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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

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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.

NRC PERSONNEL PRESENT:
DONNIE ASHLEY
HANS ASHAR
FRANK GILLESPIE
REBECCA KARAS
P. T. KUO
LOUISE LUND
AMERGEN AND EXELON PERSONNEL PRESENT:
MICHAEL GALLAGHER
JOHN HUFNAGEL
AHMED OUAOU
FRED POLASKI
HOWIE RAY
PETER TAMBURRO
DONALD WARFEL
ALSO PRESENT:
KYOTO TANABE, Japan NRC

C-O-N-T-E-N-T-S

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

(9:23 a.m.)

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

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

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

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

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

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

Dr. Kuo.

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

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

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

MR. GILLESPIE: Frank Gillespie, director,

division license renewal.

MR. ASHAR: Hans Ashar, NRC.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

When we do the phone calls and meetings

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

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

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

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

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

MR. GILLESPIE: Okay, thank you, Donnie.

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

meeting minutes to share the notes.

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

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

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

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

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

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

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

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

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

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

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

So we have dry wall corrosion uncertaintles. And then we have some ultrasonic testing issues. And there are two subsets to the ultrasonic testing issues. One is testing in the upper portion, which is really a pressure retention question, and then there is some questions on the lower portion.

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

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

With that, let me -

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

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

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

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

MR. GILLESPIE: So let me start off.

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

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

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

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

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

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

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

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

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

Hans.

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

MR. GILLESPIE: In general.

MR. ASHAR: In general.

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

about it.

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

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

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

Do you understand?

MR. GALLAGHER: I don't.

MR. GILLESPIE: We're open for questions.

MR. ASHAR: Regarding the clarity of the question.

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

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

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

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

Because we looked at the report. We

didn't interpret report.

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

MR. GALLAGHER: Yeah, this is pretty focused.

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

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

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

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

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

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

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

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

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

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

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

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

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

MR. GALLAGHER: This is in your application.

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

MR. ASHAR: I think title is statistical inference.

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

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

MR. TAMBURRO: This is Pete Tamburro.

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

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

treated the data.

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

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

MR. ASHAR: And what actually you used.

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

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

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

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

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

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

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

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

MR. GALLAGHER: Okay.

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

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

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

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

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

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

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

MR. GALLAGHER: We wouldn't have talked

about that disclaimer.

Pete, did you have something?

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

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

MR. ASHAR: Let me explain.

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

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

MR. GALLAGHER: For the grids.

MR. ASHAR: For the grids, yes.

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

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

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

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

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

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

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

MR. GALLAGHER: Oh, okay.

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

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

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

MR. GALLAGHER: Right, okay.

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

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

But we're not providing a response to you.

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

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

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

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

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

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

MR. GALLAGHER: I think we understand that.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

MR. OUAOU: That's correct.

MR. GALLAGHER: So what we were looking at,

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

MR. ASHAR: Let me again restate.

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

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

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

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

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

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

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

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

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

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

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

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

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

And if we're requesting you to repackage

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

MR. OUAOU: This is information?

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

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

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

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

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

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

MR. GALLAGHER: Right.

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

MR. GALLAGHER: That's correct.

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

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

MR. GALLAGHER: Yes, right.

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

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

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

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

VALIDATION OF UT MEASUREMENTS AND BUCKLING ANALYSIS

The next major topic - and major doesn't

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

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

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

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

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

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

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

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

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

MR. GALLAGHER: What was that number?

MR. ASHAR: Fifty mils.

MR. GALLAGHER: Fifteen?

MR. ASHAR: Fifty, 5-0.

MR. GALLAGHER: Oh, 50.

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

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

The applicant is requested to address this issue.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

down.

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

MR. ASHAR: Yes, that is true.

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

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

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

It's up to you.

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

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

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

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

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

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

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

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

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

it.

MR. GALLAGHER: Okay, thank you.

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

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

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

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

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

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

MR. GALLAGHER: Right.

USE OF ASME CODE CASE 284-1

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

But one of the things -

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

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

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

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

MR. ASHAR: The buckling analysis.

