brackets.

25 CHAIRMAN STETKAR: Done, in the risk-

1 informed completion times; I didn't check all of the  
2 tech specs, do you have any systems for which the  
3 first out actually has a time? You know, you have a  
4 four-train plant and basically you can have one  
5 train out indefinitely and the risk-informed  
6 completion times kick in when the second train goes  
7 out. Do you have any systems for which there is  
8 actually a completion time for the first train?

9 MEMBER BLEY: Where you need all four.

10 CHAIRMAN STETKAR: Where the tech spec  
11 is written, you know, all four shall be operable  
12 during plant operation?

13 MR. WOODLAN: Why would -- I guess I  
14 don't understand the surveillance for the first --

15 CHAIRMAN STETKAR: Not surveillance.

16 MR. WOODLAN: Oh.

17 CHAIRMAN STETKAR: This is risk-informed  
18 completion times.

19 MR. WOODLAN: Oh, back on completion  
20 times?

21 CHAIRMAN STETKAR: Yes, on completion  
22 times.

23 MR. WOODLAN: I don't believe so. Do  
24 you recall?

25 MR. BYWATER: This is Russ Bywater with

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1 MNES, and we thought we might have an example, but  
2 we checked and --

3 CHAIRMAN STETKAR: I'm not sure. I  
4 actually checked a couple. I couldn't find any, but  
5 I wasn't going to go -- the tech specs are 800-and-  
6 some-odd pages --

7 MR. BYWATER: Right.

8 CHAIRMAN STETKAR: -- with the basis.

9 MR. BYWATER: There are some systems  
10 that are a little different little emergency  
11 feedwater where you have some diverse drivers of the  
12 pumps, and that was one that we just did a quick  
13 check on.

14 CHAIRMAN STETKAR: The reason I ask is  
15 if there are any that do have a requirement that  
16 hangs a time on, you know, the first piece of  
17 equipment going out, are those also candidates for  
18 the risk-informed completion times such that --

19 MR. WOODLAN: If it's required by tech  
20 specs and if its loss does not negate the safety  
21 function --

22 CHAIRMAN STETKAR: Yes. Okay.

23 MR. WOODLAN: -- yes, it can be.

24 CHAIRMAN STETKAR: Then that would be in  
25 the -- okay.

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1 MR. WOODLAN: That doesn't necessarily  
2 -- I don't think we do have any in there like  
3 that --

4 CHAIRMAN STETKAR: I don't -- I was just  
5 curious if you knew off the top --

6 MR. WOODLAN: -- but it could have  
7 happened.

8 CHAIRMAN STETKAR: -- but in -- I mean,  
9 there's a statement made in the methodology that it  
10 always applies only to the second train out.

11 MR. WOODLAN: And that's only when  
12 there's four 50 percent trains.

13 CHAIRMAN STETKAR: Yes.

14 MR. WOODLAN: That statement was meant  
15 to be for that situation.

16 CHAIRMAN STETKAR: Okay. Thanks.

17 MR. WOODLAN: Okay. This is -- we went  
18 ahead and pulled for you to look at -- not  
19 necessarily going to go through in detail. There's  
20 two slides here that show the proposed Configuration  
21 Risk-Management Program as it's stated in tech  
22 specs. And you'll notice in the middle of the page  
23 there in the red block there is a sentence there  
24 that's in brackets. Again, this is the generic tech  
25 specs. So this is how they wrote it in the generic

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1 -- actually this whole 5.5.18 is in brackets because  
2 if you don't have risk-informed tech specs you don't  
3 need this program in your tech specs.

4 But within the brackets there's brackets  
5 relating to NEI 06-09. And the reason for that is  
6 in these types of tech specs, when you have a  
7 program description like this, you need to link it  
8 to a very specific methodology. And it's by title,  
9 name, date, revision level, whatever, but it's a  
10 very specific document. And that's why that's in  
11 brackets and that's what we need to fill in.

12 In fact, we're working on that now. We  
13 have some draft words. Probably going to provide  
14 the staff within the next day or two of how we  
15 intend to fill that in. It's basically going to say  
16 NEI 06-09, Revision 0, as modified and supplemented  
17 by the Comanche Peak supplement document. That's  
18 essentially what it's going to say.

19 Under No. 3 there you'll see the 30  
20 days. That's where the back stop is, so you can't  
21 beyond the 30 days.

22 And this is just the remainder of it.  
23 You'll see some of the key aspects. There's another  
24 entry there where we'll fill in. It's much like the  
25 first bracket, you'll see though that some of the

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1 key things that Nick mentioned in his presentation  
2 that are important going forward as a Part 52 plant  
3 that need to be addressed are station procedures,  
4 training, the PRA model, the CRM tool itself. And  
5 all those are covered by the supporting documents.

6 CHAIRMAN STETKAR: What is an  
7 appropriate CRM tool? Do you have a risk monitor  
8 that's actually been in place and people have looked  
9 at the translation of the PRA model to whatever  
10 model is used in the risk monitor, if it's a  
11 different --

12 MR. WOODLAN: Well, that is not the risk  
13 monitor.

14 CHAIRMAN STETKAR: It isn't?

15 MR. WOODLAN: No.

16 CHAIRMAN STETKAR: Okay.

17 MR. WOODLAN: This is the configuration  
18 risk management tool.

19 CHAIRMAN STETKAR: Okay. Well, some  
20 people --

21 MR. WOODLAN: I know, that would be  
22 confusing.

23 CHAIRMAN STETKAR: -- call that a risk  
24 monitor.

25 MR. WOODLAN: And this is the -- it's

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1 covered by the 06-09, but it's basically the tool  
2 that you use that allows you to make the decision  
3 when it's time to make a decision.

4 CHAIRMAN STETKAR: Oh, okay.

5 MR. WOODLAN: And, you know, it says who  
6 needs to do what, and how you go to the PRA, and how  
7 it goes to the Committee, and the decision gets  
8 made. It's all part of --

9 CHAIRMAN STETKAR: I was interpreting  
10 this as, you know, kind of the online risk monitor  
11 that people use --

12 MR. WOODLAN: No. No.

13 CHAIRMAN STETKAR: -- and some people  
14 call that a configuration risk management or  
15 monitoring tool.

16 MR. WOODLAN: Yes. We do have risk  
17 monitors, but that's not what this is about.

18 CHAIRMAN STETKAR: Thanks.

19 MR. WOODLAN: Now here's the equivalent  
20 program for the Surveillance Frequency Control  
21 Program. Again, these are the words right out of  
22 the generic tech specs. And again, there's a red  
23 box down there where we'll fill in the Comanche  
24 Peak-specific methodology. And again, it would be  
25 by rev level or date, whatever it is at the time

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1 that gets approved.

2 CHAIRMAN STETKAR: Now, these --  
3 happened to have printed something out from Rev 3 of  
4 the FSAR, and the places where you show these red  
5 little squares here and the brackets don't appear  
6 bracketed, for example, in Rev 3 of the FSAR.

7 MEMBER BROWN: Rev 3? They're in Rev 2  
8 in brackets. I've got Rev 2.

9 PARTICIPANT: I think I have Rev 3.

10 MEMBER BROWN: Is there a Rev 3?

11 CHAIRMAN STETKAR: I have a piece of  
12 paper here that says Rev 3 down here; I'm sure you  
13 can read it at that distance, and it doesn't have  
14 the brackets or things in it.

