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License Renewal

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UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

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CATEGORY 1 PUBLIC MEETING

BETWEEN

U.S. Nuclear Regulatory Commission

AND

AmerGen Energy, LLC,

Applicant for Oyster Creek Generating Station

License Renewal

+ + + + +

THURSDAY,

JUNE 1, 2006

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The meeting was convened in the  
Commissioners' Conference Room in One White Flint  
North, 11555 Rockville Pike, Rockville, Maryland, at  
9:20 a.m., Donnie Ashley, Presiding Official.

1        NRC PERSONNEL PRESENT:  
 2                DONNIE ASHLEY  
 3                HANS ASHAR  
 4                FRANK GILLESPIE  
 5                REBECCA KARAS  
 6                P. T. KUO  
 7                LOUISE LUND  
 8        AMERGEN AND EXELON PERSONNEL PRESENT:  
 9                MICHAEL GALLAGHER  
 10                JOHN HUFNAGEL  
 11                AHMED OUAOU  
 12                FRED POLASKI  
 13                HOWIE RAY  
 14                PETER TAMBURRO  
 15                DONALD WARFEL  
 16        ALSO PRESENT:  
 17                KYOTO TANABE, Japan NRC

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

(9:23 a.m.)

1  
2  
3 MR. ASHLEY: Okay, I'm going to go ahead  
4 and get started now. The other two participants can  
5 just call in when they can.

6 This is a public meeting between the NRC  
7 and AmerGen who is the applicant for Oyster Creek  
8 license renewal.

9 It's a category one meeting. We will  
10 conduct the meeting according to the agenda. At the  
11 end of the meeting we will give those people on the  
12 phone line and also the folks that are here at  
13 headquarters and opportunity to make comments or ask  
14 questions of the staff.

15 This meeting is being transcribed, and as  
16 a result, if when you make your statements or you make  
17 your presentations, please state your name and who you  
18 represent so that the recorder can pick that up for  
19 you.

20 Rather than introducing everybody in the  
21 room, probably have maybe 25 or 30 people here, I just  
22 want to introduce the participants here today.

23 And we'll start with our folks, and then  
24 we'll give it to you, Mr. Gallagher.

25 Dr. Kuo.

26 MR. KUO: P.T. Kuo, division of license  
27 renewal.

28 MS. LUND: I'm Louise Lund, a branch chief  
29 in the division of license renewal.

30 MR. ASHLEY: My name is Donnie Ashley. I'm  
31 the project manager for Oyster Creek license renewal  
32 project.

33 MR. GILLESPIE: Frank Gillespie, director,

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1 division license renewal.

2 MR. ASHAR: Hans Ashar, NRC.

3 MS. KARAS: Becky Karas. I'm the chief of  
4 the GSI and civil engineering branch in the division  
5 of engineering.

6 MR. GALLAGHER: Okay, Frank. Can you hear  
7 me?

8 I'm Mike Gallagher. I'm the vice  
9 president of license renewal for AmerGen and Exelon.  
10 And I'll turn it over to our team to introduce  
11 themselves.

12 MR. TAMBURRO: I'm Peter Tamburro. I'm  
13 senior mechanical engineer at Oyster Creek.

14 MR. OUAOU: My name is Ahmed Ouaou. I'm a  
15 civil structural engineer at Oyster Creek.

16 MR. RAY: My name is Howie Ray, and I'm at  
17 Oyster Creek, the new manager.

18 MR. POLASKI: For Polaski, Exelon's license  
19 renewal manager.

20 MR. WARFEL: Don Warfel, the technical lead  
21 for the Oyster Creek project.

22 MR. HUFNAGEL: John Hufnager, the licensing  
23 lead for the Oyster Creek project.

24 MR. ASHLEY: Thank you very much. We'll go  
25 ahead and get started with the agenda.

26 We have a very focused agenda today. But  
27 first of all, before I get started into the agenda, we  
28 really appreciate having the opportunity to meet here  
29 at this commissioners' conference room. It's not  
30 often we get such nice facilities to meet in.

31 This particular meeting is the first of  
32 two meetings that will be conducted. The next meeting  
33 is tentatively scheduled for June the 22nd, and I

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1 think we're going to try to do that in the afternoon  
2 so you folks won't have to either drive down early on  
3 95 or the night before.

4 I'd like to welcome everyone again. We  
5 have participants here from the State of New Jersey,  
6 from Region 1, and Kyoto Tanabe from the Japanese NRC,  
7 NISA.

8 And of course the people that are on the  
9 phone line with us.

10 We're going to talk about two concerns  
11 with you, and they're going to be very focused, and  
12 we're not looking for answers from you.

13 John Hufnagel and I have done this sort of  
14 thing many times since the license application was  
15 received in July of 2005. Since that time we've had  
16 three onsite audits. We've had regional inspection.  
17 And I believe that Roy Matthew, the audit team leader,  
18 is here. And he is still working on the audit report  
19 and the inspection report.

20 The next step in this process as we go  
21 through is collecting all the information that we have  
22 garnered over these months in preparing the safety and  
23 evaluation report.

24 Part of that has involved the request for  
25 additional information. To date, we've processed  
26 about 128 questions, plus or minus a few.

27 Normally, that's the reason I mentioned  
28 John Hufnagel, we usually do these requests for  
29 additional information on the phone. And the way that  
30 we do that is, we have a discussion of what our  
31 concerns are, and make sure that you understand what  
32 our concerns are.

33 When we do the phone calls and meetings

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1 for the request for additional information, we're not  
2 looking for the answers at this time. Just that you  
3 understand where we're coming from.

4 In addition, there are several hundred  
5 questions that are in the Q&A database, that Matthew  
6 and his team and your team put together during the  
7 audits that are publicly available in the Adams  
8 (phonetic).

9 The next thing that we do after we have  
10 the meetings is, we're going to look for your  
11 responses. And then eventually we're going to process  
12 the safety evaluation report, and hopefully there  
13 won't be any open items. Right now there are probably  
14 some open items there that we still have to follow up  
15 on. This meeting is going to address some of those.

16 Because the thing that we have to make  
17 sure of is that we have reasonable assurance that all  
18 of your assumptions and all of your calculations and  
19 all of the programs that you've put in place will be  
20 valid for the period of the extended operation.

21 So with that, I'm going to turn it over to  
22 Frank Gillespie, and we'll go ahead and get started on  
23 the discussions.

24 MR. GILLESPIE: Okay, thank you, Donnie.

25 The way we've organized this is, I'm going  
26 to present kind of a bulletized issue, and kind of a  
27 broader context. And on those issues where we think  
28 we really need to give you some detail on what our  
29 issue is, then I'm going to turn to Hans. And we've  
30 already coordinated between Hans and I. He knows  
31 which issues. And we've got some notes developed on  
32 it. And as we go through the meeting, we'll do our  
33 best, then potentially, to put out in a rapid way some

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1 meeting minutes to share the notes.

2 And one of our concerns is, you've been an  
3 applicant who has been very responsive to our requests  
4 for RAIs. You have always made it on time. And on  
5 the particular issue we're going to address today, you  
6 almost overwhelmed us with information.

7 And so Hans in the last two weeks, and we  
8 actually had Noel Dudley helping Donnie and Hans, to  
9 try to take this large volume of information and say,  
10 okay, here are our original questions; map that  
11 information into the original questions and say,  
12 what's the residual?

13 And the residual were such - and this is  
14 an interesting comment, and I have to thank Mitzi,  
15 who's from our general counsel, who put this in  
16 perspective when we were kind of going through this  
17 for me, she said, gee, this discussion is far more  
18 focussed and detailed than the way we traditionally  
19 write RAIs.

20 And from that I said, really, we need to  
21 sit face to face, because they are very very specific  
22 things that we need blanks filled in, and they are all  
23 very technically oriented. And we probably wouldn't  
24 do justice in kind of randomizing, because you'd focus  
25 on answering the RAI, as opposed to maybe  
26 understanding the underlying concern it causes us to  
27 write it.

28 And so that's when I proposed this set of  
29 meetings. And so therefore I think today is your  
30 opportunity to pummel us with questions to ensure  
31 complete understanding of the RAIs.

32 It is not our opportunity to request from  
33 you an answer to them, because I really think you need

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1 time to take - it's very detailed information, and  
2 it's the kind of thing you need engineers back at the  
3 plant, I think, probably to mull over and look at.

4 So I do thank you for your responsiveness,  
5 and you overwhelmed us with information. We've gone  
6 through it all. And it really has narrowed it down.

7 So now I'm going to go through the  
8 bullets, and on specific ones, you're going to see me  
9 turning to Hans. But I'm going to go through each  
10 bullet and ask you, do you have any questions.

11 If you don't, then I'm turning to Hans,  
12 and he's going to go through the specific details.  
13 And some of them are more straightforward, and we can  
14 go through even quickly.

15 As Donnie said, we narrowed our focus down  
16 to two concerns, and both of these concerns with I  
17 want to call uncertainty. So we are not making a  
18 judgement as to adequacy at this time. Or in anyway  
19 absolute. I'm going to suggest that much of what  
20 we're talking about deals with the uncertainty in the  
21 information, because of some voids in the information  
22 that have to come in.

23 So we have dry wall corrosion  
24 uncertainties. And then we have some ultrasonic  
25 testing issues. And there are two subsets to the  
26 ultrasonic testing issues. One is testing in the  
27 upper portion, which is really a pressure retention  
28 question, and then there is some questions on the  
29 lower portion.

30 And if that doesn't come out clear as I go  
31 through the bullets, you need to ask us about that.  
32 Because there are two different kinds of points in  
33 there, and we're trying to leave this meeting with no

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1 confusion on any part. Because these are really fine  
2 tuning now, kind of issues that we're in.

3 With that, let me -

4 MR. GALLAGHER: And Frank, just so you  
5 know, we have Pete and Ahmed and Howie, and they are  
6 like our experts on this issue. So they provided a  
7 lot of that information that you're talking about that  
8 we provided. So if we really have any detailed  
9 questions, these will be the three individuals -

10 MR. GILLESPIE: But again, I want you  
11 asking us questions today, as opposed to putting you  
12 in the awkward position of thinking you need to  
13 respond.

14 And so as Donnie said, there's no reason  
15 to respond today.

16 MR. GALLAGHER: Right, and we really  
17 appreciate that, Frank, to make sure we really  
18 understand the issues.

19 MR. GILLESPIE: So let me start off.

20 Dry wall corrosion uncertainties. There  
21 were assumptions in the 1991 GE report. Within these  
22 assumptions there's uncertainties in the simulations  
23 of degradation calculations in the associated  
24 analyses. This is not a your action, this is an our  
25 action. I just want to let you know that as part of  
26 our review, we may be doing an independent calculation  
27 or something to reinforce the assumptions in the basic  
28 calculation itself.

29 So that's not an action for you; that's  
30 really an action for the staff. And you might say  
31 it's by way of almost what we do in other areas of  
32 thermal hydraulics and other things, where we'll do a  
33 confirmatory calculation.

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1 But so you know it's happening, it's going  
2 on, we may be coming back to you for data in support  
3 of that calculation later.

4 Uncertainties in ultrasonic testing  
5 results: There are two key issues here that Hans is  
6 going to go over in a little more detail.

7 One, there's a report that's referenced  
8 that has a disclaimer in it. And the disclaimer says  
9 something like, no one at GE or AmerGen can be held  
10 responsible for the accuracy of this report.

11 It sounds like a boilerplate disclaimer.  
12 But nonetheless, it's kind of - again, we're really  
13 fine tuning, so I'm being very specific here. The  
14 disclaimer raises issues of, well, do you believe the  
15 report you referenced.

16 The second piece, which is probably more  
17 important with this, and now I'm going to turn to H  
18 ans on this, is what I'm going to call the evaluation  
19 of the grid data itself.

20 And so I've broken this one down into two  
21 things: the disclaimer, which I'd like to  
22 administratively have you - ask you to please look at  
23 it and deal with it. Does it still stand?

24 And now I'm going to turn to Hans on the  
25 grid data evaluation.

26 Hans.

27 MR. GALLAGHER: Yes, okay, and Frank, is  
28 this in the lower portion? Because you broke it up  
29 into upper and lower?

30 MR. GILLESPIE: In general.

31 MR. ASHAR: In general.

32 Let me narrate what I have written,  
33 because this is transcribed; I cannot be informed

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1 about it.

2 So attachment 1-A of the GPU letter dated  
3 November 26th, 1990, makes a statistical evaluation of  
4 the UT measurements data taken up to 1990.

5 On the cover page of the report, GPU  
6 Nuclear Corporation states in their disclaimer: The  
7 work is conducted by individuals for use by GPU.  
8 Neither GPU nor the authors of the report warrant that  
9 the report is complete or accurate.

10 In view of this disclaimer, the applicant  
11 is requested to provide a detailed description of the  
12 way the UT measurements data, whether taken as part of  
13 the 6X6 grid, or isolated readings, were evaluated and  
14 used in performing the analysis.

15 Do you understand?

16 MR. GALLAGHER: I don't.

17 MR. GILLESPIE: We're open for questions.

18 MR. ASHAR: Regarding the clarity of the  
19 question.

20 MR. GALLAGHER: Okay. What was the report  
21 name again?

22 MR. ASHAR: It is attachment 1-A to the GPU  
23 letter dated November 26th, 1990, which is a  
24 statistical inference of the UT data.

25 MR. GALLAGHER: Okay. And your question is  
26 related to the disclaimer itself.

27 MR. ASHAR: Disclaimer, which is in 1-A has  
28 been used, or if something different is used, what  
29 kind of confidence level has been used. Because that  
30 particular report talks about the mean and confidence  
31 level. But whether it is used effectively all the  
32 time, we have no idea.

33 Because we looked at the report. We

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1 didn't interpret report.

2 MR. ASHAR: Let me see if I can - this is  
3 the kind of dialogue we need to have. Because we're  
4 down in the details, really, now. Okay?

5 MR. GALLAGHER: Yeah, this is pretty  
6 focused.

7 MR. GILLESPIE: And Hans and I have spent  
8 a lot of time together in the last week or so. So let  
9 me say it and then ask him if I've said it right.

10 Basically in the measurements that were  
11 taken it's a scanned area with a grid array of  
12 measurements. And it's not clear whether that's a 95  
13 percent confidence interval, is it a median value?  
14 It's not clear how those area level calculations were  
15 used. And much of the information that we used in the  
16 1991 report, and in fact in the graphs that you sent  
17 in in your RAIs literally takes the result of this  
18 calculation.

19 But there is really no description of what  
20 - how these data points were combined.

21 MR. GALLAGHER: This would be to determine  
22 the average thickness for the -

23 MR. GILLESPIE: Thickness data, yes, and  
24 the projection of that thickness data as applicable to  
25 the liner.

26 MR. GALLAGHER: Now I thought we had  
27 provided a description of that in one of our Q&As.  
28 Ahmed or Pete, do you guys recall that?

29 MR. OUAOU: My name is Ahmed Ouaou. I'm  
30 with Exelon Oyster Creek.

31 We did - this question came up, we did  
32 provide response to the question, what type of  
33 statistical analysis did you do.

1 It's also in the RAI, and it's part of the  
2 - that's why we submit that report.

3 MR. GILLESPIE: So is there anything beyond  
4 that that we provided?

5 MR. OUAOU: Well, my main question is,  
6 have you used that particular report? Or you use  
7 something different?

8 MR. TAMBURRO: My name is Pete Tamburro.  
9 The attachment one to that letter, is there a document  
10 number.

11 MR. ASHAR: Yeah, I think you sent to me.  
12 It came to us.

13 MR. GALLAGHER: This is in your  
14 application.

15 MR. OUAOU: Again, this is Ahmed. We just  
16 don't recall what Attachment 1-A is. And what that  
17 is.

18 MR. ASHAR: I think title is statistical  
19 inference.

20 MR. GALLAGHER: That calculation was  
21 submitted previously. It's part of the original  
22 approach that was developed to calculate the average  
23 thickness in thinned areas, submitted back in 1991.

24 But that's the calculation we use, and  
25 Pete can talk about that.

26 MR. TAMBURRO: This is Pete Tamburro.

27 The words that you reference about no  
28 claims made by the author, that sounds like a  
29 technical data report which describes methodology.  
30 It's not intended to be a calculation.

31 So I think we owe it to you to go do the  
32 research and see what the intent of that report was.  
33 I believe we later did calculations which normally

1 treated the data.

2 MR. ASHAR: This is what we would like to  
3 know, that is the question, basically.

4 MR. GALLAGHER: So specifically about that  
5 report, how we arrive at our statistical analysis.

6 MR. ASHAR: And what actually you used.

7 MR. GALLAGHER: And what we used, okay.  
8 And I just want to make sure, because I think we  
9 provided a lot of that. So I want to make sure we  
10 don't just provide the same information, and we're  
11 missing something.

