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NUCLEAR REGULATORY COMMISSION

Title: Oyster Creek License Renewal

Docket Number: 50-0219-LR; ASLBP No. 06-844-01-LR

Location: Toms River, New Jersey

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UNITED STATES OF AMERICA

U.S. NUCLEAR REGULATORY COMMISSION

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BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

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In the Matter of	: Docket No. 50-0219-LR
AmerGen Energy Company, LLC	: ASLBP No. 06-844-01-LR
(License Renewal for Oyster Creek Nuclear Generating Station)	:

Thursday, September 18, 2008

Ocean County Administration Building
Room 119
101 Hooper Avenue
Toms River, New Jersey

The above-entitled matter came on for hearing, pursuant to notice, at 9:00 a.m.

BEFORE:

E. ROY HAWKENS, Chairman

DR. ANTHONY J. BARATTA, Administrative Judge

DR. PAUL B. ABRAMSON, Administrative Judge

APPEARANCES:

On Behalf of the U.S. Nuclear Regulatory Commission:

MARY C. BATY, ESQ.
Office of the General Counsel
MARCIA J. SIMON, ESQ.
Counsel for NRC Staff
LOUISE LUND
Branch Chief, Division of License Renewal
U.S. Nuclear Regulatory Commission
Office of General Counsel
Mail Stop - 0-15 D21
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555
(301) 415-1324

On Behalf of the AmerGen Energy Company, LLC:

ALEX S. POLONSKY, ESQ.
Of:Morgan, Lewis & Bockius LLP
1111 Pennsylvania Avenue, NW
Washington, DC 20004
(202) 739-5830
(202) 739-3001 Fax

On Behalf of the AmerGen Energy Company, LLC: (cont.)

KATHRYN M. SUTTON, ESQ.
Of:Morgan, Lewis & Bockius LLP
1111 Pennsylvania Avenue, NW
Washington, DC 20004
(202) 739-5738
(202) 739-3001 Fax

RAPHAEL P. KUYLER, ESQ.
Of:Morgan, Lewis & Bockius LLP
1111 Pennsylvania Avenue, NW
Washington, DC 20004
(202) 739-5146
(202) 739-3001 Fax

On Behalf of Exelon Corporation:

J. BRADLEY FEWELL, ESQ.
Associate General Counsel
Lead Counsel, Exelon Nuclear
4300 Winfield Rd., 5th Floor
Warrenville, IL 60555
(630) 657-3769
(630) 657-4323

On Behalf of Citizens:

RICHARD WEBSTER, ESQ.

JULIA LeMENSE, ESQ.

Of: Eastern Environmental Law Center

744 Broad Street, Suite 1525

Newark, New Jersey 07102

(973) 353-5695

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

(9:01 a.m.)

JUDGE HAWKENS: We're ready to proceed. My name is Roy Hawkens. On my right is Dr. Anthony Baratta, on my left is Dr. Paul Abramson. We're Administrative Judges on the Atomic Safety and Licensing Board panel, which is the administrative adjudicative arm of the U.S. Nuclear Regulatory Commission, and we have been assigned to the Board that's adjudicating the case today.

I'd like to welcome the members of the public who are in the audience, and we appreciate your interest in this proceeding.

We are here today to hear oral arguments in the case of AmerGen Energy Company. The case has a lengthy history, and I'll take a few moments to summarize part of that history, the salient portion of that history so the audience can place today's argument in context.

AmerGen owns and operates the Oyster Creek Nuclear Plant, and their operating license expires April of 2009. Three years ago, in July of 2005, AmerGen applied to the Nuclear Regulatory Commission renew its license for a 20-year period. Citizens opposed AmerGen's renewal request. They argued that

AmerGen's Aging Management Plan for the drywell shell would not insure that the shell would maintain an adequate safety margin during the renewal period.

Almost exactly a year ago, this Board held a two-day evidentiary hearing in this facility, and several months later in December we issued a written decision rejecting Citizens challenge.

Citizens immediately appealed the Board's decision to the Commissioners, the Nuclear Regulatory Commission Commissioners, and they are the Presidentially appointed individuals who provide the first layer of review of Board decisions. That appeal remains pending before the Commissioners.

In the meantime, in May of this year, the Commissioners asked the parties to file a written brief on a new issue, and that issue is paraphrased, whether the structural analysis of the drywell shell that AmerGen is committed to perform will result in a 3D model of the shell that's conservative, and will, therefore, adequately reflect the shell's actual condition.

In June, the parties filed their briefs consistent with the Commissioners' request, and last month, on August 21st, the Commissioners issued an order referring that newly briefed issue to this Board

for resolution. And that's why we are here today. We are going to hear oral arguments to allow the parties to advocate the positions they've taken in their brief, to respond to several written questions that the Board gave them last week, and, as well, to answer any questions that the Board may have for them today.

For those of you who were here for last year's evidentiary hearing, I'd like to emphasize there is a significant difference between an evidentiary hearing and what you'll hear today at an oral argument. An evidentiary hearing is akin to a trial, where the parties put witnesses forward, the witnesses provide factual testimony, expert witness testimony which becomes part of the record of the case.

Today you will not hear from witnesses. You'll hear simply from the parties' attorneys who will be advocating their client's position based on the established facts in light of the governing law. You'll hear from three parties today, AmerGen, the NRC Staff, and Citizens.

Each counsel has been allotted one hour to make their arguments. However, if the Board feels that additional time is necessary for the Board to understand a point that counsel is endeavoring to

present, we will allow that party to exceed that time. On the other hand, the oral argument is the opportunity for the Board to insure it understands the position, and once counsel feels they have made their point, and the Board is likewise satisfied we understand their point, they need not feel compelled to take the entire time.