15 The question is though because -- and I  
16 didn't go back and check the DCD. Since the tech  
17 specs are repeated directly from the DCD, is this a  
18 change to the tech specs from the DCD? In other  
19 words, if the DCD doesn't have those brackets in  
20 there -- I don't know, in terms of legal, you know,  
21 sort of licensing things, if you'd made a change to  
22 the text of the tech specs from the DCD to the COL  
23 FSAR, is that considered a departure from the design  
24 certification? I have to ask our staff folks here.

25 MR. MONARQUE: Bob's going to give an

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1 answer.

2 MR. TJADER: Well, we've bracketed those  
3 which allows for the appropriate revision to NEI 06-  
4 09. In other words, there's going to be a Rev 1 and  
5 a later SCOL comes along and wants to adopt Rev 1,  
6 we have -- and because it's bracketed, it allows  
7 them, the applicant, the option to adopt the  
8 appropriate revision number. That is a use that  
9 we're taking from the standard tech spec usage. So  
10 we do not believe that that is a departure.

11 In addition to that, the appropriate  
12 methodology document, which is bracketed in the DCD,  
13 the applicant can have their plant-specific  
14 methodology inserted there and I do not believe that  
15 that is a departure.

16 MEMBER BLEY: I think the question was  
17 if the DCD does not have brackets but the FSAR does,  
18 would that be a departure?

19 MR. TJADER: Well, I think if the DCD  
20 specs do not have brackets, then unfortunately that  
21 would be a departure.

22 CHAIRMAN STETKAR: And I believe I  
23 misspoke earlier. I'm just trying to find the right  
24 page on the DCD, if you give me chance here.

25 MR. TJADER: I know that we are still

1 negotiating with Mitsubishi. We are still reviewing  
2 responses to RAIs and I noticed that Rev 3 of the  
3 DCD for the APWR tech specs does not have the latest  
4 version in there. So it will appear that it'll be a  
5 departure for Rev 3, but they have promised me that  
6 the next version will have it in it.

7 CHAIRMAN STETKAR: And you're correct,  
8 Bob. I just found the page. What I thought I had  
9 when I said that I had the FSAR, I indeed have a  
10 page from the DCD which does not have the correct  
11 version in it, Rev 3 of the DCD.

12 MR. TJADER: And if I could just have  
13 one other comment, if I might; and excuse me, Don.

14 But the CRM tool in fact includes the  
15 risk calculator, if you will, and that risk  
16 calculator has to have risk attributes of NEI 06-09  
17 in it. In other words, there has to be an adequate  
18 representation or -- and a -- I don't know if  
19 "exact" is the appropriate word, but it has to  
20 adequately represent the PRA. The risk monitoring  
21 tool has to do that. So, yes.

22 And as far as experience, there's only  
23 one plant that has a CRM tool at this time and that  
24 is South Texas 1 and 2. And their CRM tool uses a  
25 different process, and that is a huge database of

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1 20,000 pre-calculated configurations, 20,000-plus.  
2 So theirs is a database approach rather than an  
3 online actual monitor approach.

4 CHAIRMAN STETKAR: If that's the case;  
5 that's sort of the way I understood it, we now have  
6 a tool, as you called it a risk calculator, which is  
7 not the PRA. It's something that's different than  
8 the PRA; the PRA being a supposedly pedigreed  
9 calculator, neither of which things are reviewed by  
10 the staff, each of which has assumptions and  
11 limitations in it. Who looks at the risk  
12 calculator? Is that also subject to a peer review  
13 against standards? I'm not aware of standards for  
14 that conversion.

15 MR. TJADER: I don't believe there are  
16 any peer review requirements for the tool, however,  
17 it is subject to audit by the staff, as is the PRA.

18 MEMBER BLEY: Well, you just raised  
19 something, John. This isn't quite aimed here, but  
20 I've been thinking about it. I'm just jumping to  
21 something a little different, but related.

22 When the site-specific complete PRA  
23 before fuel load is completed, there's no  
24 requirement to submit it and there's no detailed  
25 review. However, NRC's lab contractors; and

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1 therefore NRC, maintains their own PRA models, SPAR  
2 models, that are benchmarked against the real PRA at  
3 the sites. And you had said the resident would run  
4 it in their own models, which would be the SPAR  
5 models.

6 I'm just curious if anybody's thought  
7 through when the SPAR models actually get calibrated  
8 against the real PRA when it's done. And that ought  
9 to be something like -- not quite independent, but a  
10 separate check of all of this stuff, that PRA and  
11 all of these other calculations along the way. Can  
12 anybody address that just to give me some  
13 confidence?

14 MS. MROWCA: I can. This is Lynn  
15 Mrowca, and in fact we do have right now an APWR  
16 Level 1 internal event SPAR model that the NRO staff  
17 is reviewing. The idea is that we can use that as  
18 kind of a baseline and then develop site-specific  
19 modules for seismic, for fires, for flooding, for  
20 low-power shutdown, Level 2. And then we would then  
21 have -- and they would be based on the site-specific  
22 aspects of Comanche Peak so that we would use that  
23 as our SPAR model for Comanche Peak.

24 So between now -- which like I said, I  
25 think we've got a head start on, and then we would

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1 come and benchmark it just like we do with the  
2 operating plants.

3 MEMBER BLEY: Okay. That helps. I've  
4 never quite seen what kind of benchmark is done, but  
5 I understand they run many different scenarios and  
6 compare them.

7 MS. MROWCA: Run scenarios and then --  
8 yes, and then look at differences, look at big  
9 differences and see if you can figure out what the  
10 differences are.

11 MEMBER BLEY: And revise --

12 MS. MROWCA: And adjust accordingly.

13 MEMBER BLEY: -- one of the models to --

14 MS. MROWCA: And adjust accordingly.

15 MEMBER BLEY: Okay. One day it would be  
16 nice for us to understand that process a little bit  
17 as risk-informed applications become more important,  
18 such as this one.

19 MS. MROWCA: Yes, and that would be  
20 another opportunity to work with the applicants or  
21 the licensees at that time to check their PRA, you  
22 know, kind of an inspection by doing this  
23 benchmarking with the SPAR models.

24 MEMBER BLEY: Okay. I'm sorry.

25 MR. WOODLAN: Thank you, Bob. And I

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1 checked. Our heads were nodding. We agree with  
2 what you said.

3 Okay. Anymore questions on the slide so  
4 far?

5 (No response.)

6 MR. WOODLAN: Okay. The next group of  
7 slides talk about the methodology document itself,  
8 which I think you have because I think you mentioned  
9 it several times. It is the product that was  
10 attached to our June 30 letter. That was our first  
11 formal submittal of that document. And as Nick  
12 mentioned, there is an outstanding RAI, which  
13 actually I think we're planning on answering this  
14 week, or we're very close to having a final answer  
15 and submitting it.