12 So if it's just that we can make sure we  
13 sharpen our response .

14 MR. GILLESPIE: Yes, we're trying to be  
15 very - this is really a very incremental meeting.  
16 We're really trying to deal with the piece that we  
17 don't feel that we have.

18 And right now if this is the grid, and you  
19 take a six by six measurement -

20 MR. ASHAR: There's 49 probes in it.

21 MR. GILLESPIE: There's 49 probes. I  
22 think, Hans, a fundamental question was, but you come  
23 up with a single point that is than used in the next  
24 level of calculation. We're not pushing the next  
25 level of calculation; what we're doing is saying, how  
26 was that point come up with? Was it a 95 percent?  
27 There's a number of ways that are actually all valid  
28 to do it. Was it the median of the 49 measurements?  
29 Was it a 95 percent confidence level? How were those  
30 49 points combined to get to the one point which was  
31 than used at the next calculational level.

32 And by the way if there is anything that  
33 you want to actually respond to in writing like, we

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1 really didn't understand that. We think we answered  
2 it in response this, this and this, following this  
3 meeting, feel free to send us that.

4 MR. GALLAGHER: Okay.

5 MR. GILLESPIE: That's quite - because what  
6 I really want to do is, this is a starting point, to  
7 get clarity in every one of these details. Because I  
8 think we are down in the details. I will fully  
9 concede we are really fine tuning it.

10 MR. GALLAGHER: And that's what I was  
11 getting at in how that 49 point array, how the  
12 statistical analysis is done. I think we've provided  
13 that answer. We can look at it.

14 And then about the disclaimer, we can  
15 specifically talk about that. Because I think like  
16 Pete said, the intent on that was, the data was taken  
17 in the field, and that was validated. And that data  
18 was used in this analysis.

19 And it's just saying, we didn't take the  
20 data. All we did was do a statistical analysis.

21 MR. GILLESPIE: So just make it clear on  
22 how that report was used, and then we're kind of okay  
23 there.

24 And if you write us a letter and it says,  
25 in reply, in reply RAI this, we think we've answered  
26 this specific question, that would allow us to reply  
27 back, no, here's the specifics of what is missing in  
28 that. And that's a perfectly - I mean that's all part  
29 of the process.

30 Believe me, you flooded us with so much  
31 information, could we have missed something? Yes.  
32 And that's okay.

33 MR. GALLAGHER: We wouldn't have talked

1 about that disclaimer.

2 Pete, did you have something?

3 MR. TAMBURRO: Yes, I just wanted to make  
4 sure I understood a point you made. You would like a  
5 description of how we started with the 49 points and  
6 came up with a representative value for those 49  
7 points?

8 MR. GILLESPIE: I believe that's the point  
9 that Hans and I - Hans, why don't you.

10 MR. ASHAR: Let me explain.

11 I think some of the readings that you have  
12 taken are based on the grid. Some of the measurements  
13 you might have taken isolated away from the grid, or  
14 may not have used the grid. I'm not sure what was  
15 done where.

16 But that doesn't matter. The important  
17 thing is how you really used this data in coming out  
18 with the final thicknesses at those points, that is  
19 important.

20 MR. GALLAGHER: For the grids.

21 MR. ASHAR: For the grids, yes.

22 MR. GILLESPIE: So what we're seeing is a  
23 layering in this calculational process, where you  
24 start with raw data and then you do one thing to that,  
25 and then you do the next thing.

26 And we're down at the real fine tuned  
27 question here at the bottom. And it's that detail  
28 that we're not sure that we have.

29 Now it might have been submitted in 1990;  
30 I give you that. Could you repackage it and get it  
31 back to us?

32 It may be easier for you to do that than  
33 for us to do it again.

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1 MR. ASHAR: I might say that you might have  
2 even provided some description as a result of the  
3 audit.

4 MR. GALLAGHER: Yes, that's what I was just  
5 referring to.

6 MR. ASHAR: I understand. I did not have  
7 a chance to see everything that they have acquired and  
8 have responded to.

9 MR. GALLAGHER: Oh, okay.

10 MR. ASHAR: Not all. I am aware of it,  
11 most of them, the basic things. But I did not see  
12 anything related to this one. But if it is there,  
13 just give an answer.

14 MR. GALLAGHER: That would be helpful,  
15 because we can pinpoint it, and then we can go from  
16 there.

17 MR. ASHAR: But to me, it looked like at  
18 least in 1990 it appears that this particular report  
19 was used, and to what extent it was used is not quite  
20 clear. How does it relate to what you did, and  
21 responded to as a part of the AMP questions, I don't  
22 know.

23 MR. GALLAGHER: Right, okay.

24 Now, Pete, Ahmed, you guys okay with  
25 understanding that, Howie?

26 MR. OUAOU: I understand the question.  
27 This is Ahmed again with Exelon. Part of that  
28 response was provided in the RAI and in the questions.  
29 So we'll go back and take a look specifically and look  
30 at that concern.

31 But we're not providing a response to you.

32 MR. GILLESPIE: No, no, again, it's  
33 perfectly acceptable for you to say, go back, go back

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1 to New Jersey and say, you know what, we understand  
2 your concern, and we think we addressed this is in  
3 these RAIs, and the RAIs we have completed reviewed,  
4 in fact with multiple people. And if it makes sense  
5 that we're looking at how these 49 points - and there  
6 may be points that weren't grid points, that weren't  
7 49 points, that were individual measurements, or maybe  
8 smaller samples. It's not clear that they were all  
9 uniformly 49 points, they were all uniform grids.  
10 That level of detail was not necessarily seen.

11 And I will say that we are trying to get  
12 you this information as we're putting our draft SE  
13 together so we can get these issues closed out.

14 MR. OUAOU: Again, this is Ahmed again,  
15 the reason I was kind of, I guess, thinking a little  
16 bit, it's such a straightforward question, we can  
17 answer that today.

18 MR. GILLESPIE: Again, my promise was, we  
19 have a second meeting scheduled, and we'd really like  
20 to get it in writing before that meeting so we can  
21 have a substantive meeting.

22 It was important for me, because of the  
23 detailed nature of our concerns, to get them to you  
24 and make sure you understood them. And I didn't say  
25 they were hard to answer. So just because we have a  
26 concern doesn't mean it's difficult to answer. What  
27 we wanted to do was get this kind of detail to you so  
28 you could answer it, and that was the important  
29 aspect.

30 MR. GALLAGHER: I think we understand  
31 that.

32 USE OF ASME CODE SECTION 3 SECTION NE-3213.10 FOR  
33 LOCALIZED CORROSION AREAS

1 MR. GILLESPIE: The next point was use of  
2 ASME Code Section III, Section NE-3213.10 - now you  
3 know why I say we'll publish the meeting minutes to  
4 this early - was used for localized corrosion areas.  
5 And this is a comment that is also going to come up  
6 later.

7 And by the way, this is all dealing with  
8 the 1991 GE report. So it's not that you used it;  
9 it's that it was used in the 1991 GE report. In  
10 general that code was written for and applicable to  
11 new containment shells. And the methodology for the  
12 buckling calculation, it's not clear its applicability  
13 to a shell that's actually older and has corrosion.

14 And I'm going to get Hans to amplify that,  
15 but in my simplistic terms - I get to be the non-  
16 engineering interpreter, and he gets to put the  
17 details on it - if things corrode in a manner that's  
18 pitting or discontinuous, and you have a shape that is  
19 much different than the discontinuity from two  
20 different sized plates.

21 And so this code was specifically  
22 developed for one purpose. That doesn't mean it's  
23 wrong to use it for this purpose; what it means is,  
24 the transition to using it for this purpose wasn't  
25 included in the 1991 GE report.

26 Now with that I'm going to turn it over to  
27 Hans.

28 MR. ASHAR: Let me just narrate the way I  
29 formulated the question.

30 For the localized thin areas, the  
31 applicant is using the provision of Section 3213.10 of  
32 the subsection NE of Section III of the ASME Code.  
33 This provision, though not directly applicable to the

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1 randomly thin areas caused by corrosion, if used with  
2 care and adequate conservatism, may provide some idea  
3 about the primary stress levels at the junction of the  
4 thin and thick areas. The applicant is requested to  
5 provide a summary of the process used and to address  
6 this issue.

7 MR. GALLAGHER: In this particular  
8 analysis, I note that that particular question was  
9 looked at earlier when the analysis was originally  
10 reviewed and approved.

11 And I think, did we have discussion about  
12 that in the Q&As?

13 MR. OUAOU: This is Ahmed Ouaou again with  
14 Exelon. There was a discussion in the Q&As on the  
15 issue - on the concern. We spent a lot of time with  
16 the audit team talking about the calculation in  
17 particular, and it was reviewed by the audit team.

18 This same question that you have a concern  
19 was asked - again, I have to go back a little bit,  
20 because I spent a lot of time looking at the history  
21 on this - the same exact question came back in '91,  
22 and we - there was a formal report that was generated  
23 and submitted to address the question. It was done by  
24 Teledyne; it's not the GE report. It's in response to  
25 an RAI.

26 Our understanding is that after review of  
27 the calculation at the site that it appeared the  
28 approach was reasonable that it should not be a  
29 concern from a stress concentration perspective.

30 MR. GALLAGHER: And this review was done  
31 when the 1991 account was generated?

32 MR. OUAOU: That's correct.

33 MR. GALLAGHER: So what we were looking at,

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1 we didn't see how there was any aging management  
2 related effect on the differences between the way it  
3 was evaluated before and when it was evaluated now.

4 MR. ASHAR: Let me again restate.

5 The question is, this particular provision  
6 in the ASME code is not written for the localized  
7 corroded areas. It has been used here between thin  
8 and thicker parts to justify the use of, you know, in  
9 a particular way.

10 Now I can see that there is no other way  
11 you can do that except to use this type of provisions.  
12 But I want to understand what kind of conservatism you  
13 have used.

14 Because there are a number of items  
15 related to this provision that are in the ASME code.  
16 For example, for primary membrane stress there is one  
17 particular areas where you go up to the square root of  
18 RT; for the secondary stress, you go to the 2.5 square  
19 root RT, and figure it out as to, now, I want to make  
20 sure that you have considered representation of the  
21 thin areas in this particular process.

22 MR. GALLAGHER: I think that's helpful,  
23 Hans. Because we didn't identify any other specific  
24 method to use, other than use this. And then there  
25 were some I guess checks that was done for, like, one  
26 thing Frank mentioned was about the plate changes;  
27 that was one check. Another check was done as far as  
28 a one-by-one depression, a one-by-one-foot depression  
29 in the shell; and then another would be a fairly  
30 localized 2-1/2 inch depression.

31 So they were kind of checks that said,  
32 they didn't look like there was any significant impact  
33 on the analysis.

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1           The roughness looked like to us it'd be  
2 more of a - maybe it related to a fatigue concern,  
3 which really isn't an issue for the drywell.

4           So that's why that kind of a review, I  
5 think, was done in the 1991 review and analysis, and  
6 the staff had accepted that at that point.

7           And I don't think there's any methods  
8 that's changed since.

9           MR. ASHAR: This is for the license renewal  
10 we are talking about. So I understand that the staff  
11 will issue a report based on certain things.

12           But we are looking at this in more depth.  
13 And we want to understand the mechanism before we go  
14 and say, hey, this is the reasonable assurance that  
15 something would happen.

16           So you might see this as duplicative or  
17 something, in your mind, but for us that information  
18 is necessary to make that reasonableness estimate.

19           So even if you might have done something,  
20 you might have responded to this type of question in  
21 past, in 1992, 1993, I think we would like you to tell  
22 us more about it. If you done it during the audit  
23 team, please let us know about it. We can go and  
24 check it out in the AMP's responses. There is nothing  
25 - but I just want for you to understand that you  
26 understand the question.

27           MR. GILLESPIE: Yeah, this is not to say  
28 you haven't done it before, and it's part of  
29 everything that happened from the mid-'80s through  
30 '91. It wasn't reviewed by the staff for the purposes  
31 of the current existing license. But this is a  
32 question as part of the renewal review.

33           And if we're requesting you to repackage

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1 something and send it in as part of this, then that's  
2 our request, because we're a second time dealing with  
3 what I said was the uncertainties. We're not saying  
4 anything negative about the GE calculation. What  
5 we're saying is, we have a set of reviews reviewing  
6 this for another 20 years on your license beyond, and  
7 so this is an aging issue.

8 I mean we met with ACRS on this yesterday.  
9 We're not saying you didn't do it 20 years ago. What  
10 we're saying is, it's not really readily available to  
11 the staff to be able to include it in their more  
12 global judgment on the liner today.

13 So if pulling it out of your records and  
14 getting the Teledyne report, if that's easy - I didn't  
15 say we were asking anything that was hard. I said we  
16 were going to try to give you our specific concerns.

17 MR. OUAOU: The Teledyne report was not in  
18 QA. But we can provide the Teledyne report and  
19 several correspondences to that address the question.

20 MR. GILLESPIE: That would be appreciated.  
21 Remember our goal here is to answer the questions.  
22 This is a bit collaborative in nature.

23 The other thing I have to ask your  
24 forbearance in part of our idea of trying to stay on  
25 a certain schedule is that things get done in  
26 parallel. And the audit team is in the process of  
27 writing a report, and the last I heard they were on  
28 page 700. And they have to look at it in an  
29 integrative way also. And that is one input to the  
30 SE.

31 But that's input eventually to Hans.  
32 Because Hans is the guy who on the line has to really  
33 make the safety judgment on behalf of the agency.

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1                   So I'm asking for your assistance. If  
2 it's a bit of repackaging, or a resubmittal, this is  
3 what's going to get the job done.

4                   MR. GALLAGHER: Okay, so if we describe  
5 this analysis, and what - how we think it was put  
6 together to conservatively address some of these  
7 issues, then we could do that and talk about the  
8 Teledyne work. And I guess, I want to make sure,  
9 Hans, do you have any other methodology that we should  
10 be looking at?

11                   MR. ASHAR: Well, yes, I think I'd refer to  
12 one report which Sandia developed for big area of  
13 containments. But I don't know to the extent to this  
14 particular aspect, it addresses that area.

15                   What it does is, it models certain  
16 enclosures and certain degradation in containments of  
17 various types. It's a Mark I, Mark II, all  
18 containments have been considered in those.

19                   MR. GALLAGHER: Okay, that report is  
20 available? We hadn't found that report, had we?

21                   MR. ASHAR: I know. I'll try to get it.

22                   MR. GALLAGHER: Can we get that today?  
23 Because that would be real important to us.

24                   MR. GILLESPIE: Yes, if we get the ML  
25 number, since we're adjourning at lunch.

26                   MR. ASHAR: Yes, we'll put it in ADAMS.

27                   MR. GALLAGHER: That would be helpful,  
28 because we can review that report.

29                   MR. GILLESPIE: And it may be as easy as  
30 saying, here's what we're done. Here's this other  
31 report that's a little newer. And here's why we're  
32 consistent with it, and why this makes sense.

33                   But that's your judgment to do. We're

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1 trying to give you our concern, and Hans is trying to  
2 give you at least one reference that's available to  
3 kind of the NRC sponsor which is kind of a benchmark.

4 And again, we're dealing with the  
5 uncertainty of the information at a very fine level,  
6 so.

7 MR. OUAOU: Again, this is Ahmed Ouaou.  
8 I just want to ask a question.

9 Do I understand you to say that that  
10 report, the Sandia report, has a benchmark we should  
11 be measuring against?

12 MR. ASHAR: I don't think so. The reason  
13 I don't recommend that is because it is meant only for  
14 internal reference.

15 MR. OUAOU: This is information?

16 MR. ASHAR: To the extent you can use it.  
17 It is not something that is endorsed for use for  
18 anybody.

19 MR. OUAOU: Do you know of any other  
20 methodology that would take surface corrosion areas  
21 that you're concerned with?

22 MR. ASHAR: No, I'm not aware of any.

23 MR. OUAOU: You're not aware of any?  
24 Okay, thank you.

25 MR. GALLAGHER: And we had looked at it,  
26 that stress ride issue looked like it was more of a  
27 fatigue issue, and the containment fatigue really  
28 isn't a concern.

29 MR. ASHAR: Well, containment for the ease  
30 of concern in the area of events, right.

31 MR. GALLAGHER: Right.

32 MR. ASHAR: But away from there, you don't  
33 have that concern.

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1 MR. GALLAGHER: That's correct.

2 MR. GILLESPIE: But again, this is not  
3 saying you don't have the information on site. It's  
4 only saying we don't have it in a form which we can  
5 identify that it specifically addresses this question.

6 And so if you can help put that  
7 information in a form that specifically addresses the  
8 question - this is why I didn't want to get - this is  
9 why I said, let's have a meeting, versus writing RAIs  
10 where we didn't - have a total misinterpretation of  
11 the RAIs.