NRC Staff and AmerGen will be given the opportunity to present rebuttal argument. If they avail themself of that opportunity, it will be taken -- they'll have to reserve time from their allotted hour. So, as I indicate, although they will have rebuttal time, their time will not exceed an hour total, unless the Board wants to hear further from them.

I believe if we adhere to the schedule, we should be done by noon. There's, in my mind, a substantial likelihood we will finish up before noon, but as I say, if we have to exceed the hour allotment, we will continue. We'll continue through lunch. The audience can be assured we will not go beyond 2:00 because there's another event that will be going on in here at 3:00, so we will finish up no later than two, and hopefully earlier than that.

The Board's law clerk, Mr. Rotman, for the

benefit of counsel, when they have five minutes left of their allotted time, if they, in fact, go that long into oral argument, Mr. Rotman will be raising the amber light, or the amber five minute sign, so if you see that, please take that into account.

If I could ask members of the audience if they do have cell phones, if they would put them on vibrate or turn them off, and I will also ask if anybody on the bench has cell phones, I'd ask them to do likewise.

We have a motion that we need to address. Before we do that, I'd like to ask counsel if they would just from where they're seated introduce themselves and their associates. And let's start with AmerGen, please.

MR. POLONSKY: Good morning. Thank you, Your Honor. Alex Polonsky of Morgan Lewis on behalf of AmerGen. To my left is Kathryn Sutton, Raphael Kuyler, and Brad Fewell.

JUDGE HAWKENS: Thank you. NRC Staff.

MS. BATY: My name is Mary Baty, and with me are my co-counsel, Marcia Simon, and also seated at counsel table is Louise Lund from the NRC Staff.

JUDGE HAWKENS: Good morning, Mr. Webster.

MR. WEBSTER: Good morning, Your Honor.

I'm Richard Webster from Eastern Environmental Law Center, with my colleague, Julia LeMense.

JUDGE HAWKENS: All right. Thank you, and welcome.

At the outset, we have a motion which the Board received yesterday morning from Citizens. I want to confirm, we were not aware of any response filed by either AmerGen or the NRC Staff. Am I correct in assuming that none was filed?

MR. POLONSKY: Correct, Your Honor.

MS. BATY: Also, NRC Staff has not filed anything. We assumed that we were going to address the issue at the hearing, oral argument.

JUDGE HAWKENS: All right. Thank you for offering to address it. I'm going to rule upon it. We are going to rule upon it, the Board will rule upon it. They've made three requests. First, they requested to submit a supplemental brief following the argument for reasons embedded in the motion. The Board is going to give each party the opportunity to file a supplemental brief, and I'll discuss that in more detail after the arguments have been presented.

The second request was that Citizens requested they be afforded the same time as the other parties, and I believe that was based on the

misapprehension that rebuttal time would be in addition to the hour of allotted time. However, they will be, if they're going to present rebuttal, they'll be reserving a portion of that one hour allotted time, so it will not exceed one hour.

MR. WEBSTER: Thank you. Judge, can I just ask, could we also reserve some time for rebuttal, as well?

JUDGE HAWKENS: If the Board feels that rebuttal is warranted, we will give you that opportunity.

MR. WEBSTER: Thank you very much.

JUDGE HAWKENS: The third request was that they felt that because the NRC Staff and AmerGen may be presenting arguments, consistent arguments, that the fact that each of them has one hour for a total of two hours, they felt that they were deprived of an adequate amount of time to respond, or it was an inequitable allocation of time; and, therefore, requested that that be redressed by the Board. The Board is not going to reduce the time allotted to any of the parties here. I think it's unlikely, to the extent that the NRC Staff and AmerGen have duplicative arguments, I'm sure they will not advance them. And, as I indicated earlier, to the extent that we feel

that any position or argument you are going to make requires extended time, we will allow that.

MR. WEBSTER: Thank you very much.

JUDGE HAWKENS: Before launching into oral argument, as we indicated in our scheduling order, the Board wished each of the parties to take a few moments and explain what they understand the boundaries of the issue, the boundaries of the Commissioners' request, what those boundaries are. And if we could start with AmerGen, go to the NRC Staff, and then to Citizens, and you can do this from your tables.

MR. POLONSKY: Thank you, Your Honor. We would like to reserve 15 minutes for rebuttal, just so the Board knows, from our one hour.

JUDGE HAWKENS: You'll just be sitting at your table talking about the boundaries. We'll then ask you to come to the podium, but thank you.

MR. POLONSKY: In its August 21 order, the Secretary did not request that the Board revisit the question settled in the Board's initial decision, LBD 0717, or reconsider its prior holding. As the Board has already recognized, the record remains closed, and the Commissioners did not mandate this issue for consideration.

The Commissioners merely requested that

the Board provide its opinion on the limited, and that's language from the August order, the limited question asked of the parties in CLI Order 10. And that question is whether the structural analysis that AmerGen is committed to perform matches or bounds the sensitivity studies that Judge Baratta would impose. And, in any event, explain whether additional analysis is necessary. AmerGen believes, therefore, that resolution on the referred question does not impact the validity of the Board's initial decision.

Even if the Commission had remanded this narrow issue to the Board, which it did not, the finality doctrine would foreclose a broadening of its scope to the many issues that Citizens raise in their initial and reply briefs to CLI Order 10.

As for how AmerGen recommends that the Board consider responding, and in what form the Board should consider responding, we recommend a memorandum, and not an order. Boards have issued memoranda in other situations to convey similar information when the Commission has requested it. Most recently, Judge Hawkens issued a memorandum on behalf of the entire panel responding to a request in the high-level waste Yucca Mountain proceeding as to the reasonableness of certain deadlines. The Board in the Claiborne

Enrichment Center licensing proceeding issued a memorandum when it responded to a Commission order that -- in that case I think it remanded one issue, but it remanded it for further explanation, which is very similar to the situation here. And there are other examples that we could provide.