16 It's basically broken down to a group of  
17 sections. We address the NEI documents 06-09 and  
18 04-10 and this is where we discuss where we are  
19 making modifications to those documents. We address  
20 the programs as written in the tech specs. We talk  
21 about the programs, brief descriptions of both  
22 programs in that methodology document, the qualities  
23 of the PRA necessary to support the document. And  
24 currently we have a section in there discussing risk  
25 metrics that was created at the time that we thought

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1 we may have to do some unique things. We're now of  
2 the opinion that the generic activity based on the  
3 Commission's -- what was it, a SECY that they filed  
4 earlier this year, and the follow up tabletops, and  
5 whatever the conclusions are next year, we think  
6 that section probably won't be necessary and  
7 probably should not be in the methodology. But it  
8 is in the version that we have originally published.

9 Now, the next group of slides shows some  
10 of the modifications we made. And in lieu of the  
11 way it's shown in the document, which just says  
12 "insert this sentence," or something, we've tried to  
13 show it in context.

14 CHAIRMAN STETKAR: Don?

15 MR. WOODLAN: Yes?

16 CHAIRMAN STETKAR: Just thinking about  
17 the risk metrics; and I'm pretty well aware of  
18 what's going on there, if you apply the current risk  
19 metrics, and let's say that your risk-informed  
20 completion time for a particular configuration gives  
21 you a core damage frequency of 9.99 times 10 to the  
22 minus 5, just as a number, you're still under some  
23 magic 10 to the minus 4 threshold, so that indeed if  
24 -- you know, if you'll allow me to draw a solid  
25 black and white line at 10 to the minus 4 as being

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1 acceptable, and you're just under your 30 days  
2 backstop, is there any guidance -- is that okay or  
3 is there any guidance anticipated to say that as an  
4 application of this process I should also consider  
5 margin, or is it strictly a black and white, go/no  
6 go so that 9.99 times 10 to the minus 5 is check the  
7 box green and 1.001 times 10 to the minus 4 is check  
8 the box red?

9 MR. WOODLAN: I understand. And let me  
10 give you the best answer I can. I'm not sure I can  
11 get this completely right. My understanding, this  
12 is a risk-informed activity. It's not a go/no go  
13 based on what -- the numbers you get out of a  
14 calculation or a PRA. Obviously, the numbers can  
15 make it a no go if the numbers are --

16 CHAIRMAN STETKAR: Yes. Sure. Sure.

17 MR. WOODLAN: Just because the numbers  
18 are adequate, it doesn't make it a go though.  
19 There's a lot of things to consider, and some of  
20 them are talked about in here in some of the  
21 modifications we made and part of the rules. And  
22 part of the challenge of being a Part 52 plant --  
23 and Nick touched on several of them in his  
24 presentation -- clearly, one of them is that we  
25 don't have plant-specific experience.

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1                   Now, in some cases we have good  
2                   experience. Pumps tend to be pumps, valves tend to  
3                   be valves, but there are some unique applications,  
4                   and we don't have Comanche Peak 3 and 4 experience.  
5                   And all of that information; and that's just one  
6                   example of some of the key things or the  
7                   uncertainties that need to be considered, is rolled  
8                   in to the assessment which is then passed by our  
9                   team that's assigned to make the decision.

10                   And I would only guess that if it was  
11                   close and if there were any uncertainties involved  
12                   at all, they would probably say this is a no go.  
13                   We're not going to do it.

14                   CHAIRMAN STETKAR: Yes.

15                   MR. WOODLAN: On the other hand, if it  
16                   was that close and in fact we had a lot of  
17                   confidence in all those numbers, it might be a go.  
18                   So I don't think there's a clear yes or no answer to  
19                   that. It will be risk-informed. Many factors will  
20                   go into making that decision.

21                   CHAIRMAN STETKAR: Okay. I was just  
22                   curious. I was trying to get more of a sense of --  
23                   some folks have talked about the risk metrics rather  
24                   than having, you know, an absolute value, that there  
25                   we be, you know, some measure of relative margin,

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1 things like that. And I was just -- I was trying to  
2 probe a little bit whether you'd thought a little  
3 bit along those lines or --

4 MR. WOODLAN: Well, like I say, you can  
5 definitely make it a no go.

6 CHAIRMAN STETKAR: Yes. Oh, yes. I  
7 mean, that's pretty clear.

8 MR. WOODLAN: Yes.

9 CHAIRMAN STETKAR: I was trying to make  
10 it, you know, as close to the no go margin as  
11 possible.

12 MR. WOODLAN: And I don't pretend to be  
13 an expert here and I just described it to the best  
14 of my understanding.

15 Does somebody want to add something?

16 MR. BYWATER: No, I think you're exactly  
17 right, Don. Russ Bywater, MNES. It's part of a  
18 risk-informed decision making process. And as a  
19 participant in benchmarking activities in response  
20 to the SRM for the SECY paper 10-0121, we were  
21 actively involved in trying to benchmark risk-  
22 informed processes and to try to understand whether  
23 or not the enhanced safety margins of new reactors  
24 would be degraded in implementation of these  
25 programs. And as a part of that overall process,

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1 you know, we would have to inform our decision  
2 making, treat the key sources of uncertainty, as Mr.  
3 Saltos mentioned in his presentation, and treat it  
4 holistically. It's a bigger decision making process  
5 than evaluating a number against a criterion.

6 As another aside, back to your previous  
7 question about evaluation of risk of plant  
8 configurations with NRC tools; for example, the SPAR  
9 model, it was very reminiscent to me of my days of  
10 doing NOED assessments as a regional office senior  
11 reactor analyst and using a SPAR model that had been  
12 benchmarked in one way or another to the plant-  
13 specific PRA and then coming up with some results  
14 and fully realizing that the results that you get  
15 are not -- they're point estimates of something with  
16 a range of uncertainty and that that all factors  
17 into an informed decision.

18 CHAIRMAN STETKAR: Thanks.

19 MR. WOODLAN: Does anybody else on the  
20 staff want to make a comment?

21 (No response.)

22 MR. WOODLAN: Okay. Back to the slide.  
23 Like I say, I'm not going to spend a lot of time and  
24 I'm not going to read these the way they are in  
25 context. If you see something and you want to ask a

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1 question, okay.

2 I did want to point out though, most of  
3 these changes are to adopt the operating plant  
4 guidance and processes to properly fit a Part 52  
5 plant. So you'll notice the words that are in the  
6 middle about one year prior to initial fuel load and  
7 endorsed standards. That's to make it consistent  
8 with the regulations that apply to us. And  
9 likewise, the words down below about operating  
10 experience, that's consistent with what Nick was  
11 talking about and what we have to deal with with the  
12 fact that we're a new plant. We don't have plant-  
13 specific operating experience, so that needs to be  
14 incorporated.

15 Go to the next slide.

16 MEMBER SHACK: You're not going to allow  
17 yourself any deviation from capability categories?

18 MR. WOODLAN: No, we intend to follow  
19 what the guidance is requiring.

20 MR. TANAKA: Well, actually category --  
21 yes. We'll follow, yes, the guidance of Reg Guide  
22 1.200, which says Category II to IV is necessary for  
23 the application. So it's not -- when this says all,  
24 it's not literally all.