12 MR. GALLAGHER: Yes, right.

13 MR. GILLESPIE: So again if you get back to  
14 the site, and you want to email us, because emails are  
15 on the record, and we try to keep everything on the  
16 record, to get further amplification, that's  
17 perfectly. And you know if you have thoughts when you  
18 go back, just say - you know.

19 MR. GALLAGHER: Okay, that's helpful, thank  
20 you.

21 MR. GILLESPIE: We finished with - this was  
22 really the assumptions in the 1991 GE report section.  
23 And so there were really two bullets that we had in  
24 summary. And that was, the first was the  
25 uncertainties in ultrasonic testing results, and this  
26 was the grid thing we talked about, and then the next  
27 one.

28 And the first one was just for you to know  
29 that we're going to do something of an independent  
30 nature to verify the calculation. And that's not an  
31 action on you, that's an action on us.

32 VALIDATION OF UT MEASUREMENTS AND BUCKLING ANALYSIS

33 The next major topic - and major doesn't

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1 mean important; major just means it's the next heading  
2 on my notes - is validation of UT measurements and  
3 buckling analysis.

4 In this I have three principal notes, and  
5 let me just go through them. And the first note is,  
6 UT results indicating increase in shell thickness.  
7 And there was this anomalous point.

8 And the anomalous point raises questions  
9 that are probably unanswerable. So let me say in  
10 retrospect, looking back, the answer to the specific  
11 question might be unanswerable going back, but the  
12 actions to be taken in the future might be very  
13 doable. And that's questions on the accuracy of  
14 measurements, the appropriateness of calibration, the  
15 one point was significantly above the curve.

16 So with that, let me turn that one over to  
17 Hans, so he can go into details of that concern.

18 MR. ASHAR: Okay, I'm going to narrate that  
19 again.

20 In the sand pocket region of a drywell  
21 shell, the most susceptible base are incorporated into  
22 assembly. However, there are a number of issues that  
23 need to be addressed to ensure that the readings are  
24 taken at the vulnerable locations and techniques used  
25 are reliable.

26 I'm talking about the technique right now  
27 first, and then I'm going to talk about the other  
28 points. That will come with discussion of the other  
29 bullets.

30 Review of table two indicates that the UT  
31 measurements taken from inside the drywell after 1992  
32 shows a general increase in the measurement taken from  
33 inside the metal thickness. In some cases it

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1 increases as much as 50 mils in a two-year time frame.

2 MR. GALLAGHER: What was that number?

3 MR. ASHAR: Fifty mils.

4 MR. GALLAGHER: Fifteen?

5 MR. ASHAR: Fifty, 5-0.

6 MR. GALLAGHER: Oh, 50.

7 MR. ASHAR: Fifty mils within a time frame  
8 of two inspections, 1994 and 1996, I think.

9 In general it appears that the UT  
10 measurements taken after 1992 requires proper  
11 calibration considering the coatings on both sides of  
12 the drywell shell.

13 The applicant is requested to address this  
14 issue.

15 MR. GILLESPIE: Now, again, as I said, you  
16 can't go back and fix what is.

17 MR. ASHAR: Well, Frank, I don't agree. I  
18 think if the tests done outside on an epoxy-coated and  
19 galvanized inside, and you've calibrated that, the  
20 readings taken earlier can be reduced to this.

21 It's possible to do it too to the existing  
22 - but I don't know what you want to do.

23 MR. GILLESPIE: What you're saying is, if  
24 they did some calibration samples, that had the proper  
25 codings on either side, there may be the data  
26 available in their records to go back and -

27 MR. ASHAR: Yes, compare what they have  
28 done earlier with or without coatings, you know, that  
29 kind of thing.

30 MR. OUAOU: Again, this is Ahmed with  
31 Exelon. I was surprised, too, that those points were  
32 as high as they are. We expected some variation  
33 because of surface roughness, of the shell itself.

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1           Although we use a template, and we use a  
2 probe. If you just happen to move the probe just a  
3 little bit you would get a different reading.

4           But in that particular '92, it appears  
5 that one set of readings were consistently higher than  
6 the rest. And we spent a lot of time trying to find  
7 the cause that caused that, and talked to Rich Morante  
8 at the site there during the audit review. And  
9 frankly, what they came up with I'm not sure that's  
10 satisfactory.

11           We just couldn't. Qualified people were  
12 doing the testing, same methodology that was used  
13 before. We haven't looked at the potential, because  
14 there is a grease where you do UT measurements,  
15 potentially, that might not have been removed. We  
16 looked at all that, but really couldn't come up with  
17 a specific answer why those values were higher.

18           MR. TAMBURRO: Going forward, the potential  
19 items that we've looked at, we're going to reduce or  
20 eliminate them. For example the grease will be  
21 removed prior to the inspections. We will do  
22 calibrations, both on the external coating and the  
23 internal coating, to get an understanding of how they  
24 affect the measurements.

25           So we intend on reducing all those  
26 potential variants out of the future inspections.

27           MR. GILLESPIE: The importance of this  
28 issue may be one, the narrow technical issue itself.  
29 And it's a good response. Didn't really need it, but  
30 it was a good response.

31           But it does contribute to the general  
32 thought we have which we'll get to later when we talk  
33 about some of the commitments you made already on the

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1 level of uncertainty. And these things just  
2 contribute to the level of uncertainty of the  
3 measurement.

4 And I would use - maybe it's not  
5 invalidating the measurement, but it's the uncertainty  
6 involved with any individual measurement, and the  
7 trend.

8 And uncertainty, like I said in the  
9 beginning, is kind of what we're trying to reduce or  
10 understand through all of these points.

11 And so I think the idea that you can only  
12 make these measurements just so certain, and just -  
13 let's just keep it - there's only so much you can do  
14 with these kind of UT measurements.

15 But this seemed to be a very large  
16 uncertainty, in fact much in exceedance of some of the  
17 things you've actually measured in other areas  
18 relative to thickness changes.

19 So as long as you understand our concern,  
20 this - minimize the contribution of these to  
21 uncertainty, and if you can't do anything about the  
22 past one, you can't; you did this examination then.

23 But this contributes to some of the  
24 thoughts we have relative to the 10-year commitment  
25 that we'll talk about later.

26 MR. ASHAR: I feel that you will have to do  
27 some kind of a comparative testing in order to, at  
28 least for the future readings that you take is going  
29 to influence that.

30 If that was the cause, because of a  
31 coatings on two sides, this thing we have normal  
32 readings that showed more thickness than the other  
33 thicknesses, then I think it is something that you

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1 ought to look into it and come to grips with it.

2 MR. GALLAGHER: How many points did you  
3 have a concern with, Hans, do you remember?

4 MR. ASHAR: Well, I just think in general.  
5 Just like Ahmed said before, in general you can see  
6 when you look at the readings that they are increasing  
7 in 1996 compared to 1994. 1992 and 1994 are almost  
8 same; they are not changing too much in general. But  
9 there are a few places where it is about 30 mils  
10 higher or 50 mils higher, like that, you know.

11 So there's an anomaly here, and that has  
12 to be resolved.

13 MR. OUAOU: If I may just add, that we're  
14 benchmarking other people doing the UT measurements in  
15 the past, but that was before 1996. For instance, GE  
16 - GPO brought in GE to do some UT measurements. And  
17 I don't believe the methodology has changed in the way  
18 we did it.

19 Whatever, we couldn't explain it. We  
20 couldn't explain why these particular points were that  
21 much different than the previous UT measurements.

22 MR. GILLESPIE: Just keep the word  
23 uncertainty in mind, and let's move on. We live with  
24 uncertainty; we're not asking for absolutes.

25 The next item is sensitivity studies for  
26 localized corroded areas. And I'm going to turn this  
27 one over to Hans, because my notes are that we  
28 basically have - we've only reviewed the results in  
29 the application on these reference sensitivity  
30 studies. And that we really weren't provided with an  
31 expansion of what was - how was the sensitivity study  
32 done, how were uncertainties considered in it; that  
33 there's kind of an absence of detail at the next level

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1 down.

2 And because we didn't get the detail, I  
3 can't give you a specific question on what's missing.  
4 So let me ask Hans on that one, because I think he's  
5 at the same loss I am on that one.

6 MR. ASHAR: Yes, that is true.

7 I think I did point out about  
8 sensitiveness, that they have to be correct enough  
9 that we have confidence that the metal thickness is  
10 what it's measuring. That is all I can say at this  
11 time.

12 MR. GALLAGHER: What sensitivity studies  
13 are we talking about?

14 MR. ASHAR: What we are talking about, as  
15 I explained earlier, that you take a plate, similar  
16 plate, and take the UT measurements outside, without  
17 any coatings inside. And then you take the  
18 measurements with zinc oxide, whatever coating you  
19 have applied inside, and outside epoxy coating, and  
20 see - the measurements - and see if there is any - I  
21 mean you have to take enough sample to make sure that  
22 you have got confidence in what you are doing, even  
23 for the tests. This is what we are thinking.

24 It's up to you.

25 MR. OUAOU: This is Ahmed with Exelon.  
26 Inside, we don't have a coated -

27 MR. TAMBURRO: No, we have a protective  
28 grease. They're supposed to clean off that in the  
29 grid area, clean it off and then do the -

30 MR. GILLESPIE: Then I think you're exactly  
31 where I think Hans is at, is, there was no evidence in  
32 the submission, I think it talked about doing the  
33 representativeness, but there was no description that

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1 would say, okay, we do it with the grease steam  
2 blasted off and we do it actually under conditions  
3 that are in containment where they may wipe it down  
4 with acetone or something else to get it clean, just  
5 to get a handle on the uncertainty involved in the  
6 measurement itself.

7 Remember, all the topics we're talking  
8 about now are really uncertainties involved in the UT  
9 measurements. And we're trying to get an  
10 understanding of, how do you think about them, and  
11 what have you don't to make sure you have a handle on  
12 the uncertainties.

13 And in this case, it wasn't really - the  
14 description, you've already said more here than we've  
15 had in the application dealing with the uncertainty.  
16 We have an organic grease; we clean it off. So what  
17 we're looking for is some understanding so Hans can  
18 say, you know what, that's a pretty credible way to  
19 understand the uncertainty involved with the  
20 measurement technique being applied.

21 MR. TAMBURRO: This is Pete Tamburro again.  
22 So when you said sensitivity, you're really talking  
23 about sensitivity testing of how we do our ultrasonic  
24 tests.

25 MR. GILLESPIE: You might say, what you're  
26 doing to assure yourselves that you've got a handle  
27 that the reading coming out - and I know that every  
28 utility has a program that does this kind of  
29 qualification thing. It just wasn't described in  
30 there. And the sensitivity here is a large component  
31 very much of interest, and that information just  
32 wasn't there.

33 On the other hand, we didn't ask you for

1 it.

2 MR. GALLAGHER: Okay, thank you.

3 MR. GILLESPIE: So it wasn't your fault it  
4 wasn't there; we didn't ask you for it. So we're  
5 asking this. That's why we're putting it on the table  
6 right now.

7 And again, I think you probably have a  
8 program there.

9 MR. OUAOU: No, this was not in the QA.  
10 In the QA we said that we're going to take the UT  
11 measurements through the epoxy coating on the outside,  
12 because it was qualified previously; and we're going  
13 to use the most up-to-date techniques to do that.

14 MR. GILLESPIE: What is the most up-to-date  
15 techniques for Oyster Creek?

16 MR. GALLAGHER: So we'll give you a  
17 description.

18 MR. GILLESPIE: Again, I didn't say any of  
19 this was hard; I just said we don't feel we have it.

20 MR. GALLAGHER: Right.

21 USE OF ASME CODE CASE 284-1

22 MR. GILLESPIE: One last one - any  
23 questions? One more under UT measurements, that is  
24 going to be the use of ASME Code Case 284-1. And I  
25 want to temper this a little bit, because there is  
26 already a 284-2, as best I've been told, out. Neither  
27 one have been endorsed by the NRC, but not being  
28 endorsed by the NRC actually does not invalidate them.

29 But it does put a burden on you into  
30 having to convince us on the applicability. And these  
31 deal with buckling of the shell.

32 And the validation of the underlying  
33 assumptions, you can't depend on ASME, because you're

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1 using it, and they haven't - we haven't really looked  
2 at it on their behalf yet. And that's kind of how I  
3 understand the issue.

4 But now I want to turn to Hans for the  
5 details on this one.

6 MR. ASHAR: Yes, this Code Case has been  
7 within the agency for a number of years now, since it  
8 was, the first one was proposed by Dr. Miller, who had  
9 done the testing, and committed to all the results.

10 Now we did not endorse it during review of  
11 reactors for the buckling analysis, 284-1. We did  
12 take a Branch Position during that time. And in  
13 addition to what they have done in 284-1, we require  
14 them to do more in the bifurcation analysis, and  
15 reduce the plasticity index, and those kind of stuff.

16 284-2, which ASME still is struggling  
17 with, has a number of changes made in this area, and  
18 that is - and with the typographical corrections that  
19 they are making right now, put into the equations.  
20 Because that makes a lot of difference in the research  
21 you have.

22 So I think that looks to be something  
23 acceptable you might accept in the future. Until now  
24 there is uncertainty regarding the use of 284-1.

25 Now, if it is used only the way I saw it  
26 being used is in one particular provision that is  
27 quoted in response to the TLAA is that you have  
28 assumed that the stresses are uniform along the  
29 thickness of the metal.

30 Now in the case of a localized corroded  
31 area, that may not be the case. Because when you  
32 start from a corroded area to an uncorroded area, you  
33 lose metal thickness. But it might have a lower

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1 strength than the strength than you go up above at the  
2 end of the plate.

3 Okay, if it's conservative, that's fine,  
4 use it. But I believe it may not be conservative.  
5 Because there will be a decreasing strength as you go  
6 near the corroded area. And it might show you as the  
7 metal thickness, but the strength may be different.

8 MR. GILLESPIE: Basically you've got that  
9 oxide layer on the outside. And we're not saying it's  
10 right or wrong. As I said, endorsement or not  
11 endorsement doesn't affect the applicability, but it  
12 puts the burden on you, because we have not accepted  
13 it in this application to give us the explanation of  
14 why you still think it remains conservative enough.

15 And this is in addition to the RAI. It's  
16 kind of the next level of detail down on that RAI.

17 MR. OUAOU: And again, Ahmed with Exelon,  
18 we did, spent a lot of time at the site review on this  
19 particular item. And the calculations that were based  
20 on 284-1 were reviewed. And the conclusion is that  
21 the impact of 284 for what we're using it for is not  
22 significant.

23 There are a number of questions that deal  
24 with those provided in response to these questions, as  
25 well as the previous discussion, back in '91 or  
26 whatever, that came up when this was used.

27 But one of the things -

28 MR. GALLAGHER: Just one question I have  
29 here, isn't this really the same issue as item two,  
30 the '91 GE document.

31 MR. ASHAR: Well, they have different  
32 implications. One thing is about the area considered  
33 for discontinuity analysis, and one is about the

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1 buckling analysis itself. So those are two different  
2 aspects there.

3 MR. GILLESPIE: In principle you could say  
4 it's ASME code and (garbled) code. In principle and  
5 philosophically even. One is dealing with some of the  
6 assumptions in the GE calculation, and this one is  
7 really dealing -

8 MR. ASHAR: The buckling analysis.

9 MR. GILLESPIE: -- with the buckling  
10 analysis.

11 MR. GALLAGHER: The other one was related  
12 to the buckling analysis also, right?

13 MR. ASHAR: Well, not necessarily.

14 MR. OUAOU: The difference with 284 is,  
15 that's what's actually again the capacity factor.

16 MR. ASHAR: Capacity factor. That is where  
17 -

18 MR. OUAOU: -- factors that you use to  
19 correct your allowable stress to come up with a stress  
20 at the end.

21 MR. GALLAGHER: So did we provide a  
22 description of the use of the Code Case 284?

23 MR. OUAOU: It was not in the RAI; it was  
24 in questions. Yes.

25 MR. GILLESPIE: So again, we have two  
26 processes going on. And the audit guys are still  
27 writing their piece up.

28 But if you feel you've answered it, but  
29 you need to understand Hans' specific concern is still  
30 lingering in his parallel collection process is the  
31 application of this code.

32 And we put this under UT measurement and  
33 buckling analysis, because it's how you take the

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1 measurement itself, as I understand it, and then  
2 incorporate that into the calculation, which is a  
3 little different than the translation we talked about  
4 in the calculation, the other ASME code piece.

5 What I'm trying to do is, we'll get it on  
6 the table here. The audit process is going on in  
7 parallel. And if you feel, if you can point to the  
8 Q&A that it's answered, and just for convenience,  
9 you'll be helping us out, for Hans. We're not trying  
10 to make you recreate a whole new report if you've  
11 already given us the information.