As for factual arguments, we need to put the 3D analysis in perspective, and that ought to be taken into account in whatever the Board provides to the Commission. AmerGen's Aging Management program for the drywell shell, with all its many facets, provides reasonable assurance without the 3D analysis.

The Board's initial decision did not rely upon any features of the 3D analysis to support its finding, and certain specifics about the methodology of the 3D analysis are not on the record, when the analysis is not required to be completed under AmerGen's commitment to the NRC until April 2009.

The goal of the 3D model is to merely better quantify the margin that exists above the code required minimum. To meet this goal, AmerGen is modeling the drywell thickness realistically with some conservatism versus an overly conservative model in the basics. And this is where Citizens and AmerGen diverge.

Citizens suggest, as they did last fall, that AmerGen must focus its analyses on the external UT data, those single individual points. It is from these data that Citizens arrive at their inbound general area thickness of the drywell shell. However, the Board found in its initial decision these individual external UT points provide a very localized and conservative representation of shell thickness, because they were selected as the thinnest points, and metal was removed to prepare the surface for UT measurement.

The area between the measured points is, therefore, thicker; therefore, quote, and this is from Footnote 30 of the initial decision, "They are not representative of the overall shell thickness, and do not provide a basis for determining available buffer or margin."

The drywell Aging Management program has many facets.

MR. WEBSTER: Judge, are we still in the scope?

JUDGE HAWKENS: I'd ask counsel not to interrupt while another counsel is talking.

MR. POLONSKY: So the 3D analysis itself is independent of the Aging Management program that

AmerGen has in place, which includes then finding surface water and mitigating that water, checking sand bed trains for water, and taking UT measurements. Thank you.

JUDGE HAWKENS: Thank you. Ms. Baty.

MS. BATY: Yes. I do note at the outset of this oral argument, last year we were here to litigate a contention on the frequency of UT measurements that AmerGen plans to perform on the drywell shell at Oyster Creek, and whether the frequency was adequate to insure that the margins were not exceeded.

The Commission's August 21st order referred a single specified issue to this Board for expeditious resolution. That issue is whether the discretional analysis that AmerGen has committed to perform, and that is reflected in the Staff's proposed license condition, matches the bounds of sensitivity analyses that Judge Baratta would impose. And, in any event, explain whether additional analysis is needed.

In referring this issue to the Board, the Commission asked the Board to answer the question, and report its answer to the Commission. Once Citizens appealed this decision - excuse me. The Board's jurisdiction at this point is, therefore, limited to

the single specified issue referred by the Commission to the Board.

Once Citizens appealed the Board's initial decision in this proceeding on their admitted contentions, and the interlocutory decisions back in January, jurisdiction over this proceeding passed the Commission, and those appeals, as noted at the beginning of this argument, still are pending with the Commission.

The Commission's August 21st order did not remand this case to the Board for further proceedings, did not reopen the record, or did not request further evidentiary hearings be held. The Commission merely referred a single specified issue.

The form of the Board's response to the Commission is most likely to be a memo. Because the Commission did not remand this proceeding, the Board arguably lacks jurisdiction to issue an order. There is precedent for the Board, as is noted by AmerGen, there is precedent for Boards to provide information to the Commission in the form of a memo.

It is important to keep in mind today what the Commission has not asked this Board to do. The Commission has not asked this Board to reconsider its initial decision. The initial decision is still - the

appeal of the Board's initial decision is still pending with the Commission.

The Commission has not asked this Board to reconsider its findings, including the finding that AmerGen has demonstrated frequency of UT measurements in combination with other elements of their Aging Management program provides reasonable assurance. They have not asked this Board to re-examine that reasonable assurance is linked to the assessment of the adequacy of the amp. They have not asked this Board to reconsider whether the thickness acceptance criteria are part of the CLB. They have not asked this Board to reconsider whether the compliance with the acceptance criteria assures the adequate margin of safety. They did not ask this Board to reconsider its decision to not admit certain contentions that were proposed by AmerGen, and appeals of those decisions are still pending.

Finally, as this oral argument proceeds, the Staff respectfully requests that this Board insure the integrity of this proceeding by being mindful that only a single specified issue has been referred to this Board by the Commission, and be vigilant against attempts to distort, mischaracterize, or supplement the record of this proceeding.

As this Board noted in its September 10th order, this is not an evidentiary hearing, and the record of this proceeding is closed. Today this Board will hear arguments of counsel, not testimony. Counsel is not qualified to testify. An argument of counsel on technical matters, no matter how eloquent, does not substitute for evidence.

JUDGE HAWKENS: Thank you.

Mr. Webster.

MR. WEBSTER: Thank you. Broadly, I think it's pretty clear from the Commission's order that it has referred a single question, a double part question to the Board. The first part of the question is whether the structural analysis that AmerGen has committed to perform, and that is reflected in Staff's proposed license condition matches or bounds the sensitivity analysis that Judge Baratta would impose. And I think to understand that question fully, one has to look at Judge Baratta's statement.

Judge Baratta's statement, and I hesitate to paraphrase it, so I'll actually quote directly says, "Although I join my colleagues in the previous decision in the main, I differ on one point regarding whether the licensee has fully shown there is reasonable assurance that the factors of safety

required by the regulations will be met throughout the period of extended operation, assuming a four-year every other refueling inspection cycle."

After giving some background, Judge Baratta then concludes, "It is essential to have a conservative best estimate of the drywell shell before entering the period of extended operation."

With regards to how that analysis should be carried out, Judge Baratta states, and I'm going to pick up in mid-sentence here, "I do concur with Citizens that there is a lack of knowledge about the actual thickness of the drywell, and that this knowledge must be taken into account in any analysis."