25 MR. WOODLAN: Okay?



1 MEMBER SHACK: Yes.

2 MR. WOODLAN: Okay.

3 MEMBER BROWN: On slide 10 how come you  
4 deleted references to the Reg Guide 1.2 and the ASME  
5 stuff, which is kind of the base documents for some  
6 of the stuff you were talking about like, you know,  
7 the Category II PRA? And then reading some other  
8 parts of the NEI document, they referred to the ASME  
9 Code and the Reg Guide 1.2 explicitly. And now  
10 you've deleted them from your --

11 MEMBER BLEY: But they added in NRC-  
12 endorsed consensus standards.

13 MEMBER BROWN: Pardon?

14 MR. BYWATER: This is Russ. I think I  
15 can help address that. Again, what we are doing  
16 here is we're incorporating by reference the NEI  
17 documents themselves with modifications that are  
18 necessary for our new plant. And in our case, where  
19 we have to have PRA that meets the 10 C.F.R. 52  
20 requirements and then also the 50.71(h) requirements  
21 that we mentioned earlier, this is a way to address  
22 that to say that we will have our PRA meeting  
23 Category II for those supporting requirements  
24 important to RMTS of those NRC-endorsed consensus  
25 standards in effect at that time, which the language

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1 in the NEI document now states of the ASME internal  
2 events at power PRA standard. We want to make sure  
3 it's identifying in this document now that we will  
4 use the NRC-endorsed consensus standards in effect  
5 at that time one year prior to fuel load.

6 MR. WOODLAN: So the operating plants  
7 are linked to Rev 0 by the NEI guidance.

8 MEMBER BROWN: I understand that.

9 MR. WOODLAN: We need to comply with  
10 whatever the NRC-endorsed version is at the time one  
11 year before our fuel load. So if that were Rev 2,  
12 we'll be applying to Rev 2. So the only reason for  
13 crossing that out was to eliminate the specific  
14 revision that's being linked to. And instead we're  
15 relying on the words down below, which says the NRC-  
16 endorsed consensus standard. So it's really not  
17 divorcing us from 1.200. We're still tied, and  
18 that's covered clearly in 06-09 and 04-10.

19 MEMBER BLEY: That's where NRC endorses  
20 the standard is in 1.200, and it tells how they  
21 endorsed it.

22 MEMBER SHACK: Yes, I mean, I had the  
23 same reaction to Charlie when I read that, when I  
24 noticed it was gone, but then if you go back to  
25 Section 3.3, you bring back a reference to 1.200.

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1 MR. WOODLAN: Oh, yes, 1.200's still in  
2 the methodology.

3 MEMBER SHACK: It's still in the  
4 document, so --

5 MR. WOODLAN: We just wanted to delete  
6 the specific reference by revision level at this  
7 point.

8 MEMBER BROWN: Yes, I read 3.3 and I saw  
9 that, but I didn't --

10 PARTICIPANT: Didn't --

11 MEMBER BROWN: Well, I didn't connect it  
12 because they still got --

13 MEMBER SHACK: It leaves those as the  
14 three primary documents for looking at the PRA  
15 adequacy, which is the two NEI documents and the  
16 one --

17 MEMBER BROWN: Yes, but the ASME stuff  
18 still wasn't dumped back in.

19 CHAIRMAN STETKAR: 1.200. It's pulled  
20 in through 1.200. The problem is that the ASME  
21 standard for at power PRA might not be what you need  
22 to use by the time they get around to being one year  
23 for loading fuel. There might be an ASME shutdown  
24 including, you know, external events and stuff by  
25 that time.

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1                   MEMBER BROWN: But does that exclude  
2 them from having to reply for the operating plant-  
3 type requirements later as opposed to just the  
4 standard involved at the initial load? I mean, does  
5 that mean -- do they ever transition back to what  
6 every -- I don't know, is the thing they do with an  
7 initial fuel load then going to be satisfactory for  
8 all operations subsequent to that?

9                   MEMBER BLEY: Well, it says NRC-endorsed  
10 consensus standards which would you force you back  
11 to the same place.

12                   MEMBER BROWN: It just seems a little  
13 bit rubbery.

14                   CHAIRMAN STETKAR: I mean, some of the  
15 sense that we're talking about before is that  
16 because this -- it's at least my interpretation that  
17 the confidence builder is that because this is a  
18 risk-informed application that the PRA quality to  
19 support that risk-informed application has to be  
20 kept up. I mean, you know, you can't fall back to  
21 something once you start operating, if that's your  
22 concern.

23                   MEMBER BROWN: Okay. I guess Capability  
24 Category II was related to Reg Guide 1.200.

25                   MR. WOODLAN: Yes, it still is.

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1 MEMBER BROWN: But now the reference,  
2 now the connection to it was gone in this --

3 MEMBER BLEY: Actually the capability  
4 categories are laid out in the standard that 1.200  
5 points to.

6 CHAIRMAN STETKAR: Yes, and 1.200  
7 endorses -- as the standards are developed, 1.200  
8 says, okay, now we endorse this additional standard.

9 MEMBER BLEY: With the following  
10 exceptions.

11 CHAIRMAN STETKAR: With the following  
12 exceptions. Okay. So just pointing to 1.200 sucks  
13 it -- pulls it all in. They deleted it.

14 MEMBER BLEY: And I guess the real  
15 problem is they don't want to refer to a specific  
16 revision which will change as time goes on.

17 MEMBER BROWN: Well, but they could have  
18 done that by just deleting the revision number and  
19 say the revision level that applies at the time as  
20 opposed to deleting the whole Reg Guide. It just  
21 seemed to me the whole thing disappeared as well as  
22 the ASME references disappeared as opposed to the  
23 revision levels endorsed by the NRC at the time.  
24 That's just a different way of framing it, but it  
25 retains the reference to the base documents; that's

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1 all.

2 MR. WOODLAN: Well, I guess we didn't  
3 want to limit it. The way the words were, it looks  
4 like it's kind of limited to Reg Guide 1.200,  
5 whereas the new words we've added shows that it's  
6 not limited to 200. It's all the NRC-endorsed  
7 consensus standards. Maybe we could have worded it  
8 differently, but that's how we chose to do it.

9 MEMBER BROWN: Going to write another  
10 one other 1.200?

11 MEMBER SHACK: Well, they have written  
12 other consensus standards. 1.200 will endorse  
13 although, you know, as the standard develops, from  
14 internal events, to external events, to shutdown.

15 CHAIRMAN STETKAR: I mean, it's clear in  
16 3.3. It says the supporting PRA will have the  
17 following essential elements: Numerous documents  
18 are used to describe the PRA model being used.  
19 Three primary documents; Regulatory Guide 1.200, NEI  
20 06-09 and NEI 04-10. 1.200 endorses those  
21 standards, you know, endorses whatever standards are  
22 endorsed at the time you develop the PRA.

23 MEMBER BROWN: Okay. All right. I  
24 quit.

25 MR. WOODLAN: Well, we've heard your

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1 concern and obviously somebody has it. Somebody  
2 else might. We're still working on this document --

3 MEMBER BROWN: Well, I understand that.

4 MR. WOODLAN: -- like Nick said, and if  
5 we think we can make the wording clearer, we may do  
6 that.

7 MEMBER BROWN: We'll get another shot.

8 MR. WOODLAN: You will get another shot.

9 All right. The next slide shows another  
10 area where we made modification. And it's  
11 essentially the same thing. We're making sure that  
12 this addresses how we're dealing with uncertainty  
13 and we link it directly back to the DCD information  
14 about key sources of uncertainty and key  
15 assumptions. And again, this is all to bring it up  
16 to Part 52 and make sure we're consistent with being  
17 a new plant and with being under Part 52. Talk  
18 about operating experience again.