12 We'll internally check with the audit team  
13 on the Q&As on this, but if you want to hold our feet  
14 to the fire, because we've already asked it to you,  
15 and email it in, that would be appreciated too, and  
16 we'll make sure we get the point covered.

17 But you need to know right now in the  
18 overall evaluation, this is right now kind of an  
19 unanswered issue.

20 MR. ASHAR: The main thing is that in the  
21 response that you provided to the TLAA you say you  
22 made use of a particular provision 1700, which is -  
23 allows you to use it as the same test level throughout  
24 the thickness. Now the point that I am trying to  
25 make, it may not be true. So there might be a  
26 possible distribution of the strength, and you might  
27 have a different output from that pint. The analysis  
28 is based on this type of assumption.

29 So I want to make sure that you are doing  
30 the right thing.

31 MR. GALLAGHER: Is there a different code  
32 case or assumption we should be using?

33 MR. ASHAR: No, I think it would be -

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1 because this is very specific to the characterization  
2 of the various containments. You have to make a  
3 certain judgment as to how the strength near the core  
4 area would be as compared to away from the core area,  
5 and make a - if you have done the average strength  
6 analysis, it will not be conservative, and you might  
7 have to pull your neutral axis up, and it might change  
8 the character of you compressive stresses. That's  
9 what I'm thinking about.

10 MR. GILLESPIE: Mike, it's plant specific,  
11 and ASME, as I understand it, doesn't really have a  
12 lot of code cases that go out to 60 year lives, and  
13 deal with longer term corrosion issues, and the  
14 specific effects, and how they may modify codes that  
15 were actually there for design codes.

16 And so we have to look to you to now  
17 explain the application. And we're not saying the  
18 application is wrong; we're only saying, you need to  
19 explain this piece to us on the application.

20 So we're not telling you to do it  
21 different. We're only saying, again, this contributes  
22 to the uncertainty of the application of it. And if  
23 you've answered this in the RAI database and you can  
24 point that out to us, and we'll check internally,  
25 that's fine.

26 But this as of this morning is kind of an  
27 uncertainty in the engineering case.

28 MR. GALLAGHER: Okay, you guys have any  
29 other questions related to that.

30 MR. OUAOU: No, understood.

31 MR. GALLAGHER: Good, because when he  
32 starts going into moving the axes on compressive  
33 stresses, that's why he has to sit here.

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1 MR. GILLESPIE: Okay, next topic, and in  
2 fact, the last topic, and again, we're trying to be as  
3 fine tuned and as crisp as we can, because if we sent  
4 you some general RAI to try to get where I hope we're  
5 getting at this meeting, it would not have the  
6 specifics that just transpired right here in it, so  
7 that we can nail this thing down.

8 ULTRASONIC TESTING ISSUES

9 Ultrasonic testing issues: And now we're  
10 shifting not to the technique, and not to the 1981  
11 report, but sample size and sample locations.

12 And again, we have - I'm going to say -  
13 three areas of clarification that are needed.

14 And this one is junctions between plates  
15 of different thicknesses. The generalization that I'm  
16 understanding is, the reason for which points are  
17 being selected where. And now we're really talking  
18 about the upper parts, and the representativeness, bad  
19 word, how representative the points you're using are  
20 to the whole, which if it was demonstrated 20 years  
21 ago, it's not clear that there has been a  
22 redemonstration, as we're trying to add yet another 20  
23 years on to the license.

24 And so with that, let me turn this one  
25 again over to Hans for some detail.

26 MR. ASHAR: I'm going to go through three  
27 areas here, okay. The cylindrical portion of the  
28 sample size and the spherical portion of the sample  
29 size and the sanbed area.

30 The samples taken at this time in the  
31 upper portion of the cylindrical portion it is taken  
32 I think at one elevation of 87 foot 5 inch. Represent  
33 a cylindrical portion of a drywell, and then it is our

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1 suggestion at least for the future UT results to add  
2 one more elevation for taking the samples, which is  
3 71.6 inches.

4 And what the significance of that  
5 particular elevation is that is where the lower  
6 thickness meets the knuckle (phonetic) area. And the  
7 question here is that if the water even in a small  
8 conduit is passing through there, it is going to  
9 stagnate in the area there, because the ledges form in  
10 that area on the upside. And that is where the water  
11 is going to accumulate, or it might be absorbed into  
12 the insulation itself, wouldn't know what would  
13 happen.

14 But that is a sensitive area which could  
15 be subject to more corrosion than the straight portion  
16 of the cylindrical area.

17 So our suggestion for the future is to  
18 have you include that area near the junction of the -  
19 to get a confidence that you are good enough, your  
20 sample size, enough locations taken.

21 MR. GALLAGHER: So this is elevation 71.6?

22 MR. ASHAR: 71.6, that is the suggestion.  
23 You might not have platform there, you might have do  
24 something else. So you may change a little bit here  
25 and there. But the point is that the dissimilar  
26 thickness, wherever you go to the joint between the  
27 courses, you know, thickness courses.

28 MR. GALLAGHER: Just where the knuckle is.

29 MR. ASHAR: Just before the knuckle.

30 MR. TAMBURRO: This is Pete Tamburro.

31 So are you asking to take a representative  
32 sample of one plate, and then the weld, and then  
33 another plate?

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1 MR. ASHAR: Yeah, I think if you use the  
2 6X6 grate in the grated area you can cover the whole,  
3 including weld and everything, in one grid.

4 MR. GILLESPIE: Remember, the underlying  
5 question is, because we're not telling you what to do.  
6 What Hans has done is very nicely given you a specific  
7 example of where he feels the physical configuration  
8 forms an area which could be conducive to higher  
9 corrosion rates than potentially your sample that  
10 you're taking.

11 So the real question is the  
12 representativeness of your current sample as we go  
13 forward for even another 20 years. And it's not that  
14 we're asking you to do this everytime; what we're  
15 asking you to do is reinforce the assertion that your  
16 current sample is in fact representative. But we've  
17 noted that you haven't been looking at this area which  
18 by physical configuration could be picked out as maybe  
19 a high corrosion area.

20 So it's kind of the validation of what  
21 you're doing, and so it - I guess what we're asking  
22 is, remove this uncertainty in your sampling process  
23 somehow. And the only way we can think to do it is to  
24 pick a high corrosion area that's not being sampled  
25 and ensure it actually is - continues to be enveloped  
26 if you would by the current area.

27 MR. GALLAGHER: And I guess I'm - I mean we  
28 actually did some exploratory on the knuckle area,  
29 didn't we, Pete?

30 MR. TAMBURRO: Yes, we did.

31 MR. GALLAGHER: In the past. So we have -

32 MR. GILLESPIE: Sometimes you only have to  
33 document what you did if you did a good job.

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1 MR. GALLAGHER: Yeah, this drywell has been  
2 very thoroughly looked at over the years. So the  
3 chances are, we have that data, and I think we talked  
4 about that earlier.

5 MR. ASHAR: Yes, I would have relied on the  
6 thousand UTs you have done before. But because of the  
7 continuing water -

8 MR. GILLESPIE: Yeah, there's an operating  
9 history there that gives us a concern in operations.  
10 And again, we're updating - you know, in always  
11 sampling a measurement, what you're really trying to  
12 do is bring the applicability of that calculation up  
13 to date, and that's really -- and the only way to do  
14 that sometimes is a positive measurement.

15 And so yes, you might have done it 15  
16 years ago, but there's been an operating history and  
17 an experience base since then which has affected the  
18 environment in that gap.

19 And so it's your option. You can either  
20 explain why 15 years ago applies to today, given all  
21 of that operating history, or positive knowledge on  
22 both of our parts, versus arguing words and pencil  
23 notes, well, take a measurement.

24 MR. GALLAGHER: No, I think it's a good  
25 idea.

26 MR. GILLESPIE: You know what I mean? It  
27 eliminates all the bias, and to a degree the  
28 uncertainty, and gives you a new point to project.  
29 Because you're asking for a license for an additional  
30 20 years.

31 And so we had confidence in that assertion  
32 for the remaining portion of your current license,  
33 which is 2009, and now we need something a little more

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1 to project that past 2009 for an additional half a  
2 life.

3 MR. GALLAGHER: Yeah, I think that's a good  
4 idea. I just wanted to make sure you knew we'd looked  
5 at that.

6 MR. GILLESPIE: I didn't know you had  
7 looked at that area, because it wasn't part of the  
8 application.

9 But again, you have to understand our  
10 concern. It's not just isolated to that area; it's  
11 that area combined with operating history subsequent  
12 to those measurements being taken.

13 Again, to revalidate the trends,  
14 revalidate the calculations. So we're kind of looking  
15 at a revalidation process given the operating history.

16 MR. GALLAGHER: Okay, so any other  
17 questions on that, guys?

18 MR. ASHAR: A similar request in the area  
19 where the thickness of I think .622 missed the 1.548  
20 thick area. There is the area likely to be - there is  
21 some accumulation of water if anything is going on.  
22 Similar to the cylindrical portion. The junction of  
23 the thickness change.

24 MR. OUAOU: This is aside that region -

25 MR. ASHAR: No, above the same region.

26 MR. OUAOU: So from 1.154 to .77.

27 MR. ASHAR: Exactly.

28 MR. OUAOU: Okay.

29 MR. GILLESPIE: So the plate above the -

30 MR. OUAOU: Right.

31 MR. GILLESPIE: That joint right there.

32 MR. OUAOU: Yeah.

33 MR. OUAOU: This is Ahmed again. One

1 thing I'm not totally sure on yet, I understand the  
2 differences in the thicknesses. But typically you  
3 grind that so you wouldn't have that. We have to go  
4 back to confirm that. So I just wanted to mention,  
5 typically you wouldn't leave a discontinuity like that  
6 going from one thickness to the other without grinding  
7 it.

8 MR. ASHAR: Well, if they use a groove weld  
9 to weld those two courses, I think you are going to  
10 have a ledge. There won't be a transition there.

11 MR. GILLESPIE: Again, the big question is,  
12 the representativeness of the current sampling program  
13 for areas that when another engineer looks at it says  
14 you could have a ledge there.

15 Again, we are not here to give you the  
16 answer; we're giving you our concerns. And there are  
17 two ways you can do it, and there are a combination of  
18 two ways you can explain it.

19 MR. OUAOU: The only thing I may add is  
20 that when the investigative work was going on to come  
21 up with the very 1,000 UT measurements to find the  
22 thin areas, we didn't stay away - I don't think we  
23 stayed away from the areas where we transitioned from  
24 one plate to the other, especially when you do that  
25 from the outside.

26 You move the template along the elevation  
27 to see where you have a corrosion, and you don't  
28 specifically say I'm going to exclude this area  
29 because it's not -

30 MR. GILLESPIE: Again, that was for the  
31 life of the current license. And really what you're  
32 asking for in renewal space in your application,  
33 fundamentally, is to take that projection and now move

1 it forward now almost 17 years or 20 years to the end  
2 of the license, and you're asking the NRC to make  
3 another 20-year judgment.

4 We're fundamentally remaking the 20-year  
5 judgment we made before. And so it's the same  
6 technical issues, are still the same technical issues,  
7 and again, it's your choice. But what we're looking  
8 for is the least uncertainty on the measurement of  
9 making this projection forward 20 years that's also  
10 rational. And it's your judgment.

11 So you understand, we still have this  
12 uncertainty. We're not negating the finding from  
13 1991, but you're asking us to take that and now move  
14 it forward, and all Hans is saying is, actually no new  
15 positive measure which now we're not arguing  
16 calculations or philosophy, there is no new positive  
17 measure in this area of potential. We're not saying  
18 it is a high area, but there is a potential, normal  
19 industry practices grind down welds and make them  
20 smooth. We're also not disagreeing with that.

21 But it seems that you need to understand  
22 our concern is, in just looking at the physical  
23 arrangement, this is an area of potentially higher  
24 corrosion, and we're asking why is your current sample  
25 set still representative of that area?

26 If the explanation is, we were 1,000  
27 percent sure that this was ground down, and that there  
28 are no crevices or anything in that grinding that  
29 could catch water, that's one way of doing it.

30 There are two approaches to everything.

31 MR. GALLAGHER: And I think what you're  
32 saying, Frank, is that some of these areas that helps  
33 to narrow the uncertainty. So I think we -

1 MR. GILLESPIE: Remember, we're trying to  
2 be as clear as possible to you.

3 MR. ASHAR: In the pocket region of the  
4 drywell shell, the most susceptible bays are  
5 incorporated in the sampling, the present sampling is  
6 fine.

7 However, there are a number of issues that  
8 need to be addressed to ensure that readings are taken  
9 at whatever locations, and techniques used are  
10 reliable.

11 It is not clear if the junction between  
12 the 1.154 inch plate and the .676 inch plate, which I  
13 think I had explained to Ahmed when I was there in  
14 audit on April 28th.

15 That area - we do have a concern in that  
16 area. Because you took out the sand from the sand  
17 pocket area, before you put the ceiling in the  
18 junction between the steel and the concrete, quite a  
19 bit of amount of water might have seeped through in  
20 those areas, and might have caused corrosion in those  
21 areas.

22 And the way we are writing is, we'd prefer  
23 that you try to find out some technique to measure the  
24 thicknesses in those areas and alleviate any doubt  
25 about there is no corrosion. Or if there is  
26 corrosion, then you know about it, how much it is. Or  
27 justify why this area should not be included in the  
28 sand pocket areas.

29 You understand what junction I'm talking  
30 about?

31 MR. GILLESPIE: Let me give you a little  
32 more amplification on this, because Oyster Creek is  
33 not alone on this. We had an ACRS meeting yesterday

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1 where this area between the concrete steel concrete  
2 sandwich, in there, were addressed.

3 And as best I understand it right now,  
4 there really is likely - while we have some research  
5 going on in this area, and a research letter from Oak  
6 Ridge available, this is not an area where I think -  
7 and I think we recognize this - that there is a lot of  
8 commercial activity. It's accurately being able to  
9 measure through concrete, through steel, and into  
10 concrete in that environment, without chipping  
11 concrete out, and we have to be, at ACRS, talking to  
12 a licensee that actually chipped concrete out  
13 yesterday.

14 But some of the discussion went on, with  
15 ACRS. And again Hans' second comment was, provide us  
16 at least with a rationale that is coherent and makes  
17 sense. And some of the points that ACRS raised in  
18 challenging the staff on our interim staff guidance,  
19 where we had to kind of make a rationale for such  
20 aspects of the fact that the inside containment  
21 temperature is like 130 degrees. And therefore it's  
22 going to drive moisture out. The lack of oxygen in  
23 the area.

24 Once it's been sealed, the initial  
25 oxidation is going to consume the available free  
26 oxygen, and therefore, there is some severe  
27 limitations on corrosion.

28 These are the kinds of things we discussed  
29 with ACRS in a broad sense of applicability of how  
30 we'd see an applicant trying to address the rationale  
31 portion of this, if chipping up the concrete was  
32 really not rational.

33 That explanation I don't believe was in

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1 the RAIs or the application. You have to make it for  
2 us. I know what we did as staff to help support our  
3 interim staff guidance on why it wasn't more demanding  
4 if you would in this area. And these are the kinds of  
5 things that were going through our mind. And I want  
6 you go away understanding that that's the same thing  
7 that was on the record at the ACRS meeting was the  
8 kind of rationale the staff had in mind as to why this  
9 actually should be. And looking at the chemistry of  
10 it, an area of fairly low concern.

11 But you have to tell us why for your plant  
12 it's a fairly low concern with your operating  
13 history. And so then there's timing elements about  
14 when the seal went on, when various leakages might  
15 have occurred, when water could have accumulated,  
16 groundwater levels, and the ACRS asked about, what  
17 about concrete, it's porous, it contains water. Then  
18 an ACRS member said, yeah, but there is no oxygen  
19 left.

20 So it's that rationale, or advanced  
21 measurement techniques that might or might not be  
22 available. That's not my area; I don't know. As you  
23 know we have an Oakridge report, and I think we've  
24 already supplied you with our ADAMS number.

25 MR. ASHAR: ADAMS number.

26 MR. GALLAGHER: Do we have that report?

27 MR. GILLESPIE: But let me be careful, I do  
28 have to be rational, we're not asking you to be in  
29 advance of the state of the art of applicable  
30 commercial techniques, and again, in RAIs I couldn't  
31 say that, but we're trying to keep this in context.  
32 But we do need a signed understanding from you, in  
33 your words, as to why this should be a low susceptible

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1 area.

2 And that's your choice on how to do that,  
3 and we've supplied you with the one letter report, and  
4 since it's a letter report on a NUREG, that tells you  
5 right there, it's very advanced information.

6 And so you have to digest the information.  
7 Just understand our concern, and the rationale we're  
8 looking for.

9 Does that make sense?

10 MR. OUAOU: I understand. This is Ahmed  
11 with Exelon. We understand the question.

12 We did not provide all that detail you're  
13 talking about in the application. We specifically  
14 used a NUREG-1001 as a basis why that area is not  
15 susceptible to accelerated corrosion.