MR. GILLESPIE: -- with the buckling analysis.

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

MR. ASHAR: Well, not necessarily.

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

MR. ASHAR: Capacity factor. That is where -

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

MR. OUAOU: No, understood.

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

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

ULTRASONIC TESTING ISSUES

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

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

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

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

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

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

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

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

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

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

MR. GALLAGHER: So this is elevation 71.6?

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

MR. GALLAGHER: Just where the knuckle is.

MR. ASHAR: Just before the knuckle.

MR. TAMBURRO: This is Pete Tamburro.

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

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

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

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

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

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

MR. TAMBURRO: Yes, we did.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

MR. OUAOU: This is aside that region -

MR. ASHAR: No, above the same region.

MR. OUAOU: So from 1.154 to .77.

MR. ASHAR: Exactly.

MR. OUAOU: Okay.

MR. GILLESPIE: So the plate above the -

MR. OUAOU: Right.

MR. GILLESPIE: That joint right there.

MR. OUAOU: Yeah.

MR. OUAOU: This is Ahmed again. One

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

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

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

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

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

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

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

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

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

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

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

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

There are two approaches to everything.

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

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

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

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

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

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

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

You understand what junction I'm talking about?

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

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

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

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

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

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

That explanation I don't believe was in

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

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

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

MR. ASHAR: ADAMS number.

MR. GALLAGHER: Do we have that report?

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

area.

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

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

Does that make sense?

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

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

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

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

MR. GALLAGHER: So we did not provide that.

MR. OUAOU: We have.

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

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

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

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

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

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

Did you see anything, Hans?

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

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

So there is some applicable review.

MR. GALLAGHER: And we have that Oak Ridge

report?

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

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

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

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

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

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

MR. GALLAGHER: Okay.

MR. GILLESPIE: Ready for the next one?

MR. GALLAGHER: Yes.

MR. GILLESPIE: Okay.

INSPECTION INCREMENTS WITH UT COMMITMENT

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

4th, 2006, page 3, item two.

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

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

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

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

MR. GALLAGHER: That's correct.

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

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

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

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

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

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

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

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

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

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

growing more?

Then there is a calibration issue I hope.

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

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

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

Because 10 years is independent of what you find in `06?

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Because remember, what you're trying to do

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

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

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

MR. GALLAGHER: Before you go there, Frank?

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

MR. GALLAGHER: All right.

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

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

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

principle of moving the body of knowledge forward.

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

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

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

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

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

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

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

talk about the individual components of the aging management program.

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

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

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

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

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

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

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

Hans.

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

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

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

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

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

MR. GALLAGHER: You guys have some questions?

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

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

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

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

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

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

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

MR. OUAOU: That was the basis for it.

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

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

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

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

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

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

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

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

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

MR. ASHAR: We'll look at it.

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

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

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

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

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

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

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

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

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

really close to the beginning of the period.

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

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

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

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

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

GENERAL DISCUSSION

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

MR. GALLAGHER: Okay.

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

MR. GALLAGHER: Right, right.

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

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

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

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

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

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

MR. HUFNAGEL: Thank you.

MR. GALLAGHER: Thanks.

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

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

Can I go ahead, Frank?

MR. GILLESPIE: Go ahead.

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

MR. ZAK: Z-a-k.

MR. ASHLEY: Tom Quintenz from Oyster Creek?

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

MR. ASHLEY: Thank you.

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

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

MR. ASHLEY: Thank you.

Mr. Webster?

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

Webster W-e-b-s-t-e-r.

MR. ASHLEY: And your organization, sir?

MR. WEBSTER: Directors Environmental Law.

MR. ASHLEY: Thank you.

Mr. Brown, Jeff Brown?

MR. BROWN: B-r-o-w-n.

MR. ASHLEY: And your organization, Mr. Brown?

MR. BROWN: Is G-r-a-m-m-e-n.

MR. ASHLEY: Thank you.

Ms. Gotsch?

MS. GOTSCH: G-o-t-s-c-h, same organization.