19 Ready for the next slide. Another area  
20 of change. Again, without going through it in  
21 detail, it's the same types of additions. We bring  
22 in again key sources of uncertainty and we talk  
23 about operating experience.

24 CHAIRMAN STETKAR: Don?

25 MR. WOODLAN: Yes?

1 CHAIRMAN STETKAR: I just suddenly got  
2 confused. The last slide, 11, where you've  
3 highlighted text --

4 MR. WOODLAN: Yes.

5 CHAIRMAN STETKAR: -- then there's a lot  
6 of other text, what is this text from? From what  
7 did you extract this text?

8 MEMBER BROWN: The black print?

9 MR. WOODLAN: The black comes directly  
10 out of 06-09.

11 CHAIRMAN STETKAR: Oh, 06-09. Okay.  
12 I'm sorry. Okay. Fine. I was --

13 PARTICIPANT: You were looking for it in  
14 here.

15 CHAIRMAN STETKAR: I was looking for it  
16 in your methodology.

17 MR. WOODLAN: Yes, maybe I didn't make  
18 it clear up front. We tried to present them in  
19 context as how they fit into 06-09.

20 CHAIRMAN STETKAR: Okay.

21 MR. WOODLAN: It makes a little more  
22 sense than just reading the methodology where it  
23 says "insert this sentence."

24 CHAIRMAN STETKAR: Okay. I'm sorry.  
25 Thank you. That helps.

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1                   MEMBER BROWN: But when I read through  
2 your methodology, I hung up on "epistemic  
3 uncertainty" and I said I don't remember seeing that  
4 in there.

5                   MR. WOODLAN: Okay. We'll just continue  
6 through the slides now. This is just another  
7 example of another location where we felt it was  
8 important to reinforce these same facts.

9                   Go ahead to the next slide. I think  
10 this is the last one on 06-09. And again, you'll  
11 see the same areas of discussion consistent with  
12 consistent with standards. And here we do have Reg  
13 Guide 1.200 still in there, which we inserted --

14                  MEMBER BROWN: Well, what you've --  
15 other words -- you replaced the first sentence and  
16 you retained that except ASME was mentioned in the  
17 other one and now it's gone. That's just a note I  
18 had.

19                  MR. WOODLAN: Okay.

20                  MEMBER BROWN: Why was the reference to  
21 ASME standards deleted.

22                  MR. WOODLAN: And the next slide. This  
23 is 04-10. And again, here you'll see the  
24 modification that we've made to 04-10.

25                  Before we leave all of these, I mean --

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1 well, I'll cover it on the next slide.

2 As Nick pointed out, we do have an RAI.  
3 This is still a work in progress. There's still a  
4 good exchange I think of discussions about what  
5 modifications are appropriate to this methodology to  
6 make it the right document to be discussed in tech  
7 specs. We want to come up with words that clearly  
8 establish the process so that it works for a new  
9 plant and takes into consideration the needs with  
10 respect to lack of plant-specific operating  
11 experience and the tie to consensus standards as  
12 required by the regulations.

13 So there are several areas that we're  
14 looking at very, very closely. We want to review  
15 the clarity of the document, as mentioned earlier,  
16 for the current operating plants. And there are  
17 some words in the documents that talk about using  
18 bounding assumptions, because they don't have a lot  
19 of the analyses that hopefully we'll have in place  
20 and I think we're required to have such as seismic  
21 and fire and things like that. We will have those.  
22 So bounding analysis is not -- needs to be clarified  
23 on how we apply that as opposed to the current  
24 operating plants.

25 A good link to the regulations, a

1 discussion on common cause. We believe our PRA  
2 covers that, but it needs to be clearer how common  
3 cause is addressed if in fact there is aspects that  
4 are not covered by the PRA. And then in general  
5 text cleanup.

6 So these are just some of the areas that  
7 we're looking at. Many of these are already covered  
8 by the RAI that the NRC asked for us. And by the  
9 way, we didn't have any real challenges or  
10 differences of opinion from that RAI. We think we  
11 have answers to the questions that meet the intent  
12 of what those questions were asking, and we'll get  
13 that to the staff, and we'll probably go through  
14 another round once we fine those responses.

15 CHAIRMAN STETKAR: Don, I've just been  
16 stewing over what -- as Bob described what South  
17 Texas did --

18 MR. WOODLAN: Yes.

19 CHAIRMAN STETKAR: -- and the situation  
20 here where on completion times it's a one-shot deal  
21 based on the configuration. But nothing would  
22 preclude you from putting together a catalog of  
23 plant conditions, doing the analyses and then, if  
24 you're in one of those plant conditions, invoking  
25 that risk-informed time for today, right?

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1 MR. WOODLAN: Well, except, as I  
2 mentioned earlier, that's just one input to making  
3 the decision.

4 CHAIRMAN STETKAR: Well, sure.

5 MR. WOODLAN: And --

6 CHAIRMAN STETKAR: Okay. "Invoking's"  
7 the wrong word.

8 MR. WOODLAN: And I think --

9 CHAIRMAN STETKAR: Putting it forward  
10 then to your committee to decide.

11 MR. WOODLAN: And I believe that's  
12 exactly what South Texas does.

13 CHAIRMAN STETKAR: Okay.

14 MR. WOODLAN: They have all those models  
15 that are preset in place, and when they get in this  
16 situation, they go and see if there's a model in  
17 place that already works. And if they do, that  
18 becomes their input.

19 CHAIRMAN STETKAR: Okay. So we could do  
20 just the same?

21 MR. WOODLAN: Yes, we could do the same.

22 MEMBER BROWN: You save what you already  
23 did, if nothing else.

24 MEMBER BLEY: You betcha.

25 MEMBER BROWN: One would hope you'd

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1 regurgitate it.

2 MR. WOODLAN: I think the other  
3 hypothetical model; because I don't know that anyone  
4 actually has one fully in place, is to actually have  
5 a dynamic model that you just go in and punch in  
6 five or six inputs and then it actually turns the  
7 crank. Using your current PRA you put in the  
8 conditions, the current plant conditions and then it  
9 gives you a result. And that's a big challenge,  
10 too, which is why I'm not sure anybody's got that.

11 Does anybody have that in place?

12 CHAIRMAN STETKAR: Some sales people  
13 tell you that --

14 MR. WOODLAN: That they could do it for  
15 you, yes. Okay. Maybe Bob has the answer.

16 MR. TJADER: This is Bob Tjader one more  
17 time. Actually, I think there are many plants out  
18 there that in the application of their Maintenance  
19 Rule (a)(4), assess and manage risk, they actually  
20 use their monitor, and they have pretty good  
21 programs now that accurately, or if not accurately  
22 actually use the PRA. So it's not so much a  
23 translation of the PRA; which is what we're worried  
24 about in 06-09 where we have those attributes, but  
25 they actually use the PRA.