16 Basically the idea is, if it's embedded in  
17 the concrete, you don't have an adverse environment,  
18 chlorides and sulfates, you should not - you know, you  
19 have an alkaline environment that is not conducive to  
20 corrosion of the shell.

21 And all those items that you mentioned  
22 contribute to why that area is not -

23 MR. GALLAGHER: So we did not provide  
24 that.

25 MR. OUAOU: We have.

26 MR. GALLAGHER: Where is that, in the  
27 application?

28 MR. OUAOU: It's in the application; it's  
29 in the questions, Q&A. We did not provide, we did not  
30 state that it's totally sealed; the oxygen is limited.  
31 We didn't get into that detail.

32 MR. GILLESPIE: Yes, and again we didn't  
33 ask for it. Again, we're at a level of detail,

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1 because you did supply us a lot of information in the  
2 RAIs, we're really now fine tuning and focusing in on  
3 these real specifics.

4 MR. ASHAR: We did mention about the  
5 inaccessible areas, and we did provide certain  
6 guidance to if the concrete is like this or that.  
7 Then you may not have to do much in that area. But  
8 Oyster Creek is a little different animal here,  
9 because it has a history of contaminated water going  
10 into the sanbed area. It might have seeped through in  
11 the area with the thinnest part of the steel is there.  
12 Though it is bearing on concrete, still, it is very  
13 thin. And if it is rusting, there are problems with  
14 it, and with the analysis, too.

15 MR. GALLAGHER: And as far as the  
16 techniques for looking at this, we had looked into  
17 that, and we hadn't really found anything.

18 Did you see anything, Hans?

19 MR. ASHAR: Yeah, in this Oak Ridge report  
20 that Frank talked about does have three separate  
21 matters came in. Each will have a different  
22 applicability. I don't know which is more suitable.  
23 I cannot recommend to you that.

24 But there is a potential for use of one of  
25 those methods. We requested Research to have Oak  
26 Ridge National Laboratory conduct a study. They are  
27 state of the art kind of report. They give a contract  
28 with three separate independent people to develop some  
29 kind of techniques to have the metal thickness results  
30 being given when the metal is embedded in concrete on  
31 both sides; that was the main purpose of it.

32 So there is some applicable review.

33 MR. GALLAGHER: And we have that Oak Ridge

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1 report?

2 MR. OUAOU: We have the - John you have  
3 the - yeah, right.

4 MR. GILLESPIE: But again, I really went  
5 out of my way to try to keep that in perspective.

6 MR. GALLAGHER: Right, so we'll take a look  
7 at it.

8 MR. GILLESPIE: Sometimes people say, the  
9 NRC asked me a question, and that's telling them to do  
10 something. I'm not. I'm asking, just reevaluate the  
11 data. I'm not insisting on people to do the  
12 impossible. But it's the rationale and the details  
13 underlying it. You didn't give it to us; we didn't  
14 ask for it. And that's why we're here saying, this is  
15 that little piece that's missing under here.

16 And as we told ACRS yesterday, although we  
17 kind of have a generic position, our generic position  
18 is really applicable to facilities that have had no  
19 history at all of leakage. And then you step off from  
20 that, and when we reviewed Brown's Ferry, they were a  
21 little different. You were a little different. Your  
22 operating histories are slightly different.

23 And so the generic applicability strictly  
24 of the new reg what we're saying is, there is some  
25 customization you have to do specific to your  
26 operating history.

27 MR. GALLAGHER: Okay.

28 MR. GILLESPIE: Ready for the next one?

29 MR. GALLAGHER: Yes.

30 MR. GILLESPIE: Okay.

31 INSPECTION INCREMENTS WITH UT COMMITMENT

32 Sanbed region inspection increments  
33 associated with UT commitment in letter dated April

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1 4th, 2006, page 3, item two.

2 This - actually I'm going to get your  
3 commitment - don't throw it out. It was a good  
4 commitment. Let me try to articulate this one.

5 And our thinking is, we're trying to be  
6 very consistent with the previous thinking back in the  
7 '80s. And also with concepts that we kind of have in  
8 the maintenance rule and other things. And the idea  
9 is, the intent here is to bring all of this technical  
10 information that was developed in the early '90s  
11 forward, and essentially revalidate for today.

12 I do understand, in the press clippings,  
13 although I don't think you've written it to us, that  
14 you were going to do some measurements in 2006.

15 I read that in the paper. But we probably  
16 would - it would be beneficial to have that on the  
17 record. And I assume that's your commitment actually  
18 to do it, that that's the one you're going to do prior  
19 to entering the period.

20 MR. GALLAGHER: That's correct.

21 MR. GILLESPIE: Well, I'm making that leap  
22 of faith assumption. So the measurement you are going  
23 to do prior to entering the period is really the first  
24 measurement that's been done since 1996, and there's  
25 been a significant amount of history since 1996.

26 And I'm going to simplify this down to my  
27 kind of thinking. It takes two points to have a line  
28 in order to have a slope. And there's been some  
29 operating history between '96 and now that one point  
30 validates to some degree I'm going to say current  
31 thickness for the last 15 years.

32 But then you're asking in your commitment  
33 to jump to not do anything for 10 years, okay. Now

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1 I'm going to invoke the concept that we have in the  
2 maintenance rule, which is kind of more of an OR gate  
3 (phonetic) if you would for any measurement which  
4 says, if we do the measurement in '06, and we see some  
5 level of degradation which is inconsistent with what  
6 you would have predicted, then you're going to do  
7 something.

8 Then if I go to the maintenance rule, it  
9 says, I'm going to increase my surveillance frequency.

10 And then if you increase your surveillance  
11 frequency and see with the second measurement that  
12 it's stable, then you decrease your surveillance  
13 frequency.

14 What we'd ask is it's - there is no  
15 criteria for what happens, what you're going to find  
16 in '06. It still leads in our mind to a degree of  
17 uncertainty. And we'd like to ask consideration in  
18 terms of what's the basis for 10 years? If you say  
19 you're going to do something in '06, and if that's  
20 part of some criteria, then we're going to do  
21 something within four years after that again.

22 Now you are really consistent with our  
23 previous judgments from last time, in which you  
24 committed to do several I think measurements I think  
25 in a row at four-year intervals.

26 But then if you come up with a second  
27 measurement, and it's better, then there should be an  
28 opportunity to extend it past that.

29 So what we're suggesting is, in our minds,  
30 we're looking for some sense of commitment to what  
31 happens, what's your criteria if you find something,  
32 thinner, thicker. What happens if this measurement  
33 comes out like the '96 measurement, and comes out as

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1 growing more?

2 Then there is a calibration issue I hope.

3 And so what we're looking for is I'm going  
4 to say a bit of a more disciplined reliability  
5 approach to the sampling plan maybe as opposed to the  
6 rigidity of 10 years.

7 And there's a sense on our part right now  
8 that given our current knowledge base, and the  
9 uncertainties in operating history, the uncertainties  
10 in the '96 measurement itself, which may not be - you  
11 might not be able to do anything - it's 10 years ago.  
12 I'm just being realistic.

13 The coatings are getting older. Yet you  
14 aren't going to do the inspections. We're not  
15 questioning your inspection regimes, your commitment,  
16 that's very good, to do 100 percent in 30 years of  
17 commitments. But it is getting older, so there is  
18 these degree of uncertainties that more progressive  
19 sampling - the broad RAI would be, what is the  
20 justification for 10 years?

21 Because 10 years is independent of what  
22 you find in '06?

23 MR. GALLAGHER: I think one of the things  
24 we tried to do, Frank, was, if you look at all those  
25 commitments, they're kind of like an integrated  
26 package, you know what I mean? Because the agent-  
27 management program is an integrated package on that.

28 And I guess what we were trying to say and  
29 maybe it didn't come across, we take the readings  
30 before the end of the period and we did have some -  
31 and our expectation is that the corrosion has been  
32 arrested, and has been arrested since 1996. So our  
33 expectation is, we would have similar measurements.

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1           And then we said, we had the criterion,  
2           and I think it was plus or minus 21 mils? And it was  
3           based on the uncertainties of measuring and equipment.

4           And then if we were outside of that we  
5           would notify the NRC within 48 hours. And we made a  
6           commitment to that effect. And that we would have  
7           specific actions.

8           And those specific actions relate to doing  
9           the projection, increase the frequency of the testing,  
10          and things like that.

11          We didn't put the decision tree in there,  
12          but that's our intent.

13          MR. GILLESPIE: Okay, and on this aspect -  
14          as I said, don't throw out the commitment. The  
15          commitment, it was a very good commitment.

16          Our question really is the decision tree,  
17          and we've had this same discussion actually with Nine  
18          Mile Island on could you give us the acceptance  
19          criteria.

20          Because while you can assume that  
21          everything will be correct, as the regulator, we  
22          cannot assume everything will be correct.

23          And so it's a decision tree that affects  
24          inspection frequency. You're reporting to us, all of  
25          that was fine. What we're doing is, saying that the  
26          specific commitment that says, we're going to do a  
27          measurement before we hit the period, and then,  
28          really, reading it word for word literal, the next  
29          measure is at 10 years.

30          We're absent that decision logic that you  
31          have internally that would make perfect sense. And so  
32          on the frequency thing, we're asking, could you give  
33          us a relook at that in 10 years, and either

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1 rationalize why 10 years as an absolute is okay, or  
2 provide the commitment of what your decision tree is,  
3 relative to frequency of remeasuring versus which  
4 goals.

5 Again, you're assuming it won't. And  
6 we're regulators, so we have to assume it will. And  
7 we need to address both sides.

8 And quite honestly, I think, in the  
9 public's view, they need to have a certain assurance  
10 that if this becomes a commitment, or whatever, within  
11 the license itself as we reissue it, then it becomes  
12 real solid, it's inspectable, and what I'm saying it  
13 has all the bells and whistles on it that go with the  
14 regulatory process.

15 So we'd ask you to relook at the 10-year,  
16 and you've just described an internal logic that is  
17 not visible to people on the outside who read the  
18 literal words of that commitment.

19 So the request is, could you look at the  
20 commitment on the 10 years. Because we're reading it  
21 like an absolute. Yeah, you report to us, you'll do  
22 all those things, but gee, they never said they'd go  
23 in and remeasure.

24 MR. HUFNAGEL: Frank, this is John Hufnagel  
25 from Exelon. Just a clarification. Because when I  
26 was listening to you, I believe you may have said that  
27 even if we went in and found essentially the same  
28 result with the ultrasound testing, the 10-year  
29 frequency may not be enough.

30 So I think what Mike described was if we  
31 would go in, we would find some degradation, we would  
32 consider corrective actions including things such as  
33 more frequent inspections.

1 MR. GILLESPIE: Okay, now we get to the  
2 uncertainty issue on that. And that's why I can't  
3 give you a specific answer. That's why I said it kind  
4 of nebulously.

5 The uncertainty issue is, if you go in and  
6 you do the measurements, and let me say you have the  
7 same issues that you had in '96 that were kind of  
8 inexplicable but why it grew, then 10 years is  
9 probably too much.

10 And so what I'm dealing with, and I can't  
11 do it for you, I'm dealing with, there is an operating  
12 history there. There are these uncertainties that in  
13 fact you may be within - if it's an asymmetrical 21  
14 mil objective, then you still have the same regulatory  
15 question, well, it grew again. They don't have to do  
16 anything.

17 MR. GALLAGHER: Right, and we would take  
18 corrective action. So I guess maybe related to the  
19 question John just asked, so I guess the corollary  
20 would maybe be, if we were within that plus or minus  
21 21 mils, is 10 years okay?

22 MR. GILLESPIE: There is no absolute on 10  
23 years. Okay? That was what was in your application.  
24 There is an uncertainty connected with these  
25 measurements. There is a specific uncertainty  
26 demonstrated in measurements at Oyster Creek  
27 specifically over time.

28 If you really are trying to bring that  
29 forward, you have to make the judgment, is once at the  
30 beginning of the period, and doing a second one at  
31 four years, and then not doing any more for 16 years,  
32 is the right answer.

33 Because remember, what you're trying to do

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1 is take this calculation and all this body of  
2 information from the '80s and '90s and reapply it to  
3 a new 20-year period. And if you're going to do two  
4 measurements, should that second commitment for all of  
5 these questions actually be way out there at 10 years?  
6 Or if you're going to do two measurements anyway,  
7 should it be at four years or six years? Because  
8 that's giving us assurance on the projection of all  
9 this body of data forward.

10 And by the 10th year it's not really  
11 contributing to the projection doing forward.

12 And now I'm going to make a leap of faith  
13 to a new topic -

14 MR. GALLAGHER: Before you go there, Frank?

15 MR. GILLESPIE: It'll make sense though if  
16 you let me do it.

17 MR. GALLAGHER: All right.

18 MR. GILLESPIE: Because it'll make sense to  
19 why I just said what I'm saying. In the interim staff  
20 guidance there is an event aspect to it, which says,  
21 if you ever see water, you have to go do a  
22 measurement.

23 And so it's not mutually exclusive. And  
24 so if you're committed to two measurements on a  
25 frequency that allows us to translate this body of  
26 information forward for most of the period, we would  
27 still ask you, you have not committed to the ISG  
28 relative to that event aspect to it, which says, if  
29 you see water, you have to measure again.

30 And so I'm saying this measurement thing  
31 is kind of an integral case. And if you're really  
32 good and you never get a leak again, you've still only  
33 done two measurements, but you're adding to the

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1 principle of moving the body of knowledge forward.

2 But if you ever see water again, you are  
3 committed to a third measurement.

4 And so it's a package. I'm agreeing with  
5 you; it's a package. And that's not in the  
6 commitment. And it's kind of the event based aspect  
7 of that ISG which then says, you need to redo your  
8 rate calculation and project it forward if  
9 you see moisture.

10 And that's the package I wanted to get  
11 out, because it's not like I'm - we've kind of done  
12 something thinking on this, and what are we really  
13 trying to achieve relative to the staff's approval of  
14 your application, and we're trying to approve is that  
15 projection forward for the next 20 years.

16 We're not actually trying to specifically  
17 find the thin spot at any given year; we're trying to  
18 have enough comfort if you would or faith. And it's  
19 faith in that calculation we're trying to get, not  
20 just a random measurement at a 10-year point of a  
21 vessel.

22 So it depends on how you look at - what is  
23 your objective of doing those measurements. If the  
24 objective is a random point in time, to make everyone  
25 feel comfortable with something you've already  
26 approved, the first thing is, get the piece already  
27 approved.

28 MR. GALLAGHER: We'll definitely look at  
29 that, Frank, because again, I think that was our  
30 intent, outside this region, we would change the  
31 frequency.

32 But one thing I just want to clarify  
33 because even sometimes we fall into this trap, and we

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1 talk about the individual components of the aging  
2 management program.

3 Like people would say, hey, the last  
4 management we took was '96, and that's a long time  
5 ago. You know we have the advantage at Oyster Creek  
6 where that area is accessible now, because we made  
7 these modifications. So we've had eyes on on the  
8 coding ever since then, that the coding is put on in  
9 '92.

10 So that was our look, ongoing look, to  
11 make sure that corrosion was arrested, and was gone.  
12 Except so we see that as a real good advantage for us,  
13 because we have that area to be accessible.

14 So when you look at the package of UTs and  
15 visuals, it's a pretty good one.

16 MR. GILLESPIE: But that's why I just - and  
17 Hans, you can jump in, because I might say something  
18 wrong here. But you notice coatings wasn't on our  
19 list, and you're answer and your commitments in that  
20 does reinforce what you just said.

21 So again it reinforces if the codings are  
22 being expected reasonably vigorously at one time 100  
23 percent, and then it'll go to 30 each outage, that's  
24 confirming the underlying assumption that moisture  
25 isn't present and therefore corrosion doesn't occur,  
26 which makes the usefulness of a 10-year out  
27 measurement potentially less useful than one that  
28 might be in more like a four-year duration that allows  
29 us to do what we did in the '80s, to say, okay, you've  
30 got enough information to project this forward, and  
31 now depend on your commitment on the coatings  
32 examination.

33 And so at least and I'm going to ask Hans,

1 because I - and so there is a thought process there  
2 that is different than just picking 10 years because  
3 it's in the middle.

4 Hans.

5 MR. ASHAR: Yeah, I think programmatically,  
6 I think the way you have committed to coating  
7 inspections, if during the inspection of coatings, you  
8 see seepage of water that you have seen earlier in  
9 2004, 2006 time frames, then there is always a  
10 question as to what is going on.

11 And that's why what Frank is trying to  
12 explain is that you've got to have a program based on  
13 what you find rather than straightforward to 10 years.