MR. ASHLEY: Thank you.

Mr. Atherton?

MR. ATHERTON: A-t-h-e-r-t-o-n.

MR. ASHLEY: And you represent?

MR. ATHERTON: I'm working with Jersey Shore Nuclear Watch.

MR. ASHLEY: Thank you, sir.

Ms. Gbur.

MS. GBUR: G-b-u-r, Jersey Shore Nuclear Watch.

MR. ASHLEY: Thank you.

Mr. Warren?

MR. WARREN: W-a-r-r-e-n, and I'm also with Jersey Shore Nuclear Watch.

MR. ASHLEY: Thank you very much.

Is there anyone that came on the line that I didn't mention your name?

MR. LAIRD: Name is Jim L-a-i-r-d, Exelon.

MR. ASHLEY: Thank you, Mr. Laird.

MR. PINNEY: My name is Richard Pinney. P

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

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

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

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

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

MR. ASHLEY: Go ahead, Mr. Atherton.

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

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

MR. GILLESPIE: Yeah, this is Frank

Gillespie.

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

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

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

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

MR. ATHERTON: Okay.

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

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

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

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

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

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

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

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

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

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

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

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

(Telephone operator voice interrupts)

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

MR. GILLESPIE: Anyway, for whoever was listening.

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

(Loud telephone noise)

MR. ASHLEY: They cut us off.

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

(Technical interruption)

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

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

MR. ATHERTON: Hello.

MR. ASHLEY: Yes.

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

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

MR. GILLESPIE: Go ahead.

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

MR. GILLESPIE: The bottom part -

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

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

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

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

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

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

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

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

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

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

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

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

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

MR. ASHLEY: Thanks a lot, Frank.

Mr. Atherton, you still with us?

MR. ATHERTON: Yes, can anybody hear me?

MR. ASHLEY: Yes, sir.

MR. ATHERTON: I'm having connection problems.

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

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

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

MR. ASHLEY: Who's speaking?

MR. ATHERTON: My name is Atherton.

MR. ASHLEY: Okay, go ahead.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

MR. ASHLEY: Go ahead, Mr. Webster.

MR. WEBSTER: Okay, great.

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

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

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

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

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

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

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

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

So I guess we're in agreement.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

We're sharing the same concern.

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

My present issue -

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

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

Let me leave this -

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

MR. ASHLEY: Thanks, Frank.

Mr. Clunn from the Astbury Park Press, do

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

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

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

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

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

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

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

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

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

drywell shell in any way.

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

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

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

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

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

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

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

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

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

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

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

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

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

MR. ZANNONI: The one with the disclaimer?

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

Ours doesn't need to be as rigorous as

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

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

The other piece is, we have six more Mark-1s coming in, and so for the renewal group, we're kind of setting a precedent. Because all of those same questions exist on all of those same containments.

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

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

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

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

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

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

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

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

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

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

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

MR. ZANNONI: Plants that have already been approved?

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

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

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

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

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

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

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

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

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

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

MR. ASHLEY: Thank you, Mr. Zannoni.

MR. ASHAR: This is Hans ASHAR, NRC.

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

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

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

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

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

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

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

MR. ASHLEY: Thanks, Frank.

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

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

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

MR. GILLESPIE: Thank you.

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

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

I'm with Nuclear Information Resource Service.

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

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

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

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

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

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

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

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

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

But Hans, you did that?

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

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

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

MR. ASHAR: No.

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

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

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

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

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

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

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

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

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

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

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

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

something.

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

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

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

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

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

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

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

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

Yes.

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

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

MR. GILLESPIE: Let me say it this way.

MR. ZANNONI: I was told that it did.

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

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

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

And so the water leakage is not part of renewal.

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

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

But certainly the absence of water makes

aging management far easier.

MR. ZANNONI: That's a helpful clarification.

MR. GILLESPIE: Thank you, Mr. Zannoni. Let me not make this mistake again. Is there anyone else who has a question or a comment in the room?

Mr. Recorder, you can turn it off.

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