And then Judge Baratta wraps up by stating, "To account for the very limited data set of thickness measurements, I would impose an additional requirement on the 3D analysis to be performed by the applicant; specifically, the applicant should be required to perform a series of sensitivity analyses, at least one of which includes an extrapolation scheme to determine the thicknesses between the measured points. The technique might be similar to the one suggested by Citizens' expert, Dr. Hamilton, that uses contour plots generated from known thicknesses, both interior and exterior." So I think that pretty

comprehensively explains the first part of the question.

The second part of the question is a little more open-ended, I think, which says, in any event, explain whether additional analysis is necessary. And so I think we're engaged here in a two-step process. First of all, there's a lot of differing interpretation about what Judge Baratta's requirements actually are. I guess we all think that we know what they are, but we all think they're something different, so I guess that will be the first part of the argument. And I think once it becomes clear what Judge Baratta's requirements are, then -- I mean, I think I have to make some assumptions about that. But let's clarify that first.

JUDGE HAWKENS: Judge Baratta will make them clear in this proceeding. Continue.

MR. WEBSTER: And so then we need to address the second part of the question, which is whether additional analysis is necessary.

Now, it may well be that to fully address this question, some issues that were not addressed in the first adjudicatory hearing may need to be considered within this hearing. And we believe that the Board has the power to do that.

In Vermont Yankee, it's 5 NRC 717, the Commission referred the question to the Appeal Board, and stated, "The Appeal Board involved in each case should take appropriate action to secure the information necessary for it to act. In particular cases, the Board may choose to request the parties to address themselves to this issue."

So, in other words, yes, we agree that the Commission has not either affirmed or reversed this Board's initial decision. Yes, we agree that the scope of the proceeding, this proceeding, is to address the Commission's question; that is the jurisdiction that this Board has. But the Board has the power to take appropriate action to fully address that question. If the appropriate action involves taking additional testimony, or revisiting some issues, then we believe that the Board has the jurisdiction to accomplish that. Thank you.

JUDGE HAWKENS: Thank you very much. We'll now hear from counsel presenting their arguments, starting with AmerGen.

Mr. Polonsky.

MR. POLONSKY: Thank you. Before I start, Your Honor, we have compiled some of the exhibits that have already been circulated, exhibits that are in the

record that I will be talking to. So instead of you thumbing through volumes of exhibits, we'll be passing out to the various counsel tables those exhibits for ease of reference, and we'll project them up on the board for the members of the Board, as well.

JUDGE HAWKENS: Thank you, Mr. Polonsky. Also, you indicated you wish to reserve a certain amount of time for rebuttal?

MR. POLONSKY: Yes, 15 minutes for rebuttal, Your Honor. Thank you.

MR. WEBSTER: Judge, before Mr. Polonsky starts, could I just request, could we get electronic copies so that we all get mailed the exhibits on the overhead projection, as well?

JUDGE HAWKENS: I'm sorry?

MR. WEBSTER: Could we request an electronic copy from AmerGen so we can also project these same slides onto the Board?

MR. POLONSKY: An electronic copy now?

MR. WEBSTER: If possible, that would be --

MR. POLONSKY: I'll have to defer until we're done with this, and see how procedurally we can accommodate that request.

I think the procedure we anticipated, we

would like to have happen here is us to walk through the questions one by one, unless you have a different protocol you'd like us to proceed on.

Okay. The first question was how did AmerGen choose the thicknesses and mesh for the 3D model? We had circulated on Tuesday the diagram that's now posted. It shows a bottom view of the drywell. It shows each of the ten odd-numbered bays, their orientation with respect to each other, and it shows that each bay is split with two areas of general thickness, one above 11 foot, which goes from 11 foot to 12 foot 3, and one from 11 foot down to the sand bed floor, which is at elevation 8 foot 11 inches.

It also shows five locally thinned areas that are part of the base case, and these bays here, Bays 1, 19, 17, 15, and 13, and the thicknesses that were assigned to those locally thinned areas. Those locally thinned areas, as Mr. O'Rourke describes, are either an 18-inch diameter circle, and those are the smaller circles, or a 51-inch diameter circle, those are the larger circles.

JUDGE ABRAMSON: Counselor, are these the - is this information in the briefs you filed before the Commission? Is this a characterization of what's in Table One, or is there something new here?

MR. POLONSKY: Your Honor, we don't believe there's anything new on this diagram. The information that's on this diagram is all in the record, and I'll walk you through where we think it is. Mr. O'Rourke's affidavit in Paragraph 15 describes how individual external UT thickness measurement points were used. He describes, "Five locally thinned areas were modeled in the sand bed region as circular shaped ranging from 18 to 51 inches diameter, and thickness of 658 to 850 mils. These modeled areas are conservative, since this amount of thinning does not actually exist."

I know in Citizens' motion, they raised the concern that they didn't interpret that as being part of the base case, but I think if you look at the affidavit as a whole, I don't know how you can come to that conclusion. In Paragraph 23 of Mr. O'Rourke's affidavit, he states that, "The sensitivity analysis also models a locally thinned area of 51 inches in diameter, which a conservative average of 720 mils which had been modeled into the base case and remains unchanged for the sensitivity analysis."

There is similar language about the locally thinned areas in Paragraphs 18 and 19. The locally thinned areas are also clearly present in

Citizens' own exhibit, number 45, which is part of the packet of materials I handed out. The last five pages of that exhibit shows each of these locally thinned areas, page 8 of 12 shows Bay 1, and Bay 13, Bay 15, Bay 19, and Bay 17 in order, and the second paragraph of that exhibit explains that this technical evaluation, which is Citizens' Exhibit 45, says that this is going to be provided to Structural Integrity Associates as input to the finite element model.

JUDGE ABRAMSON: And this, Citizens' Exhibit 45, was presented when, was it in the original hearing?