14 And I think Frank did describe it very  
15 vividly, but I'm trying to simplify it. That's what  
16 we are looking at here. Programmatically.

17 MR. GALLAGHER: And I think that was our  
18 intent, but we can clarify that.

19 MR. GILLESPIE: So the summary is, could  
20 you relook at the purpose of the 10 years, and is the  
21 10 years really serving the purpose of bringing this  
22 data point forward so that we can make the same  
23 decision now for the next 20 years we made before for  
24 the last 20 years.

25 MR. GALLAGHER: You guys have some  
26 questions?

27 MR. OUAOU: Well, the only thing I really  
28 want to add - this is Ahmed with Exelon - is the UT  
29 measurements we're using in the sanbed region is to  
30 confirm that in fact corrosion is not undergone, which  
31 is stated, it's arrested.

32 But you've got to remember, on a forty-  
33 year basis, we're still doing UT measurements on the

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1 upper region of the drywell, which is not coated, and  
2 it really should bound the other areas.

3 MR. GILLESPIE: Again, you're making my  
4 case why 10 years may be a random point that is just  
5 out there that was picked because it's in the middle,  
6 as opposed to being a point that in a real early part  
7 of a period contributes to reinforcing the fact that  
8 the body of knowledge in the inspection techniques for  
9 both how you apply that corrosion rate you're finding  
10 at the top which is uncoated, and how you look at the  
11 coatings, is doing.

12 All the reasons you're giving me are  
13 reasons why you want to reinforce your technical bases  
14 early as opposed to late. That's all I'm saying. I'm  
15 just asking you to think about it.

16 MR. OUAOU: The only thing I want to point  
17 out is, the basis for the 10 years we used for was  
18 certainly not random. It's based on the ISI interval.

19 MR. GILLESPIE: Okay, the ISI period is  
20 also 10 years.

21 MR. OUAOU: That was the basis for it.

22 MR. GILLESPIE: We've actually had some  
23 discussions with people that the whole ASME code  
24 issue, which is not yours, is given us great pain in  
25 aging management as you know with relief, because the  
26 code is written to cycles, et cetera, et cetera, that  
27 are really based on a 40-year life.

28 And so we're, again, that may be the code,  
29 but that is not - I'm trying to say, it could be a  
30 technical rationale, other than it's convenient with  
31 the code for doing it. And because of your answer and  
32 commitments in the coatings, because of the  
33 reinforcing measurements at the top in the uncoated

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1 areas, we're looking for as much definitive  
2 information early in the period that there will be  
3 success during the period as we can, relative to  
4 projections.

5 And again, the kicker in here is, we'd be  
6 looking at the event part of the ISG which then  
7 applies to future - because you got a 16-year period  
8 I just suggested in there. But the ISG would say,  
9 if water shows up, you're doing UTs again. I mean  
10 that's what the ISG says.

11 But if you're real good and you never have  
12 a leak, because of the inspections and the projections  
13 and that, and then the validity of your projections  
14 are doubly reinforced early in the period.

15 So I'm asking you to look at the rationale  
16 for the 10 years, and what I'm suggesting is, in light  
17 of how we thought about the maintenance rule when we  
18 were writing that, and what we were doing and what was  
19 happening in the maintenance area; I'm applying those  
20 same principles.

21 Remove the uncertainty early, and that  
22 allows you to have a justification and a rationale for  
23 the extension, and why a more minimal surveillance  
24 program is unsatisfactory.

25 MR. GALLAGHER: And Frank, do you have any  
26 thought in mind for what an early interval would be?

27 MR. GILLESPIE: No. If you can rationalize  
28 10 years as being early in providing the moving  
29 forward into the entire period of that -

30 MR. ASHAR: We'll look at it.

31 MR. GILLESPIE: -- we'll look at it. But  
32 the uncertainties involved - and I will admit, this is  
33 - there is some subjectivity to this. I mean this is

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1 not an algorithm that we can put into a spreadsheet  
2 and do a calculation on.

3 But there are a number of uncertainties,  
4 the residual ones we went over today, which we're  
5 looking for clarity in. And I think what you as an  
6 applicant are trying to do is reduce or minimize those  
7 uncertainties to the degree possible for the maximum  
8 period of operation.

9 And what we're suggesting is, 10 years  
10 leaves a great deal of uncertainty in our minds  
11 relative to the sample selections, and projecting this  
12 vast body of data and this calculation forward.

13 Again, we're dealing with taking a vast  
14 amount of information which was reviewed now almost  
15 15, 16 years ago, it was probably developed close to  
16 18 years ago, and bringing that forward for a new 20-  
17 year period.

18 And yes, that was satisfactory for the  
19 last 20 years of the license, but now we're making a  
20 new finding that it's satisfactory for yet even  
21 another 20 years.

22 MR. GALLAGHER: Okay, I think we understand  
23 it. Okay.

24 MR. GILLESPIE: With that, I've got one  
25 other issue, and this - to close out containment, and  
26 to let people know that what we've talked about here  
27 is only a small piece of the whole.

28 And this has no action for you. But  
29 actually in looking at the whole thing, we were really  
30 trying to look holistically as a staff at the entire  
31 containment structure. And we did note that your last  
32 appendix J integrated leak rate test was in 2000,  
33 which means your next one is due in 2010, which is

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1 really close to the beginning of the period.

2 And while that is not a design test, there  
3 are other things going on as part of our body of rules  
4 that do affect the integral look that we take at  
5 things like the containment shell.

6 And so I didn't want people to think that  
7 we only looked at what we talked about at this  
8 meeting, which I'm hoping was very focused and quite  
9 narrow to our residual concerns.

10 But that we do see that kind of under the  
11 rules you have to pick a date, 2008 or 2010 plus or  
12 minus a year under 10 years, and that's probably  
13 either one within six months of the renewal period.

14 So there are other things going on to give  
15 us increased assurance of the operability of the  
16 shell. And because this isn't just a meeting between  
17 you and us, I want people - and this is an example of  
18 other things that we're considering. So we're not  
19 just narrow people. We're not just looking at the 10  
20 years and asking about that. We actually found some  
21 really satisfactory things, and just in compliance  
22 with the regular body of rules that was going on.

23 And with that, I'm down to my topic called  
24 general discussion, but I'm about worn out.

25 GENERAL DISCUSSION

26 I would ask you and then I'll ask - or  
27 perhaps I should ask Hans if he has anything else he  
28 would like?

29 MR. ASHAR: No, I don't think I have  
30 anything more than what you described, no.

31 MR. GILLESPIE: I would like to ask you as  
32 an applicant - I mean we're trying to be real crisp  
33 here, because we want to get on with the job.

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1 MR. GALLAGHER: John, do you think we have  
2 succinctly what the issues are we need to respond back  
3 on would be?

4 MR. HUFNAGEL: I have a lot of notes, Mike.  
5 It would take me more than a couple of minutes to go  
6 through these notes. So I'm not sure I can go and  
7 summarize all that right now. But I think between us  
8 I'm sure we have enough notes and understanding.

9 MR. GILLESPIE: And we're going to do our  
10 best, by the way, John, to get what Hans was reading.  
11 We went through a lot of effort to try to really  
12 narrow this down. But we do have the audit process  
13 you know kind of going on in parallel. And we'll try  
14 to get these meeting notes out in a timely way for us,  
15 and timely for us, given our secretarial situation,  
16 can be long.

17 But in this case we're going to push this  
18 to kind of the front of the list, and try to maybe -  
19 I need to get these notes out in a public forum.

20 And again, if there is a follow on email  
21 needed to clarify the issue, that's fine.

22 The other question that came up, because  
23 normally we would have probably followed this meeting  
24 with a formal set of RAIs. When I saw what Hans had  
25 written in coordination with the bullets we wanted to  
26 covered, the RAIs are really embedded in his detailed  
27 words. And these, I think, are more - are better  
28 words than we generally send in kind of our  
29 whitewashed versions of RAIs that require phone calls  
30 for clarity on.

31 So we will try to get the meeting notice,  
32 the meeting minutes out, with basically Hans' comments  
33 and the bullets, as quickly as possible.

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1 Now, if we do that, then my intention  
2 would be not to issue a separate document of RAIs in  
3 prep for your opportunity to come back and talk to us.

4 And the other thing is, we'd like to ask  
5 that you send something in in writing before that  
6 meeting so that we can really be kind of at the end of  
7 the road at that meeting. And the question I have of  
8 you is, when we were setting this up, we scheduled it  
9 so we could talk to you, and scheduled the next  
10 meeting so you could talk to us. But that is actually  
11 your option.

12 If we don't need a meeting, and you'd  
13 rather answer these in writing, I would just ask that  
14 you get back to us in a timely enough way so that we  
15 can cancel the meeting at least a week before.

16 And it's really your option, but we were  
17 trying to set this whole thing up to make sure that we  
18 had all the vehicles for communications. And since  
19 we have a 10-day noticing period for public meetings,  
20 and it takes a couple of extra days - it really takes  
21 about 15 days to do it - then we had to in a positive  
22 way set up both meetings at once just to have a  
23 process put in place.

24 But it's your application and it's your  
25 answers and it's your choice. So right now we do have  
26 it scheduled. Donnie was going to put a notice out,  
27 but I would ask for the other people in the public who  
28 might want to participate, a timely notification of  
29 them is an obligation we have.

30 And so let me leave that to you and not  
31 even ask you to answer that question today. But you  
32 can get back to us on how you want to do th at.

33 MR. GALLAGHER: I think what we're going to

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1 do, Frank, is we'll meet and go over what issues we  
2 think we have. Maybe John and Donnie can communicate  
3 to ensure that these are the things we're going to be  
4 providing in a written format, and we would want to  
5 get that to you a few days before the 22nd, and  
6 whether we meet or not, we can determine that at a  
7 later date. And talk with Donnie about that.

8 MR. GILLESPIE: I'll leave that to Donnie  
9 and John, then,

10 MR. GALLAGHER: And then so that would be  
11 our - the things that we talked about providing, we  
12 would provide that in writing; that's what you're  
13 looking for.

14 MR. GILLESPIE: Hans and I are going to try  
15 to get everything that we have in writing out as part  
16 of the meeting minutes with Donnie. I think it's  
17 going to be a more fruitful meeting if everyone, all  
18 the participants, has it in black and white. And then  
19 you leave that with either a markup or a nonmarkup,  
20 and everyone knows where we stand on these issues.  
21 Because I think we've really narrowed some things down  
22 here.

23 MR. GALLAGHER: That's what I was going to  
24 say. Like the issues, like the thank you for getting  
25 clear with us on what these issues are. Because I  
26 think they are very pinpointed, and I think that will  
27 help us really see what information you need to close  
28 the issues.

29 Like you said, we provided a ton of  
30 information, and we have it down to just a handful  
31 right now to really get you just the information you  
32 need.

33 MR. GILLESPIE: By the way, we're not

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1 looking for another ton. We're really trying to see -  
2 if these answers end up coming in 57 pages long, then  
3 we've miscommunicated what we think our residual  
4 concern.

5 MR. GALLAGHER: Okay.

6 MR. GILLESPIE: So really, as you're doing  
7 it, keep it in perspective. And if that requires  
8 calling Donnie, say, you know what, Frank said he  
9 didn't expect the Encyclopedia Britannica for every  
10 question. We think these concerns are very focused.

11 MR. GALLAGHER: Right, right.

12 MR. ASHLEY: In addition - this is Donnie  
13 Ashley - in addition, John, to your notes and the rest  
14 of our notes, we're going to try to get a quick  
15 turnaround on the transcript so that you can have that  
16 available to you as well. And we'll have that in  
17 ADAMS just as quickly as we can.

18 MR. GILLESPIE: Final part of this meeting  
19 I'll turn over to Donnie, and that's I believe  
20 requests from any members of the public, or anyone  
21 else, to ask questions -

22 MR. GALLAGHER: Wait, Frank, did you have  
23 a question?

24 MR. HUFNAGEL: Just a brief, if I may -  
25 John Hufnagel here - just a brief comment that it goes  
26 without saying, but I'll be working with Donnie to try  
27 to coordinate the next three weeks such that as he's  
28 working on pulling together the notes from this  
29 meeting, and we're working on providing the  
30 information as we understand it, that there will  
31 hopefully be a brief period where we can check what  
32 we've done against the meeting notes prior to us  
33 sending it in.

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1                   So we'll obviously need to coordinate to  
2 do that.

3                   MR. GILLESPIE: That's why we're going to  
4 do everything we can to get these notes out pretty  
5 quickly for everybody whose participated in listening  
6 in on the meeting.

7                   MR. HUFNAGEL: Thank you.

8                   MR. GALLAGHER: Thanks.

9                   MR. GILLESPIE: And Donnie, now I think  
10 it's time to ask -

11                   MR. ASHLEY: I would like to continue on  
12 because we only have the phone for a short period of  
13 time, and I don't want to lose the people that are on  
14 the bridge.

15                   Can I go ahead, Frank?

16                   MR. GILLESPIE: Go ahead.

17                   MR. ASHLEY: We've got a little bit of  
18 housekeeping for the purposes of the transcript that  
19 I need to take care of. I need to verify the spelling  
20 of your names for the people who are on the telephone  
21 bridge. And in particular order, Ron Zak with the New  
22 Jersey DEP, would you spell your name for me, please?

23                   MR. ZAK: Z-a-k.

24                   MR. ASHLEY: Tom Quintenz from Oyster  
25 Creek?

26                   MR. QUINTENZ: Q-u-i-n-t-e-n-z.

27                   MR. ASHLEY: Thank you.

28                   Nick Clunn with the Astbury Park Press,  
29 would you spell your name please for the reporter?

30                   MR. CLUNN: C-l-u-n-n.

31                   MR. ASHLEY: Thank you.

32                   Mr. Webster?

33                   MR. WEBSTER: Richard, R-i-c-h-a-r-d

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1 Webster W-e-b-s-t-e-r.  
2 MR. ASHLEY: And your organization, sir?  
3 MR. WEBSTER: Directors Environmental Law.  
4 MR. ASHLEY: Thank you.  
5 Mr. Brown, Jeff Brown?  
6 MR. BROWN: B-r-o-w-n.  
7 MR. ASHLEY: And your organization, Mr.  
8 Brown?  
9 MR. BROWN: Is G-r-a-m-m-e-n.  
10 MR. ASHLEY: Thank you.  
11 Ms. Gotsch?  
12 MS. GOTSCH: G-o-t-s-c-h, same  
13 organization.  
14 MR. ASHLEY: Thank you.  
15 Mr. Atherton?  
16 MR. ATHERTON: A-t-h-e-r-t-o-n.  
17 MR. ASHLEY: And you represent?  
18 MR. ATHERTON: I'm working with Jersey  
19 Shore Nuclear Watch.  
20 MR. ASHLEY: Thank you, sir.  
21 Ms. Gbur.  
22 MS. GBUR: G-b-u-r, Jersey Shore Nuclear  
23 Watch.  
24 MR. ASHLEY: Thank you.  
25 Mr. Warren?  
26 MR. WARREN: W-a-r-r-e-n, and I'm also with  
27 Jersey Shore Nuclear Watch.  
28 MR. ASHLEY: Thank you very much.  
29 Is there anyone that came on the line that  
30 I didn't mention your name?  
31 MR. LAIRD: Name is Jim L-a-i-r-d, Exelon.  
32 MR. ASHLEY: Thank you, Mr. Laird.  
33 MR. PINNEY: My name is Richard Pinney. P

1 as in Paul -i-n-n-e-y, New Jersey DED.

2 MR. ASHLEY: Anyone else that we didn't  
3 recognize?

4 In the interest of having an opportunity  
5 for the people that are on the phone bridge, is there  
6 anyone who would like to ask the staff a question, or  
7 to make a statement at this time?

8 MR. ATHERTON: My name is Atherton. I have  
9 a technical background in technical and nuclear  
10 engineering. And the first complaint I have is, half  
11 the conversation I heard was inaudible. And I didn't  
12 know whether it was bad technology in the electronics  
13 that you have for transmitting this, or some other  
14 cause. And I did phone the public affairs office to  
15 complain about that, and I was hoping you got the  
16 message.

17 But toward the end of the conversation you  
18 were slightly more audible. So I missed out on a lot.  
19 And I do have a couple of questions I'd like to ask or  
20 get clarification for. Is that possible?

21 MR. ASHLEY: Go ahead, Mr. Atherton.

22 MR. ATHERTON: I'm going to back up to the  
23 specifics concerning the issue of uncertainty and  
24 sensitivity analysis and the like.

25 The basic question would be, is there the  
26 potential, since I didn't catch all the information  
27 that was taking place back and forth, is the potential  
28 for harm to the shell or the liner significant enough  
29 with the uncertainties involved so that it would be  
30 better not to use uncertainty as a sole means of  
31 analyzing the situation, but to approach it from the  
32 worst case analysis perspective; and if so, why?