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1                   And the programs are fast enough now  
2                   that you can get within a relatively short period of  
3                   time, matter of minutes, an ICDP of the plant, you  
4                   know, the core damage frequency, the state that it  
5                   is in right now. And they do that for (a)(4), for  
6                   Maintenance Rule at the time. And then they  
7                   actually have some of these computers in control  
8                   rooms where they -- you know, equipment becomes  
9                   inoperable. They'll put it into their program and  
10                  they relatively quickly know what the status of  
11                  their plant is. So it's not -- I don't think  
12                  it's --

13                  CHAIRMAN STETKAR: Current day computing  
14                  power has helped an awful lot, you know, that --

15                  MR. TJADER: I believe that plants --  
16                  many plants that adopt I 4b in the future will go  
17                  that way, rather than the database method.

18                  CHAIRMAN STETKAR: Or a simplified  
19                  version of the PRA, you know, yet another kind of --

20                  MR. BYWATER: Yes, all plants will have  
21                  to assess the risk of maintenance in accordance with  
22                  the Maintenance Rule, so this is one extension of  
23                  that capability.

24                  MR. WOODLAN: And that's all I had to  
25                  say.

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1 CHAIRMAN STETKAR: Great. Are there any  
2 other questions for any of the members for Luminant?

3 (No response.)

4 CHAIRMAN STETKAR: If not, thank you  
5 very much. That certainly helped an awful lot. I  
6 think we learned a lot.

7 I have to do this. Before we go around,  
8 I want to kind of get a sense from the Subcommittee  
9 members about whether or not in particular we feel  
10 that another information briefing on this particular  
11 subject is worthwhile.

12 So think about that a moment as I scan  
13 around the room here and ask if there's anybody from  
14 the public here who wants to ask any questions or  
15 make any statements?

16 (No response.)

17 CHAIRMAN STETKAR: Okay. And then let's  
18 just -- if anybody has any closing remarks or  
19 comments -- and I'll ask you each if you feel that  
20 an additional information briefing on this  
21 particular topic -- before we visit the interim SER  
22 with open items, which will occur -- June/July kind  
23 of time frame is what we're looking at right now.  
24 but in that kind of time frame. It's not next month  
25 and it'll be several months from now.

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1 I'll start with Dick.

2 MEMBER SKILLMAN: I am confused, but I  
3 think it's my problem. I don't think it's  
4 Luminant's problem or the staff problem. I was  
5 trying to get clear in my mind what is a departure  
6 from the design certification? And I don't raise  
7 that point to challenge. It is my own confusion,  
8 because it seems as though by going to the risk-  
9 managed tech specs, as the first plant to have done  
10 that, this applicant has stepped aside of what is  
11 the design cert and imposed upon themselves, to  
12 their credit, a huge workload that is in fact  
13 different than the design certification.

14 So what I was listening for is how this  
15 is handled in departure territory and how it's  
16 handled with regard to Tier 1, Tier 2 star and Tier  
17 2. So for me it's an administrative confusion.  
18 It's not a challenge to what's being done here. But  
19 I was just trying to get it clear in my mind.

20 So what I was going to say, Mr.  
21 Chairman, is there may be others at the full  
22 committee that would have this same confusion.

23 CHAIRMAN STETKAR: Yes.

24 MEMBER SKILLMAN: And so perhaps a  
25 module in presentation; several minutes, that would

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1 say here's what the design certification presents.  
2 Here is what Luminant is doing at Comanche Peak and  
3 here's how it's handled under Part 72 would be  
4 beneficial. That's my comment.

5 PARTICIPANT: I think what might help --

6 MR. TJADER: If I might, this is Bob  
7 Tjader one more time. We could certainly do that in  
8 the future. The design cert specs have bracketed  
9 the option for plants to adopt risk-informed tech  
10 specs. We do not interpret that as a departure. We  
11 interpret that as any other bracket, for instance,  
12 for instrumentation setpoints or something. You put  
13 in that bracket the plant-specific value, the plant-  
14 specific application.

15 So if a plant is adopting a risk-  
16 informed initiate, I 4b, they would put in there  
17 what the design cert allows you to do, that option.  
18 And furthermore, where there's a bracket in there  
19 for the latest rev, for instance, they're putting  
20 the plant-specific number in there. So we interpret  
21 it as an application of plant-specific values, if  
22 you will, those brackets. And if they don't opt for  
23 that, then they just don't opt to adopt what's in  
24 the brackets.

25 But what they have to adopt for the

1 optional brackets is in essence what the design cert  
2 allows them to adopt.

3 MR. MONARQUE: Now, Bob; and correct me  
4 if I'm wrong, that's because a DCD is giving the COL  
5 applicant an option or a choice whether to use risk-  
6 informed tech specs or deterministic.

7 Now, let me use a converse idea: If  
8 they had mandated deterministic and the DCD did not  
9 have an option for risk-informed tech specs and  
10 Luminant came along, then that would be a considered  
11 a departure.

12 CHAIRMAN STETKAR: Oh, yes. I mean, if  
13 the DCD --

14 MR. WOODLAN: MONARQUE: If there's no  
15 choice.

16 CHAIRMAN STETKAR: If what Don has up  
17 there -- if the DCD only said seven days --

18 MR. MONARQUE: Seven days.

19 CHAIRMAN STETKAR: -- period.

20 MR. MONARQUE: Yes.

21 CHAIRMAN STETKAR: Then it's certainly a  
22 departure.

23 MR. MONARQUE: But here because they  
24 were given a choice, it's not --

25 MEMBER SKILLMAN: I withdraw my comment.

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1 I'm okay. As I said --

2 MEMBER BROWN: They did that for both  
3 areas.

4 CHAIRMAN STETKAR: Yes.

5 MEMBER BROWN: I mean, the completion  
6 times and this. There's, I don't know, a half a  
7 dozen or more on the -- I don't know, there are  
8 probably a few more, but a quick count was a half a  
9 dozen or so, or a few on the completion times and a  
10 bunch of surveillance. I mean, you all pretty much  
11 covered the waterfront.

12 MEMBER SKILLMAN: As I said, the purpose  
13 for my comment was not to challenge. It's  
14 clarification in my own mind. And I thank you for  
15 your explanation.

16 MR. MONARQUE: Oh, you're welcome.

17 MEMBER SKILLMAN: And I'm good. Thank  
18 you.

19 MR. WOODLAN: Let me emphasize -- maybe  
20 this -- I'm unnecessarily elaborating, but this  
21 slide here kind of shows -- you notice both the  
22 seven days and the Surveillance Frequency Program  
23 area in brackets. If that option for Surveillance  
24 Frequency Program wasn't there, the seven days would  
25 still be in brackets.

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1 MEMBER SKILLMAN: Understand.

2 MR. WOODLAN: And the reason for that --  
3 and maybe now that we've had this discussion you  
4 might want to go back and look again at ISG-08,  
5 because that's kind of where they lay out the rules  
6 that we follow as far as using brackets and how  
7 plant-specifically we need to address whatever's in  
8 brackets. And we saw this and that precedent in  
9 ISG-08 and said this is the right technique to also  
10 handle risk-informed tech specs.

11 MEMBER SKILLMAN: Thank you. I'm good.

12 MR. WOODLAN: I say that right, Bob?

13 CHAIRMAN STETKAR: You see this and the  
14 calibration stuff is a good analogy, that in a lot  
15 of other tech specs that we see in the certified  
16 designs, a lot of the calibration setpoints are  
17 treated exactly this way. This is the only one  
18 where the tech specs are bracketed this way, to my  
19 knowledge.