MR. POLONSKY: Yes, it was. Yes, all of the exhibits are in the original hearing. But if you match up the statement in Mr. O'Rourke's Paragraph 15, it matches up exactly with Citizens' Exhibit 45.

The general thicknesses are provided -

JUDGE BARATTA: Let me interrupt you for a second.

MR. POLONSKY: Yes.

JUDGE BARATTA: Looking at what was Applicant's Exhibit 5, that's a picture of the drywell showing the sand bed region, which extends from 8 feet 11 to 12 feet 3 inches according to the exhibit.

MR. POLONSKY: Yes.

JUDGE BARATTA: Why did you choose to divide the model up at, what was it, 11 feet?

MR. POLONSKY: Above and below 11 foot, Your Honor.

JUDGE BARATTA: Why was that particular choice made?

MR. POLONSKY: The rationale was engineering judgment. There are some bays where above 11 foot, which is the elevation at which the internal grid measurements are taken - if you recall from the inside of the drywell, you cannot access, at the time when the sand was there, anything below 11 foot unless you dig a trench and remove concrete.

JUDGE BARATTA: That's the level, the internal level of the concrete on the inside of the drywell that we discussed previously at the original hearing.

MR. POLONSKY: Right. The lowest level of existing concrete, yes.

JUDGE BARATTA: And then you have -- there are two troughs, as I recall, that were excavated in two of the bays below that level.

MR. POLONSKY: Correct. Not until the sand was removed could you then go on the outside and look and see what the condition of the shell is from

the outside. So some of the internal grid data AmerGen recognized were not representative of that bay, overall, because the outside of the drywell shell in the sand bed region had a sand bed, and that sand -- -the top of the sand bed was not even. It, essentially, and undulating surface, and the highest level of corrosion, as was discussed at the evidentiary hearing last fall, was at that sand-air interface. If a grid was slightly above that, or right at that interface, it would, if you used that data, suggest a unconservative number for the whole bay. So using engineering judgment, AmerGen decided to split the bays in a horizontal way by modeling in the 3D model a different elevation in some cases for above the 11 foot, versus below the 11 foot.

JUDGE BARATTA: All right. When we're talking about these regions, these are regions of constant material property? That is, thickness, unless you have another region defined, such as, I guess in Bay 19, where you have a circular region of 720 mils versus 826, I think is -

MR. POLONSKY: Correct. A general thickness was assigned to each of the bays of 11 foot, and below 11 foot. And a separate single thickness was assigned for these locally thinned areas. The

exception is in Bay 17, where there's essentially a donut with a locally thinned area within a locally thinned area.

JUDGE BARATTA: What we're talking about here is not actually the finite element mesh that was used, because that's even smaller, I would presume, than what these regions are.

MR. POLONSKY: Correct. Your Honor, the mesh size, and I would look to you for guidance on how to address this, is not in the record currently. I'm prepared to respond to your question on mesh size, but how would you like me to proceed, considering that this is not an evidentiary hearing?

JUDGE ABRAMSON: Let me see if I can pick this up. If I recall the record, you were asking Dr. Mehta how he did the calculations, and I think the record transcript, and I can give you some, roughly some pages from the transcript.

JUDGE BARATTA: Actually, if you go to the exhibit that shows from the ACRS hearing, it actually shows the mesh that was used for the sector model that was originally done. You could refer to that exhibit, I think.

JUDGE ABRAMSON: I think -- I don't have that in front of me, but I have the transcript of a

prior hearing, and on page 477 of the transcript, Dr. Mehta described the mesh as three inch by three inch, I think. So we can just confirm whether that's, in fact, the mesh that's being used for this, or if it's something different. And if it's something different, we'll deal with that some other way.

MR. POLONSKY: The mesh size is different, Your Honor.

JUDGE ABRAMSON: Okay. See if I can come at this another way, then. In your affidavit, in your brief to the Commission, and in the affidavit, there are statements, I guess I can call them assertions, but there are statements to the effect that this new model is conservative. In making that statement, do you know, counselor, whether to be conservative involved considerations of mesh size?

MR. POLONSKY: Yes, Your Honor. And the goal of the 3D model, as was discussed at the evidentiary hearing, was to use modern techniques that have the ability with greater computing power to see things at a much finer level than had been done by GE years ago.

JUDGE ABRAMSON: I'm not comfortable going farther than that.

JUDGE BARATTA: I actually, don't think

that's -- modern methods automatically generate by the mesh, is not the question. What is of importance is how physically the thicknesses were input, not necessarily the mesh size, because I presume it's much smaller than the regions that you've applied here, which are feet by feet, as opposed to inch by inch. So I think -- I just wanted to confirm that we're not talking about mesh here, we're actually talking about large regions, which are then made up of smaller mesh, portions of mesh at some points.

MR. POLONSKY: That's correct, Your Honor. For the general thicknesses, Table One describes bay -

JUDGE HAWKENS: In the evidentiary hearing, Mr. Gallagher indicated the model will employ a finer mesh than the previous GE model. There is no reason for us to question that representation, is there?

MR. POLONSKY: There is no reason for you to question that, Your Honor.

JUDGE ABRAMSON: And we are correct in assuming that Dr. Mehta's testimony at the original hearing, that the mesh they used was three inch by three inch is correct?

MR. POLONSKY: I believe that's correct,

Your Honor. Table One, that is part of Mr. O'Rourke's affidavit, sets forth the general thicknesses that were assigned to each bay. You've asked for us to explain how we came upon those thicknesses, but did the Board have any specific questions, because, frankly, all the detail about how those thicknesses were selected is presented in that table, and I am not sure I have anything further to add on the general thicknesses.

JUDGE BARATTA: Yes, we have a few more questions, but if you want to just kind of just summarize what's in that table briefly.

MR. POLONSKY: Yes, Your Honor.