33 MR. GILLESPIE: Yeah, this is Frank

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1 Gillespie.

2 MR. ATHERTON: You're barely audible. I  
3 heard the Frank.

4 MR. GILLESPIE: This is probably because  
5 we're using 20-year-old technology for our phone  
6 system here.

7 MR. ATHERTON: And how did you spell your  
8 last name, sir?

9 MR. GILLESPIE: Gillespie, G-i-l-l-e-s-p-i-  
10 e.

11 MR. ATHERTON: Okay.

12 MR. GILLESPIE: The context of this meeting  
13 was very incremental, in addition to a lot of  
14 information that we've already gotten in the request  
15 for additional information.

16 And in some ways, if you - have you read  
17 all the additional information that's been sent in to  
18 us that's been made available?

19 MR. ATHERTON: Unfortunately I haven't had  
20 the opportunity to do that yet. I just received a  
21 disk a couple of days ago, and I haven't had the  
22 opportunity to go through that yet.

23 The general question concerned, I doubt  
24 the information that I'm seeking is going to be on the  
25 disk, because I'm questioning whether you should use  
26 uncertainty analysis versus worst case analysis.

27 MR. GILLESPIE: Well, to some degree, I  
28 think you'll find in the applicant's information, and  
29 this is a little beyond the narrow scope of this  
30 meeting, but in general, in the applicant's  
31 information, there are discussions about measurements  
32 taken in the upper portion of this light bulb shell,  
33 which is uncoated, which presents a - any application

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1 it would make a case, it presents a case that is far  
2 less conservative than the bottom section of the shell  
3 which is uncoated.

4 And so there are some assumptions on rates  
5 where projections are made where exactly what you're  
6 saying I think has been taken into consideration.

7 Now what could be up for discussion is  
8 different people's view of what worst case is. And  
9 you have to go through the material and give me a  
10 specific, but it's really kind of a blend of, we  
11 basically have an estimate line, and the estimate  
12 comes from various data sources that get combined to  
13 make the estimate.

14 And we're trying to have the highest  
15 possible confidence in the estimate and the calculated  
16 projections. And the projections have been made; the  
17 measurements have been made. And that's why the focus  
18 of a lot of the discussion here was the residual  
19 questions on the part of the staff to ensure that we  
20 understand the uncertainties involved in that  
21 projection.

22 But that projection involves some  
23 assumptions on corrosion rates which some people would  
24 say in their minds is worst case of the situation in  
25 the environment of the facility.

26 So I think both in different viewers,  
27 different readers' views, have probably been done, and  
28 we're wrestling with that total decision right now.

29 So it's not uncertainty is everything or  
30 nothing; it just happens to be our residual concern.

31 (Telephone operator voice interrupts)

32 MR. ASHLEY: Mr. Atherton, are you still  
33 with us?

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1 MR. GILLESPIE: Anyway, for whoever was  
2 listening.

3 MR. ASHLEY: Just a second, Frank? Is  
4 anyone still on the line?

5 (Loud telephone noise)

6 MR. ASHLEY: They cut us off.

7 MR. GILLESPIE: We had inadequate safety  
8 margin in our bridge.

9 (Technical interruption)

10 MR. ASHLEY: We'll try to pick up Mr.  
11 Atherton as he comes back on.

12 Did anyone else have a comment so we can  
13 continue on?

14 MR. ATHERTON: Hello.

15 MR. ASHLEY: Yes.

16 MR. ATHERTON: This is Peter Atherton. I  
17 don't want what happened. But I suddenly got  
18 disconnected during Mr. Gillespie's part.

19 MR. ASHLEY: We did to. We're glad to have  
20 you back again.

21 MR. GILLESPIE: Go ahead.

22 MR. ATHERTON: Well, Mr. Gillespie was  
23 talking about the use of a version of the worst case  
24 analysis for a bottom uncoated part of the containment  
25 structure or the shell.

26 MR. GILLESPIE: The bottom part -

27 MR. ATHERTON: And that's where I lost you.

28 MR. GILLESPIE: The bottom part - and this  
29 is difficult, because what we've got is a staff here  
30 that's gone through literally thousands of pages of  
31 documentation to come down to these residual comments.

32 And in going through that there are  
33 estimates made with corrosion rates that are believed

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1 by the applicant - and this is a finding we're trying  
2 to make - is believed by the applicant to be  
3 reasonably conservative in nature.

4 And there is a coating on the bottom  
5 portion of this light bulb fixture containment, and  
6 they have measurements from the top part of the  
7 containment, which is uncoated, but in a similar  
8 environment on the inaccessible side.

9 And I believe the applicant has made some  
10 projections using this, and then making the case that  
11 the coating really provides this uncoated area  
12 measurements are in essence a worst case in their  
13 projection.

14 And therefore we've looked at that as a  
15 staff, and all their information. And this  
16 information was really focusing on the uncertainties  
17 that were connected to that projection.

18 It's not that we're making judgments on  
19 the uncertainties, but we're trying to make sure that  
20 we have the soundest possible number and a good  
21 understanding of what could be viewed by some as a  
22 worst case projection.

23 Now others could view this projection and  
24 the numbers used as not being the worst case, and so  
25 I'm very hesitant to use the word, worst case.

26 It's a projection that I think is  
27 generally believed, actually representing a  
28 measurement in an environment that is more harsh than  
29 the environment it's being applied on to a carbon  
30 steel piece of metal.

31 And that's what's in the application. And  
32 so this meeting is trying to deal with making sure  
33 that when we make whatever judgment we need to make,

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1 that we understand what the pluses and minuses  
2 connected with that are.

3 And so the staff has actually read the  
4 application, and so we had that part done, and we  
5 really weren't questioning the rate. We were  
6 questioning the uncertainties around it to make sure  
7 we could make an appropriate finding.

8 MR. ASHLEY: Thanks a lot, Frank.

9 Mr. Atherton, you still with us?

10 MR. ATHERTON: Yes, can anybody hear me?

11 MR. ASHLEY: Yes, sir.

12 MR. ATHERTON: I'm having connection  
13 problems.

14 Let me back up just a little bit farther.  
15 On a very general or holistic view of the containment  
16 structure, the plant was approved originally to last  
17 40 years. That essentially meant back in those days,  
18 the '60s and '70s, that the major components of the  
19 plant would not fail for a total of 40 years.

20 We're seeing the drywell apparently  
21 degrade prematurely which was not anticipated 40 years  
22 ago.

23 The projecting that type of discovery into  
24 the future for 20 more years, how are we to know as  
25 members of the public that you're going to have 20  
26 good years left on the material that was supposed to  
27 last 40 years and hasn't?

28 MR. ASHLEY: Who's speaking?

29 MR. ATHERTON: My name is Atherton.

30 MR. ASHLEY: Okay, go ahead.

31 MR. GILLESPIE: Well, that's exactly the  
32 finding we're being asked to make as part of the  
33 license renewal.

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1           And first I would refute your assertion  
2           that every component in the plant was designed to last  
3           40 years.

4           In the basic underlying premise of  
5           operation is a large number of surveillances, tests  
6           and inspections. And the intent is that the structure  
7           and the license be safe for the term of the license,  
8           and that includes special tests and analysis, which  
9           would detect, prior to violating or causing a safety  
10          issue, the degradation of components.

11          And what we're really talking about is  
12          taking that same principle and pushing it forward  
13          another 20 years. In fact, many of the components in  
14          the plant have seen a less severe environment than  
15          they were projected in their original design.

16          And it's that baseline and moving it  
17          forward, that we're doing with renewal, which is why  
18          there are extra commitments in the overall renewal  
19          effort to extra special tests and analysis.

20          The intention is not to say it will last  
21          20 years; that's an economic issue. It's to say that  
22          the licensee has processes and procedures in place  
23          that we can inspect and that they can follow that will  
24          detect and remediate anything that would cross a  
25          safety margin.

26          And that's a different statement than  
27          saying, we're saying it will last 20 years. In fact  
28          if they would do a test and do a projection in  
29          accordance with our interim staff guidance for the  
30          renewal period, see water, and do an event test and  
31          find out they were approaching minimum wall thickness,  
32          they have to do an operability analysis under the  
33          current requirements, which also project forward. And

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1 they have a decision to make to either repair or shut  
2 down.

3 And instances of this we have in other  
4 cases in pressurized thermal shock where we're  
5 evaluating licenses for 20 years where the pressurized  
6 thermal shock analysis for other licensees will not  
7 make it to 20 years. But there is a requirement in  
8 the rules that if you don't make it you shut down, or  
9 you can replace your vessel.

10 And so it's not saying everything will  
11 last the period of the license; it's saying the plant  
12 will operate safely for the period of the license, and  
13 we have reasonable assurance of that.

14 MR. ASHLEY: Thanks, Frank, I appreciate  
15 that.

16 Mr. Brown or Ms. Gotsch, do you have a  
17 question or comment?

18 Ms. Gubr, are you on the line? Did you  
19 have a question or comment?

20 MS. GUBR: I have a question. In the 1996  
21 inspection report --

22 MR. GILLESPIE: The 1996 inspection report?  
23 All the -- that's actually beyond the scope of this  
24 meeting, and our general counsel is here. And I  
25 understand that that is tied up in the litigation  
26 issues right now.

27 All of the NRC's information that we have  
28 from 1996 in the NRC inspection reports are public  
29 information. The licensee's information, which the  
30 NRC at this time does not and has not possessed, is  
31 actually tied up in the litigation right now, and  
32 we're really not in a position to comment on that.

33 MR. ASHLEY: Go ahead, Mr. Webster.

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1 MR. WEBSTER: Okay, great.

2 With regard to the drywell liner and the  
3 UT measurements, I guess I'm somewhat surprised that  
4 the licensee had already known that the '96 results  
5 weren't good, but nonetheless based predictions  
6 forward on those '96 results. It seems to me, though,  
7 that the QAQC for those results should have identified  
8 the level a long time ago, so I'd just like a  
9 clarification of why the rejecting wasn't treated  
10 closer to the time.

11 MR. GILLESPIE: This is Frank Gillespie  
12 with the NRC. And since this is really an opportunity  
13 for people to ask the NRC for clarification on what we  
14 said, I will answer from the NRC's perspective that  
15 right now the people sitting in this room were  
16 generally not involved in the details of what happened  
17 in 1996.

18 But in looking at that anomaly, I think it  
19 would be unfair to say that that was - I forget what  
20 your word was - but I'll use an irrelevant  
21 measurement. It was a measurement, as we heard from  
22 the licensee at this meeting, they looked into it and  
23 examined it. They saw it as anomalous. But there was  
24 really no reason probably at the time to either  
25 exclude it or not include it.

26 MR. WEBSTER: There were three measurements  
27 taken, and that '96 result was one of those three. If  
28 you take that '96 result out of the analysis the  
29 uncertainties become huge.

30 MR. GILLESPIE: And what I'm going to  
31 suggest is, that's the exact question that staff has  
32 just asked the licensee on uncertainties.

33 MR. WEBSTER: Absolutely, that's why I --

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1 MR. GILLESPIE: And so I'm just saying, I'm  
2 not in a position, and I'm not trying to put anyone in  
3 a position to defend what was done over 10 years ago.  
4 But because of the anomalous look at the results,  
5 we're really focusing on removing that uncertainty  
6 that we specifically pointed out as we project  
7 forward.

8 So we fundamentally have just asked the  
9 licensee to respond to that question. And we've, by  
10 design at this meeting, asked the licensee not to feel  
11 obligated to respond today to the staff's concerns.

12 So I guess we're in agreement.

13 One of our concerns you heard from Hans  
14 Ashar and I were on the calibration techniques. And  
15 I think the licensee responded, they recognize that  
16 there are certain coatings and stuff that they have to  
17 really be very careful of when they're doing these,  
18 and so we have to see what they answer.

19 You're asking for the answer we've asked  
20 for, and it's just not the right time for the answer  
21 yet.

22 MR. WEBSTER: Now the second issue that I  
23 think also relates to the questions you're asking is  
24 about how the actual raw measurements get  
25 incorporated. One of our concerns is that the  
26 uncertainties in these measurements become hidden in  
27 the way they're presented, because you take the  
28 measurements, get an average and put into one  
29 measurement, which is then put on a scatter graph.  
30 And then when you look at the scatter graph you don't  
31 actually see the underlying uncertainty. All you see  
32 is some scatter of averages, which is much less than  
33 the actual scatter and the underlying results.

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1                   Now one of the concerns I have, and we've  
2 reviewed these documents from the licensee, and it  
3 seems that they're editing the data, that they omit.  
4 They actually omit an outlier from the analysis. And  
5 again I think this is another way where the  
6 uncertainty is made to appear lower than it really is.

7                   MR. GILLESPIE: Let me try to answer that.  
8 Now this is going to be dangerous. Because I was an  
9 engineer 35 years ago, but I'm going to - Hans has  
10 been training me for three weeks, Hans Ashar, who is  
11 our expert. So let me take a shot at the answer.

12                   One, you have to understand, we've  
13 basically asked the same question that we need to have  
14 a good understanding about how that lower level  
15 combination of numbers was done.

16                   That was a concern we had, and that's a  
17 question we asked.

18                   Two, you also have to differentiate;  
19 there's two phenomena of interest here. One is  
20 pressure during an accident, and the other is  
21 buckling.

22                   And the interest in the buckling sense,  
23 which is really the sandbed region interest, is  
24 buckling down at the lower level, is one of general  
25 area corrosion, a very broad degradation, and not one  
26 of pitting.

27                   In fact in any structural member you can  
28 actually drill holes in it, and you do not  
29 significantly reduce its structural strength.

30                   And so knowing that principle I would not  
31 want to draw a conclusion on information we don't  
32 know. And that's why we've asked for information on  
33 how they've done the statistical combination; what was

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1 their basis for whatever, throwing out outliers, in a  
2 95 percent confidence interval.

3 But for the purposes of buckling, a  
4 localized thinning spot is not a principal concern.

5 MR. WEBSTER: Well, I told you, I  
6 understand that. But my point is that if you permit  
7 that as part of the uncertainty analysis, then you  
8 tend to regard the measurement --

9 MR. GILLESPIE: Again, I don't know how  
10 they've been included or how they've been admitted, or  
11 has it followed standard practice. We've asked that  
12 question, and I hope within the next month we'll have  
13 a little more amplifying information, and I could give  
14 you a more satisfactory answer.

15 We're sharing the same concern.

16 MR. WEBSTER: Absolutely. I understand.  
17 I'm very pleased to see that we do share the same  
18 question.

19 My present issue -

20 MR. ASHLEY: Mr. Webster, this is Donnie  
21 Ashley. You said you had two.

22 Hold the third one, and let me get  
23 through, make sure we can touch base with everyone.  
24 If we have time we'll come back to you. I have some  
25 uncertainty about all four here.

26 Let me leave this -

27 MR. GILLESPIE: Just in case we get cut off  
28 from everybody, email Donnie Ashley and we will get  
29 back to you by email on any questions that we don't  
30 get to, because our phone system doesn't seem to be  
31 working as good as I'd like it to.

32 MR. ASHLEY: Thanks, Frank.

33 Mr. Clunn from the Astbury Park Press, do

1 you have any questions or comments? Nick Clunn? I  
2 guess we lost him a few minutes ago.

3 Ronzak (phonetic) or Ridgepenny (phonetic)  
4 with New Jersey DEP, any questions or comments from  
5 you?

6 MR. PINNEY: No, we have no questions  
7 here.

8 MR. ASHLEY: Okay. Dennis Zannoni, would  
9 you like to come down to the podium? I would like for  
10 you to go ahead so they can hear your comments as  
11 well.

12 Mr. Warner, if you'd wait just one second.

13 MR. ZANNONI: Dennis Zannoni, Z-a-n-n-o-n-  
14 I.

15 I'd also like to thank the Nuclear  
16 Regulatory Commission for having this meeting. I  
17 think it's obviously necessary.

18 So having the next meeting if it's  
19 conducted in the afternoon would also help me, since  
20 I have to drive up, since we're facing a very  
21 substantial budget deficit in New Jersey as you  
22 probably heard.

23 First, I want to mention that - and this  
24 is mostly for Frank's edification, because he is  
25 coming to our office I guess within two weeks with  
26 some of his staff, to give you a little bit of the  
27 flavor of what we're going to talk about, and it does  
28 relate to what we're covering here, and that is, there  
29 is a little bit of confusion on the ruling made by  
30 ASLB and its staff's attorneys, and it's mostly a  
31 question directed at the attorney, that we would like  
32 the NRC to clear up the fact that we are not a party  
33 or involved with the contention on the liner or

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1 drywell shell in any way.

2 And I guess ASLB made that clear, but some  
3 kind of communication has come down the path, and it's  
4 affecting our ability to do work, that we're somehow  
5 tied up with that.