20 MR. WOODLAN: That's right.

21 CHAIRMAN STETKAR: I think that's true.

22 MR. WOODLAN: Okay.

23 CHAIRMAN STETKAR: Thank you.

24 MR. WOODLAN: Okay.

25 CHAIRMAN STETKAR: Dennis?

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1                   MEMBER BLEY: I have three things. See  
2 if I can remember them.

3                   No. 1, I came into today kind of nervous  
4 about all of this, and I want to thank Luminant and  
5 Mitsubishi and the staff for a really good day.  
6 I've changed. I'm quite comfortable with this. I  
7 think you're doing what looks like a really good  
8 approach. I look forward to following it. That's  
9 No. 1.

10                  No. 2; this is for just the Committee,  
11 we have enough new members that it would probably be  
12 good to have another briefing like we've had in the  
13 past of the overall how does the design cert  
14 business work? What's Tier 1, Tier 2, Tier 2 star?  
15 I hate to do that, but there's --

16                  MEMBER SHACK: That's all right. We'll  
17 just get confused again, but we can --

18                  MEMBER BLEY: No, I think it's starting  
19 to sink in.

20                  MEMBER SHACK: We'll probably figure it  
21 out.

22                  MEMBER BLEY: Yes, the whole process.  
23 No. 3 is --

24                  CHAIRMAN STETKAR: For the full  
25 committee?

1                   MEMBER BLEY: Yes, full committee. Yes,  
2 but that's a separate thing.

3                   CHAIRMAN STETKAR: Yes, that's a  
4 separate thing.

5                   MEMBER BLEY: And No. 3 is I don't think  
6 the Subcommittee needs another briefing on this  
7 until there's some, you know, advancement, you know,  
8 with the tabletops and all of that, and then we  
9 probably do. But I think an information brief for  
10 the full committee on the material we've talked  
11 about today would be very appropriate and I think  
12 everybody would be quite interested in it. It's  
13 something new and something we've been wondering  
14 about for a long time. That's all.

15                  CHAIRMAN STETKAR: Okay. Bill?

16                  MEMBER SHACK: I don't think we need an  
17 update, like Dennis, until -- you know, when they  
18 come back in, I think that'll be fine.

19                         I came in sort of wondering why the  
20 rush. You know, why not wait until you have a PRA  
21 in hand before you do this. But I must confess I'm  
22 not uncomfortable with the process and I'm not sure  
23 it would really be any different if you waited.

24                         By and large, I mean, I like risk-  
25 informed tech specs. To me it's like taking (a) (4)

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1 and applying it to everything. It just extends what  
2 you sort of do anyway and it's a good idea. So I'm  
3 quite comfortable with the whole process, I think.  
4 You know, it comes down to having a good PRA.

5 MEMBER BLEY: And a good committee that  
6 interprets --

7 MEMBER SHACK: A good integrated  
8 decision making panel, yes.

9 CHAIRMAN STETKAR: What do you think  
10 about the notion that Dennis raised about having a  
11 full committee briefing on the subject?

12 MEMBER SHACK: Oh, design certs in Tier  
13 1 and 2?

14 CHAIRMAN STETKAR: No, no, no. No, no.  
15 Of this topic.

16 MEMBER BLEY: No, of this -- risk-  
17 informed in particular, I expect, for new plants.

18 MEMBER SHACK: Since it only applies to  
19 one design, I think it just can be dealt with in  
20 terms of this design. I mean --

21 CHAIRMAN STETKAR: That may be the way  
22 to do it is to have a committee briefing at the time  
23 that we see the draft SER --

24 MEMBER BLEY: You know, the next time we  
25 bring in an APWR --

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1 CHAIRMAN STETKAR: Yes, that would be --  
2 -- plan, you know, sort of the July-ish time frame,  
3 whatever the schedule works out.

4 MEMBER BLEY: Matte of fact, when we  
5 have a committee briefing, a full committee briefing  
6 on this project, I think it would be appropriate to  
7 devote some time to this.

8 CHAIRMAN STETKAR: Okay. We'll try to  
9 think about that. That probably makes a lot more  
10 sense, because it would have a little more substance  
11 and relevance perhaps.

12 Mr. Brown?

13 MEMBER BROWN: To the least -- get back  
14 on my chair on risk-informed non-deterministic. I'm  
15 not necessarily -- again what's being proposed, it's  
16 the reasonable -- seems like a reasonable approach.  
17 The only big concern I have is kind of the one-size-  
18 fits-all, 30-day backstop. There are some -- and I  
19 just didn't go through every possible system that  
20 they may not may not have, but that's -- the 30 days  
21 is a long time. For some things it may be  
22 appropriate and for some other things it maybe  
23 should be shorter.

24 And I don't -- is the 30 days -- is that  
25 in NEI 06-09? And that seems like an arbitrary time

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1 to say that's the big backstop number for  
2 everything. So for a four-train reactor protection  
3 and one train's out, I'm not sure I like the 30 days  
4 hanging out there. For a gas turbine generator, for  
5 certain things, which is another system that you  
6 don't have to have necessarily, maybe that's  
7 probably okay. So I was a little nervous -- not  
8 nervous, but I just didn't care for the 30-day, one-  
9 size-fits-all backstop day.

10 The second piece was on address the need  
11 for another Subcommittee meeting, and I'm not  
12 particular sure we need that. We ought to let it  
13 develop and then assess. If we have to we could  
14 always do one.

15 I found useful instead of having to go  
16 through everything the paper that identified what  
17 changes were made. So it was fairly easy to take  
18 your paper that you wrote and say, hey, this is what  
19 we're doing to modify 06-09 and 04-10 and then put  
20 those. Because it was only five or six pages of  
21 stuff, it was fairly easy to do. That would be  
22 useful if you make more changes because you can see  
23 the changes in the context of the whole thing as  
24 opposed to trying to fight your way through the  
25 whole document.

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1           So other than that, I would like to see  
2           somebody assess the 30-day issue as to why a one-  
3           size-fits-all. That's the one open item, that I  
4           don't care for all systems. Again, I didn't go  
5           through every item that they had bracketed, so I  
6           have no idea whether it's even a concern.

7           CHAIRMAN STETKAR: Thanks. The sense  
8           that I have; and I don't know if anybody else wants  
9           to add anything, that 30-day, I think I'd keep an  
10          open mind about that. The staff is conducting these  
11          tabletop exercises to challenge a variety of risk-  
12          informed applications in the context of new  
13          reactors. And they're running different proposed  
14          applications. Big emphasis on 4b. Some on 5b.  
15          Some on, you know, other applications.

16          The results, the numerical results from  
17          those tabletop exercises, recognizing they're kind  
18          of snapshots of, you know, a few people's ideas of  
19          what might be useful to examine, are investigating  
20          whether or not this process could result in  
21          conditions that would significantly challenge those  
22          safety margins, the kind of thing I was talking  
23          about. And the 30-day backstop kicks in in many  
24          cases in that context. So part of I think that  
25          process will look at that 30-day value and see what

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1 sort of margin protection is provided by that 30-  
2 day, you know, as you characterize it, one-size-  
3 fits-all.