JUDGE BARATTA: Then we'll proceed from there.

MR. POLONSKY: For the general area thicknesses, AmerGen used the internal UT data grids as representative numbers in most cases. In some cases -- well, let me back up. For those bays which have different numbers above and below 11 foot, the internal grid data is sometimes itself split, and the data from that grid was used to inform the 3D model for above and below 11 foot.

For certain bays, it's very clear, and I'd like to go to one of the pictures in Applicant's

Exhibit 40, which is a picture of Bay 13. Here, and let me just orient you, this is the vent header up here, and this is the support for the vent header. This is a vertical weld, so this is the top of the sand bed region, and down here is the bottom. But on the inside, you can see how you could take a grid reading over here and get essentially nominal thickness. And then take a grid reading on the other side of the weld and get a very different thickness average in your grid. And for Bay 13, for this particular bay, there were three grids, one of which showed nominal thickness. And that grid was ignored, and the other two grids were used as a result, so that is how the general thickness was selected for certain bays. That's an example I gave you for Bay 13.

JUDGE BARATTA: Right. So looking at Bay 13, then, we had two corroded regions that were depicted in the photograph, and a third which looked essentially the original thickness. And then you chose to ignore that, and use a thickness that was more representative of the corroded region, which would have been in that photograph to the left of the region that was not corroded. Is that what -

MR. POLONSKY: Yes. That's how engineering judgment was used in assigning general --

one example of how engineering judgment was used in assigning general thicknesses.

JUDGE BARATTA: All right. Now, looking - I don't have all of the photographs that you've presented. There's some others in that Exhibit 40, was that done in each of the bays then?

MR. POLONSKY: Each bay was handled uniquely and independently based on the data that was available for that bay.

JUDGE BARATTA: Okay. You're saying the data included these photographs, not just strictly the UT measurements. In other words, you used that as a guide?

MR. POLONSKY: It wasn't the photographs, themselves. It was knowing what the condition of the drywell shell was below 11 foot, because they had visually observed it.

JUDGE BARATTA: Included the photographs, and observations, et cetera, that we discussed.

MR. POLONSKY: Yes.

JUDGE BARATTA: And if you recall from the hearing, we had personal observations, people who went into the sand bed region and actually saw that, so that was all factored in then to developing the model?

MR. POLONSKY: Yes. And if I could give

you a good example from Bay 1, because one of the later questions asks about Bay 1. Bay 1, the internal data, suggests nominal thickness, and once they had access to the outside of Bay 1, the external surface, they understood that that was not representative.

So for purposes of modeling, they have selected, and as explained in Mr. O'Rourke's affidavit again in Table One, they selected the adjacent bay, Bay 19, and assigned the thicknesses for Bay 19 into Bay 1, which is why Bay 1 has identical parameters. And that was done to be conservative, to be representative, acknowledging, using engineering judgment that the internal grid data was not representative.

Now, one of the questions that's been raised is well, why didn't you take into account the external points? And AmerGen did do that. There are 23 external UT data points in Bay 1.

JUDGE BARATTA: All right. Could we -- Exhibit 44, Applicant's Exhibit 44, shows a diagram of Bay 1. It says, "Spatial relationships of internal grids and externally local thin areas". And what this shows are a series of square and triangles that represent points where UT measurements were made, not clear which ones are internal versus external. I

don't think that's identified, at least not in the Exhibit 44.

MR. POLONSKY: Your Honor, a better picture of that is in the 24 calc, which is the calc of record, and that's provided behind Applicant's Exhibit 16.

JUDGE BARATTA: Okay.

MR. POLONSKY: And it's the first figure there, Figure 1-2.

JUDGE ABRAMSON: This is all that we - sorry, counselor. This is all was -- these are exhibits that were discussed at length during the original hearing. Is that correct?

MR. POLONSKY: Yes.

JUDGE ABRAMSON: So there's no new information here.

MR. POLONSKY: Absolutely none, Your Honor.

If I could draw your attention to this 36 by 36-inch area, there are 15 UT data points. All of these are external points.

JUDGE BARATTA: So all the triangles and squares represent external points.

MR. POLONSKY: Correct. Yes. The squares are less than 736 as the bottom indicates, and the

triangles are greater than 736.

For Bay 1, there are 23 points here, 15 of them are within this 36 by 36-inch square. This 36-inch square area became the 51-inch diameter circle that is the locally thinned area in Bay 1.

JUDGE BARATTA: That's what I was trying to get at.

MR. POLONSKY: Yes.

JUDGE BARATTA: Actually, what did you do with that, and is that -- because the orientation of this, you're looking up in one case, and down the other case.

MR. POLONSKY: So all of these points are encompassed in the locally thinned area that's included in the base case.

JUDGE ABRAMSON: And how do we get from the affidavit that Mr. O'Rourke submitted to the Commission, which says he's got a 51-inch diameter circle, to how you just characterized that circle as originating from this? Can you show us that train of logic, or are we introducing something new here?

MR. POLONSKY: I don't believe we're introducing anything new, Your Honor. In Mr. O'Rourke's affidavit, in Paragraph 15, he describes that there are five areas that were modeled. He says,

"They're modeled in the sand bed as circular shaped ranging from 18 to 51 inches in diameter, and thickness of 658 to 850 mils." That information is in Applicant's - I'm sorry - Citizens' Exhibit 45. And, as I mentioned previously, the beginning of that Citizens' Exhibit 45, which is a technical evaluation, says that it's being prepared for Structural Integrity Associates, for the finite element model. It's signed. It's the final version. And in the back, the very first locally thinned area for input, page 8 of 12, is for Bay 1. And it says, "Area C from Figure 1-7 from the 24 calc." It says, "51 diameter circular area that is 696 mils thick", and you can then go to the 24 calc, which is Applicant's Exhibit 16, and Figures 1-2 through Figures 1-7 are all Bay 1.