6 It would be nice if you could clarify that  
7 here today, but I know you're not.

8 We're going to pick that up when we talk  
9 too, because it is affecting what we're doing. We go  
10 to meetings, and people are confused about what our  
11 role is.

12 We do have three appeals to the  
13 Commission, but they have nothing to do with the  
14 liner.

15 And we have a good reason for that,  
16 because we have our own staff that have made their own  
17 conclusions, and I have to tell you, quite frankly, I  
18 was at a meeting here discussing the same drywell line  
19 issue when the company was going for a conversion from  
20 the full term operating license to the - or from the  
21 provisional operating license to the full term  
22 operating license, and it was only at the insistence  
23 of New Jersey that they took very aggressive  
24 protective corrective actions. I don't know if even  
25 anybody here at the AmerGen table was here. But  
26 removing the sand and all of that was very, very  
27 positive, and we view that in a way that we thought at  
28 the time was good for until April, 2009.

29 So our position right now, and Ron is  
30 online, and he's our expert actually on the drywell  
31 shell - he keeps telling me to call it a shell, not a  
32 liner - is right now positive. And the rigor that I  
33 see addressed here for that one issue, I wonder if

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1 that's going to spill into many, many other issues  
2 that we feel an equal amount of rigor is needed.

3 Because you guys are going into some depth  
4 here that we are going to talk about again to see if  
5 it applies in maybe some other areas that could  
6 benefit from that, more so than the liner.

7 Anyway, that said, we also need to have  
8 some kind of - we don't know when the commission is  
9 bound. If not, I understand it's not to make  
10 decisions on the appeals that we submitted. Again, it  
11 has bearing, because the more they wait, the less we  
12 can interact with NRC staff on those specific issues.

13 And if they made a decision one way or the  
14 other, then we could get on with it. So we'll  
15 probably submit that in writing, but I'm just giving  
16 you a flavor of some of the topics that we're going to  
17 talk about.

18 Now specific to this meeting. Frank, you  
19 said earlier in the meeting you said you may - the NRC  
20 may recalculate something. And then later you said  
21 they will recalculate something.

22 I just need to know, you are going to  
23 recalculate something. What are you going to  
24 recalculate?

25 MR. GILLESPIE: Our intention right now is  
26 to do a comparative calculation to the GE calculation  
27 of 1991.

28 MR. ZANNONI: The one with the disclaimer?

29 MR. GILLESPIE: The one with - well, that  
30 was a piece of it. That report fed into the data that  
31 went into that calculation, and our intention would be  
32 to do kind of a comparative calculation.

33 Ours doesn't need to be as rigorous as

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1 theirs, because we're doing it as a confirmatory  
2 measure, not as a decision tool on their part. So  
3 we're likely going to do that to get a perspective  
4 ourselves on the conservatisms that have been assumed  
5 in that calculation.

6 And so it's just an independent look. And  
7 we do this in thermal hydraulics. We do it in a  
8 seismic area. We do it in a lot of different areas  
9 occasionally.

10 The other piece is, we have six more Mark-  
11 ls coming in, and so for the renewal group, we're kind  
12 of setting a precedent. Because all of those same  
13 questions exist on all of those same containments.

14 And so part of this calculation will be  
15 giving us knowledge to a specific operating history  
16 and a specific calculation that GE did.

17 MR. ZANNONI: Is it going to be done in  
18 house or contracted?

19 MR. GILLESPIE: Part of this meeting is not  
20 discussing how the NRC will do this piece of the  
21 review.

22 MR. ZANNONI: I'll ask it at some point in  
23 the future. It tells what kind of depth you're going  
24 to do which is pretty - if it's in house it's one  
25 thing -

26 MR. GILLESPIE: Well, we're going to have  
27 outside experts helping us. And any report that's  
28 done will be public.

29 MR. ZANNONI: You mentioned, I guess for my  
30 own information and information concerning New Jersey,  
31 are there other - the rigor that you - the depth and  
32 the rigor that I send that you're requesting from  
33 AmerGen for Oyster Creek, have there been other plants

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1 that have similar drywells gone through similar rigor?  
2 Or is this something new that you are going to ask  
3 plants to take a closer look at that have already  
4 gotten license renewal?

5 MR. GILLESPIE: There's two questions. The  
6 answer is yes, everyone else is going through a  
7 virtually similar process. But everyone has different  
8 operating histories.

9 I'll give you a specific one. We're going  
10 to ACRS, Nine Mile Point. Nine Mile Point has an  
11 operating history with no visual leakage. They also  
12 have welds around their seals. And so seals, for  
13 example, at bellows, are not an issue.

14 They have actual electronic alarm systems  
15 on their drains. They actually have a float alarm on  
16 - there is a ledge in there that goes under the seal.  
17 And they put bore scopes up there and looked in with  
18 TV cameras and saw dust.

19 And so it's a form of rigor, but it's a  
20 different operating situation, and a slightly  
21 different design. So I would suggest that in essence  
22 all the licensees with this kind of containment are  
23 going through the same process, and the same level of  
24 detail, and trying to be just as certain about their  
25 projections, and the projections being used there,  
26 they're taking them from the torus at the water level  
27 where they do UTs, and it's a very aggressive area.

28 MR. ZANNONI: Plants that have already been  
29 approved?

30 MR. GILLESPIE: No, this one is in house.  
31 Brown's Ferry we did a similar rigorous review. And  
32 they had some unknown leakages, and they committed to  
33 an inspection regime. And theirs was the 10-year kind

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1 of one. And that's through, and that license has been  
2 issued.

3 Brunswick does not have a shell; it has a  
4 liner. And the design difference there is, the  
5 structural elements, the concrete, is not the steel;  
6 the steel is basically a seal.

7 And so the answer is yes. Now the  
8 difference here is, the visibility of Oyster Creek is  
9 different than the others. And so a lot of what we do  
10 with these other facilities is closer - you know what  
11 I mean -- it's not quite as visible.

12 So every one is going through, you could  
13 say, an equal type of review, customized to their  
14 operating history, the operating conditions and the  
15 past events.

16 MR. ZANNONI: I know Donnie is going to cut  
17 me off. But just one last comment for the public  
18 that's listening, I know Peter Atherton did mention  
19 about confidence that the public is looking for, not  
20 only in this issue but all of license renewal.

21 I'll just throw out, and I always mention  
22 this, that in addition to AmerGen's huge workload to  
23 meet all the requirements - they got the NRC looking  
24 at it - we also as a state have a group of about 15 to  
25 20 professionals, I already mentioned that we have a  
26 very sound expert in structural stuff on staff who has  
27 worked with Oyster Creek for awhile. And this hearing  
28 if anything comes out of it, hopefully it will be  
29 positive.

30 So the net result here, and I don't want  
31 anybody to miss this, and it's too bad the press  
32 wasn't here, is that this is getting a lot of eyes and  
33 a lot of attention. So that has to give the public

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1 some sense of, they're not alone in this process.

2 So that's why I exist just to put it  
3 bluntly, so thanks.

4 MR. ASHLEY: Thank you, Mr. Zannoni.

5 MR. ASHAR: This is Hans ASHAR, NRC.

6 Let me say that for the general analysis  
7 purpose, the applicant has taken an approach where  
8 they are taking an average, but in addition to that,  
9 they also do the discontinuity analysis for the thin  
10 areas. Thin areas are where there are small sparks  
11 which might have been missed in averaging they might  
12 have counted as thin areas, but they have taken a  
13 number of places which are thin, and they have  
14 analyzed separately to understand the discontinuity  
15 stresses and their ability to withstand the loads  
16 they're supposed to withstand.

17 MR. GILLESPIE: Okay, this is Frank  
18 Gillespie. Let me amplify a little more. Because now  
19 I'm going to take what Hans just said and say, that's  
20 also part of the actual sample of the smaller area  
21 that's scanned.

22 This is a very, very, very large vessel,  
23 and the representative nature of the sample that was  
24 earlier worked on with literally thousands of  
25 measurement points by the applicant to ensure that  
26 even those areas that are scanned, and the 49 points  
27 that are averaged, are the right areas to be scanned.

28 And that's why we did ask an additional  
29 question here to reconfirm right now the  
30 representative nature of those areas, exactly so you  
31 couldn't get a substantial elongation or a major flaw.

32 So there's two things. One is the 49  
33 points, which is a smaller, very small area, and the

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1 other is the location of those small areas through the  
2 vessel itself.

3 And if you would look at the much earlier  
4 data of all the thousands of points that were done and  
5 reviewed by the NRC, it's that representative nature  
6 that actually covers your large perforation kind of  
7 question. It's not the 49 measurement points which  
8 were averaged, for maybe a 6 by 6 inch kind of area.

9 MR. ASHLEY: Thanks, Frank.

10 In closing I appreciate everyone's  
11 participation. I appreciate -- I'm sorry, we're going  
12 to be out of time, and the phone is going to shut you  
13 off in about two minutes.

14 But we do appreciate everyone's coming out  
15 to participate in this meeting. And again, if you  
16 need additional information, or if you have questions,  
17 send me email. My email address is on the website.

18 And once again, thanks to everyone, and  
19 we'll adjourn at this point.

20 MR. GILLESPIE: Thank you.

21 (Whereupon at 11:58 p.m. the  
22 proceeding the above-entitled matter went off the  
23 record to return on the record at 11:58 a.m.)

24 MR. GUNTER: That's all right. This is  
25 Paul Gunter, G-u-n-t-e-r.

26 I'm with Nuclear Information Resource  
27 Service.

28 There's a whole lot of questions, and I'm  
29 sorry that Richard Wester wasn't able to complete, but  
30 we'll go ahead and supplement the record by email.  
31 And I guess that could be incorporated into the  
32 transcript as well? Can we have email questions  
33 incorporated into the transcript?

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1 MR. ASHLEY: I don't think we can have  
2 email questions in the transcript. But we can include  
3 it in the summary. We'll put it in the meeting  
4 summary.

5 MR. GUNTER: Okay, that's fine, that's fair  
6 enough.

7 MR. GILLESPIE: And our meeting summaries  
8 are all put on our website.

9 MR. GUNTER: You know for the sake of time  
10 I'm just going to ask one question here, and it gels  
11 back earlier to a comment that Frank made with regard  
12 to the 1990 GE report, and the assumptions that went  
13 into the corrosion and degradation.

14 I thought I heard you say that the NRC has  
15 - they've identified a degradation uncertainties  
16 within that GE report. Was that correct? Was I  
17 correct in hearing that?

18 And I think that was the basis of your  
19 going back and doing the recalculations; right?

20 So I'm asking first of all for  
21 clarification on what you've identified in the GE  
22 report that raised degradation uncertainties. And if  
23 you could identify those for us right now.

24 MR. GILLESPIE: Okay, I'm not sure how much  
25 detail Hans is in a position to go into. It was an  
26 accumulation fo fundamentally the underlying  
27 assumptions that went into it. And they appear to be  
28 conservative, but one of the only ways to test the  
29 overall conservatism of the assumptions is just to do  
30 a calculation with an independent person making an  
31 independent view of it.

32 But Hans, you did that?

33 MR. ASHAR: Yes, if you heard us on the

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1 first or second questions that we had for the  
2 applicant, you might have heard that we requested the  
3 applicant to at least clarify as to what has been said  
4 in their statistical inference report that is attached  
5 to the GE report by the way they interpreted the  
6 measurements, and how they statistically put together,  
7 both that particular report findings were used, or  
8 some other metrics were used. That was our question  
9 to them before, and I'm looking for those answers.

10 MR. GUNTER: Right. So it's not so much  
11 that you're questioning the degradation mechanism  
12 itself?

13 MR. ASHAR: No.

14 MR. GUNTER: So one of our concerns is  
15 that, for example, I think it's been referenced here  
16 a number of times that there was - in order for the  
17 sandbed region to be - for the UT to resume at the  
18 sandbed, there was the event trigger for the presence  
19 of water.

20 But it's always been our concern that -  
21 there was I believe a '95 exemption that provides for  
22 a 12-gallon-per-minute leak rate, and that constitutes  
23 what we believe to be a significant event.

24 So during the refueling outages, there is  
25 this '95 exemption that provides, to reiterate, 12  
26 gallons a minute leak rate.

27 So it's been a question for us why we've  
28 not seen this reevaluation with UT at the sandbed, and  
29 more particularly for the embedded region, so I think  
30 it's been raised here this morning that there needs to  
31 be a closer look at a number of areas for the  
32 reevaluation with UT. Crevice corrosion should be one  
33 of these areas, we believe. And I don't know what

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1 level of confidence we have on the seals around -  
2 between the steel liner and the concrete. But I think  
3 that it's reasonable that we shouldn't be relying upon  
4 - that these seals are necessarily going to be high  
5 confidence seals.

6 So as you are looking at the ledges that  
7 were raised here today, we would strongly advise that  
8 the UTs be resumed at the levels below the sandbed  
9 region.

10 Hans, do you think that that is a  
11 reasonable request?

12 MR. ASHAR: Well, because this area is not  
13 accessible from any side, there is a state of the art,  
14 which is not being used by so many people. And we  
15 recommended its use if they can do that.

16 So we are trying to understand from them  
17 what they are going to do to gain the confidence that  
18 that area is being considered in a sample size.

19 MR. GILLESPIE: I'd also like to say, we  
20 have a broader level of operating experience than just  
21 Oyster Creek. And so we do have some sense, and a  
22 generic idea of - there are some licensees who  
23 actually went in and chipped concrete up and did some  
24 measurements. Not all of them. They did that in a  
25 response to the generic letter in 1987 we put out.

26 The other element is, we do kind of have  
27 an understanding of the environment. But we need the  
28 applicant to tell us what that environment is, and why  
29 it's okay.

30 They're going in and looking at the  
31 coatings in those areas. Basically you've committed  
32 to verifying those 100 percent, and a third, as you've  
33 been doing each time, for the three bays each time, or

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1 something.

2 I don't know the details of that, and when  
3 the little person goes in this gap and does this  
4 inspection, whether they can eyeball the seals or not.

5 MR. GUNTER: Again, I've not seen a  
6 commitment to the seals.

7 MR. GILLESPIE: Okay. I'm going to leave  
8 it to Hans, as the expert, to say whether we need a  
9 commitment to that.

10 The other thing is, at least in the prints  
11 I saw, when we looked at the drain arrangement without  
12 the sand, it looked like the low points is where the  
13 drains were located in the sandbed area.

14 So there are some actual physical  
15 limitations on the accumulation it appears of water  
16 that actually could accumulate by those seals.

17 We're asking the licensee to come in and  
18 put all of these things together in this integral  
19 discussion of this area that is sandwiched with  
20 concrete.

21 It's more than just the chemistry that I  
22 mentioned we talked to ACRS about. And so that's on  
23 their plate to explain it.

24 It may not be everything that someone else  
25 may want, but we're charged with making an adequate  
26 protection or reasonable assurance finding, and we do  
27 have like I said other operating experience from other  
28 plants, so we're not totally isolated here.

29 Yes.

30 MR. ZANNONI: I think someone in the room  
31 knows the answer to this question, but is water an  
32 intrusion on this vessel part of license renewal  
33 space? I was told it wasn't. I mean it could leak,

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1 it could flow, but it doesn't have a basis in license  
2 renewal space.

3 MR. GILLESPIE: Let me say it this way.

4 MR. ZANNONI: I was told that it did.

5 MR. GILLESPIE: The component is large, the  
6 component corrodes, and the component has a safety  
7 function.

8 That means the component is part of  
9 license renewal and has to be addressed. In fact that  
10 means it has to have an aging management program.

11 And if the water is allowed then the aging  
12 management program has to be such that it ensures the  
13 component's safety function will not be compromised  
14 with the water there.

15 And so the water leakage is not part of  
16 renewal.

17 But the environment, which is a high  
18 corrosive environment that the water creates, is part  
19 of license renewal. And so that's really why we're  
20 talking. Because part of the general solution for  
21 most licensees - and I'll get off Oyster Creek now -  
22 most licensees are using is a combination fo coatings  
23 - we just did Monticello with ACRS - they have a  
24 primer coating on the external surface. So it's a  
25 combination of coatings, leak control and leakage  
26 monitoring.

27 Both leak control and leakage monitoring,  
28 which put their seals in scope, because they said,  
29 okay, part of our aging management program for this  
30 environment is the seals, and we're not going to have  
31 leakage in the seals, so we'll have highly reliable -  
32 and so no.

33 But certainly the absence of water makes

1 aging management far easier.

2 MR. ZANNONI: That's a helpful  
3 clarification.

4 MR. GILLESPIE: Thank you, Mr. Zannoni.

5 Let me not make this mistake again. Is  
6 there anyone else who has a question or a comment in  
7 the room?

8 Mr. Recorder, you can turn it off.

9

10 (Whereupon at 12:08 p.m. the proceeding in the above-  
11 entitled matter was adjourned)