4 That process is continuing. We're going  
5 to have a Subcommittee briefing on the second set of  
6 tabletop exercises in February, I believe. No,  
7 March, early March. There's a SECY paper that's  
8 coming out on that in March/April time frame of next  
9 year. So you might want to -- it's under the PRA  
10 Subcommittee. You may want to sit in on that. It's  
11 just a warning. You want to argue about PRA, come  
12 and sit on the meetings and listen to it.

13 MEMBER BROWN: The point is the NEI  
14 could have addressed it from the standpoint, you  
15 know, a backstop should be assessed, but should be  
16 no longer than, but you should look at each system  
17 that you decide to go that way. That's all.

18 CHAIRMAN STETKAR: Yes, and that's  
19 probably -- you know, there, too, it was -- the  
20 document was published, you know, some number of  
21 years ago.

22 MEMBER BROWN: It was three, four years  
23 ago, something like that, I don't know, and updated.

24 CHAIRMAN STETKAR: Five, six, seven, you  
25 know, depending on how long it took.

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1 Bob?

2 MR. TJADER: This is Bob Tjader again.  
3 On the 30 days, No. 1, it is somewhat arbitrary in  
4 that 30 days was in essence the longest completion  
5 time that there was in the standard in general at  
6 that time. And in addition, 30 days provided  
7 adequate time for the licensee to come in and  
8 request a Notice of Enforcement Discretion if they  
9 wanted to extend it beyond 30 days.

10 Keep in mind that the risk-informed  
11 completion time is calculated to an incremental core  
12 damage probability of 10 to the minus 5th or an  
13 incremental large early release probability of 10 to  
14 the minus 6th. It is the time to reach that  
15 threshold. Okay? So that is in essence the margin,  
16 or whatever, that we're allowed to consume, or  
17 whatever.

18 So if you're going to get to those  
19 thresholds at a risk-informed completion time less  
20 than 30 days, then you're still within what is  
21 acceptable in NEI 06-09. If your calculation  
22 permits your completion time to go to 120 days or  
23 beyond, or whatever, you can go no longer than 30  
24 days. So 30 days backstop is in essence for those  
25 systems conservative. For US-APWR, the new reactor

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1 design, 30 days is extraordinarily conservative. In  
2 fact, more often than not it's going to be 30 days,  
3 which is what their completion time extended will be  
4 because of the four-train design and the fact that  
5 they have the redundancy they have. We've seen  
6 that.

7           The reason South Texas is the first  
8 existing operating plant to come in for risk-  
9 informed completion times is because they're a  
10 three-train plant and they have two-train tech  
11 specs. And this is their way of taking advantage of  
12 the fact that they're a three-train design. And  
13 South Texas -- in fact, many of their systems, if  
14 they go into it and they then -- of course it's  
15 configuration-dependent. If you have multiple  
16 systems out; you know, what I'm saying is off, you  
17 know, then you're likely to have an actual risk-  
18 informed completion time less than 30 days. But  
19 South Texas, when they have let's say single systems  
20 that are out and they're in a risk-informed  
21 completion time, more often than not South Texas is  
22 going to have that 30-day backstop. So that 30 days  
23 is conservative. So if it's a one-size-fits-all, it  
24 for the most part is a very conservative fit-all,  
25 particularly for US-APWR.

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1 CHAIRMAN STETKAR: Thank you.

2 MR. WOODLAN: Can I make one more  
3 comment --

4 CHAIRMAN STETKAR: Sure.

5 MR. WOODLAN: -- kind of as background?  
6 You mentioned about why we did this right away  
7 instead of waiting; and I may to be blame for that.  
8 I felt it was the right thing to do and I basically  
9 wanted it in place from day one so that we did all  
10 our training and our procedure development with this  
11 in mind.

12 I can tell you; and I don't know if  
13 they'll follow through with it, I've had more than  
14 one, actually several other, licensing managers come  
15 up to me and say I'm really glad you're doing this  
16 because as soon as I get my COL, I plan on filing a  
17 license amendment to do the same thing. They don't  
18 want to potentially delay their COL, so they chose  
19 not to do it up front. We took the risk because we  
20 -- like I say, I wanted to have it in place. And  
21 I'm glad I did, because I think it brought the issue  
22 to the forefront earlier on. If we'd have waited  
23 until COLs actually started to get issued, we'd be  
24 two years, three years behind where we are right  
25 now.

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1                   MEMBER SHACK: Arguing over risk metrics  
2 for awhile longer, yes.

3                   MR. WOODLAN: That's right. That's  
4 right. So it turned out to be probably a good  
5 thing. So it's not just; someone mentioned this,  
6 you know, we're just doing this for a single plant.  
7 I don't think that's the case. We're just the  
8 first. I think there's a line up behind us that's  
9 going to be doing it pretty soon.

10                  MEMBER SHACK: No, you're the only plant  
11 that's going to do it as in the COL. I mean, the  
12 others are going to have to wait --

13                  MR. WOODLAN: At least the first group.  
14 There maybe I think future plants once it becomes  
15 successful and there's a path, they'll probably do  
16 it right up front. I would if I was them.

17                  CHAIRMAN STETKAR: Well, it all depends  
18 on, you know, expediency --

19                  MR. WOODLAN: Exactly.

20                  CHAIRMAN STETKAR: -- following the  
21 RCOLA, basically.

22                  MR. WOODLAN: That's all I have.

23                  CHAIRMAN STETKAR: Thanks, Don.

24 Anything else from anyone?

25                  (No response.)

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1 CHAIRMAN STETKAR: With that, I'd like  
2 to again thank everybody.

3 MS. MROWCA: Dr. Stetkar?

4 CHAIRMAN STETKAR: I'm sorry.

5 MS. MROWCA: I just have two things that  
6 you brought up during the meeting, and I don't know  
7 what format you want them answered in.

8 You asked about peer review guidance and  
9 what it addresses, like asymmetry of systems. And  
10 then the other one was, let's see -- I have it  
11 written down, but how do you want us to address  
12 those, or do you not?

13 CHAIRMAN STETKAR: When you come back.

14 MS. MROWCA: So we'll capture these last  
15 two things.

16 CHAIRMAN STETKAR: This is not a formal  
17 -- the way we keep track of these things is we have  
18 what we call a tickler file. It's not an action  
19 item list. It is not a formal thing. It's just  
20 something because none of us can remember things  
21 more than about five minutes. If we have it written  
22 down, we will ask you about it again. So next time  
23 we see you folks on this topic, make sure that you  
24 can answer us about it. We won't forget. But it's  
25 not a -- we don't want -- the message is we don't

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1 want formal response. We don't do any of that  
2 stuff.

3 MR. HAMZEHEE: It's only formal when you  
4 put in your letter.

5 CHAIRMAN STETKAR: Only formal thing is  
6 when we're in our letter. That's right.

7 MEMBER BROWN: We haven't been  
8 consistent across all projects.

9 CHAIRMAN STETKAR: We have not been  
10 consistent across all projects. We won't talk about  
11 the other projects on the record in this forum. And  
12 we are adjourned.

13 (Whereupon, the meeting was adjourned at  
14 4:16 p.m.)

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