So the way we assigned in this case for this bay, we have 15 points which are included in the 51-inch diameter locally thinned area. The average of all the other external points, assuming that they are representative of the exterior, of the shell thickness, which they're not, but assuming that they were, the average would be somewhere in the range of 860 mils. And the assigned value for this bay is 826 mils, so we believe that's a conservative thickness to use for the general thickness area for this bay.

JUDGE ABRAMSON: I don't recall, but was there an exhibit that showed a picture of Bay 1? There's quite a few pictures, I just couldn't find one.

MR. POLONSKY: We'd have to look through the ACRS presentation, which is AmerGen's Exhibit 40 and 41, to look for that. And we'll do that while we're talking.

JUDGE HAWKENS: So you accounted -- took the external measurements into account for Bay 1. Were they taken into account for any of the other bays?

MR. POLONSKY: Yes, Your Honor.

JUDGE HAWKENS: And in what way?

MR. POLONSKY: If we can go back to the diagram, any of the five bays that have locally thinned areas. Those were areas that had been evaluated in the 24 calc as -- evaluated against a local buckling criterion. If you recall, there was a tray that we talked about a year ago, it was Applicant's Exhibit 11. And the 24 calc, its purpose, one of its purposes was to insure that none of the areas of local thinning, as determined by the external points, would be outside of that local, or exceed that local acceptance criteria. And so, the 24 calc

identified these areas, those 36 by 36-inch areas, or 12 by 12-inch areas, for evaluation.

The model input was then taken from the 24 calc, and essentially given to Structural Integrity Associates, and that's described in Citizens' Exhibit 45. And those 36 by 36-inch areas that were square simply became circles, 51-inch diameter, and the 12 by 12-inch areas became 18-inch circles. And that's how the external points, those thin points, were accommodated from the 24 calc, and translated into input for Structural Integrity for the 3D model.

External points were also used in another way. For those bays where we used data from adjacent bays, and let me discuss those briefly. For Bays 1, 3, 7, and 15, AmerGen used data, internal grid data, from adjacent bays, because as I previously discussed, AmerGen did not believe that the internal data was representative for the thickness below the 11 foot level. So for those bays, at least for Bays 3, 7, and 15 below the 11 foot level, the general thickness area was assigned using the average of the adjacent bays. So if we can take Bay 3, for example, this was taken from data from adjacent bays, Bay 7, frankly, which has no external or internal data below 11 foot. It was taken using data from adjacent bays.

JUDGE BARATTA: Could you just reiterate why you used the data from the adjacent bays, what data you were using there?

MR. POLONSKY: Yes. The internal grid averages for those bays suggested that the drywell shell was near nominal thickness; yet, visual inspections from the exterior suggested that some corrosion had occurred in those bays.

JUDGE BARATTA: Again, you're using additional -- the additional information that we discussed previously.

MR. POLONSKY: Yes.

JUDGE BARATTA: In addition to the UT measurements -

MR. POLONSKY: Correct.

JUDGE BARATTA: -- to better define it.

MR. POLONSKY: That's right. And just to check ourselves to make sure that we weren't just picking an average number, we looked at what the normal distribution would have been for points, external points for that average. And we compared the external UT thickness measurements to the distribution curve that would have been expected from average thickness based on the internal UT grids from the adjacent bays. And the external measurements were

bounded by that distribution, demonstrating to us that the average thickness selected in the bay was reasonable.

JUDGE BARATTA: And these distribution curves, as I recall, were in the -- one of the calcs. I think the points were plotted to test for normality and such.

MR. POLONSKY: Correct. And I believe they were all normal, except for Bay 1.

JUDGE BARATTA: And was it -- when you say it was bounded, do you know whether it was one, two, or three standard deviations?

MR. POLONSKY: I'm afraid I don't, Your Honor.

If there are no further questions on how the general thicknesses were selected, or how the local area thicknesses were selected, I can move on to question two.

JUDGE BARATTA: Were there any other areas -- I noticed at least looking at -- this was Applicant Exhibit 16, your figure that you had up there a moment ago, if you could bring that back up. That outside of the 51-inch circle which is shown as that large rectangle approximately in the center of the screen there, there's also another region to the left there

under minus 48 inches, I think, where you have two squares represented there. How as that type of information factored in?

MR. POLONSKY: That type of information, which did not implicate the local buckling criterion in the 24 calc was just treated as part of the general thickness for the bay. The general thickness for this bay was selected at 826 mils. And as I tried to explain, there are eight external UT data points that fall outside of this box. All eight of those, if you average them, would come out to somewhere greater than 826, so the thought was that 826 was a bounding number. There's only one locally thinned area in Bay 1.

JUDGE ABRAMSON: Sorry. Counselor, do I correctly understand then that the general -- the thickness used for the balance of the area in that bay was below nominal?

MR. POLONSKY: Yes, very much below nominal. Nominal is greater than 1,000 mils and the number that was used was 826 mils. And that was based on some averaging of these eight data points that were taken outside of the big box. Well, the eight data points were used as a check. The average of the eight data points is greater than 826 mils. 826 mils was

taken from the average for the general thickness from the adjacent bay, which is Bay 19, which had a similar pattern of corrosion.

JUDGE BARATTA: So in terms of an extrapolation scheme, that would be how you are extrapolating thicknesses for those regions where you do not have data, or you question the data. Is that correct?

MR. POLONSKY: That is correct, Your Honor. Extrapolation was used we believe in a number of ways, both of which we believe are conservative or bounding. The first is for general thicknesses for the base case, we used or extrapolated information from adjacent bays where we did not have data in a bay that would be representative of the corrosion below 11 foot. We also used an extrapolation technique in looking at the locally thinned areas that are part of the base case. I mean, the locally thinned area in Bay 1 is 696 mils, as inputted into the model. We know it's not 696 mils, and we know that area is not 51 inches in diameter. Those were based on 15 individual UT data points that we know were selected because they were some of the thinnest locations.

What we've done is essentially averaged and extrapolated between those points, and out to a

51-inch diameter, and said well, let's be conservative, and assume that that entire 51-inch area is the average of all of those points, or is 696, which I think is even a lower average than all of those points. So that's an extremely conservative bounding way, but we believe that uses extrapolation.

We then have sensitivity analyses, which we haven't even gotten to. So far, I've just been discussing what the base case is, but the sensitivity analysis, we have one that looks at the uncertainty in locally thinned areas, and one that looks at the uncertainty in general thickness areas. The locally thinned area sensitivity case takes that same locally thinned area, the 51-inch diameter at 696 mils in Bay 1, and then it thins it by 100 mils, which is bounding and conservative. So we are going to be running the model at 596 mils for that locally thinned area, to see what the sensitivity of the model is for that kind of high-level change.

JUDGE ABRAMSON: Was that information available to the Commission, that you were taking another 100 mils off in the sensitivity study?

MR. POLONSKY: Yes, Your Honor. It's described in Mr. O'Rourke's affidavit, and the sensitivity analyses I believe are first discussed in

Paragraph 18, where it says, "The first analysis assesses the sensitivity of the base case to uncertainties in the thickness of locally thinned areas. The sensitivity analysis uses a hypothetical locally thinned area in Bay 1, i.e., a 51-inch diameter circle with an average thickness of 696 mils, and reduces the thickness of that area by 100 mils to 596 mils." That is the simplest way to describe what the first sensitivity analysis is.

JUDGE BARATTA: Okay. And there were no measurements to suggest that, in fact, the thickness was 596 in any of that region.

MR. POLONSKY: That's correct.

JUDGE BARATTA: And that there were no visual observations to suggest that the thickness in that area was 596.

MR. POLONSKY: That's correct. If you took a gross conservative approach, you would look at those external measurements and average them, and come up with a number. And in Bay 1, I believe 696 is even lower than that average, so the starting point for the base case is conservative. Then you take another 100 mils off of that, again, just to see how the model reacts to that level of uncertainty. But in no way do we believe that that reflects reality, or the real

uncertainty in the data.

For the second sensitivity case, we are going to be looking at the reduction of general area thickness. And in this case I believe it's Bay 19, and we are reducing the general thickness area in Bay 19 from 826 mils down to 756 mils - I'm sorry - 776 mils. And that's described in Paragraph 22. It says, "The sensitivity analysis models the general area of the bay with a 50 mil reduction, i.e., 776 mils. The general area", and it goes on to describe that it affects the entire bay. And, again, the thought was let's look and see if the uncertainty in the model would be -- how it would be affected by a reduction in 50 mils over the entire area of the bay, excluding the locally thinned area, and what would that do? Again, we don't believe that reflects reality. We believe that's a bounding conservative assumption, and that's why that was selected.

Any questions on the sensitivity analyses, the two sensitivity analyses that were done?

JUDGE BARATTA: Is there any reason that similar sensitivities should have been applied to, say, Bay 17, where you have that region 660 versus 850 spread over probably something about 50 some odd inches? Your drawing isn't all up to scale.

MR. POLONSKY: The sensitivity analysis was not conducted in Bay 13, because we don't believe it would have been bounding. Bay 13's locally thinned area is only 18 inches in diameter. It's a small area, and so the sensitivity analysis that we wanted to do for locally thinned, on locally thinned areas, we selected the largest area, which is 51 inches in diameter. And we selected the thinnest of those 51-inch areas, which is 696 in Bay 1. We believed it was bounding, again, responding to the Commission's directive that it be consistent or bounding with what you had requested. That's how we've interpreted that language.

JUDGE BARATTA: And when you -- unlike the previous analysis where it was not possible to do a - factor those actual areas into the actual model itself, when you talk about a sensitivity analysis using a locally thinned area in Bay 1, we're talking about doing that as part of an entire 3D model, or are you going back to a scheme where you represent just the plate, as was done in the earlier analysis?

MR. POLONSKY: The sensitivity analyses, both the local and the general area cases, were both done in a 3D model using the base case thicknesses. The only changes were as I described, 100 mils for the

local area, 50 mils for the general area.

JUDGE BARATTA: You want to clarify that.

MR. POLONSKY: Yes.

JUDGE BARATTA: That's different than the original that was used, one of the reasons why you did it.

MR. POLONSKY: Right. Any additional questions on the sensitivity studies? I think we've covered engineering judgment, which was question two. We could move on to question three, about the finite element, how it was chosen, how it overlays the measurements.

JUDGE HAWKENS: I don't want to go any farther than we've gone on -

MR. POLONSKY: Moving on to question four then. I think we've also addressed question four. We described how we assigned general thicknesses. We discussed how we assigned the local area thickness, and how the sensitivity studies were done, and how we believe those are conservative and bounding.

JUDGE BARATTA: Let me just interrupt you for a second, just to clarify one point. We talk about physical properties. The original model had physical properties that were assumed for the strength of the material. I think it's -- again, I assume

those were the same properties that were used here. There's no reason that they should be different. Is that -

MR. POLONSKY: When you mean "properties", Your Honor, do you mean the inputs to it, or do you mean the ASME code assigned tensile strength -

JUDGE BARATTA: Whatever was used in the original model, which was probably the code values, or as-built values that were obtained from the vendor.

MR. POLONSKY: Yes, I believe they were the same, Your Honor, based on the ASME code.

JUDGE BARATTA: Thank you.

MR. POLONSKY: I believe we've also covered question four and five, unless the Board has additional questions.

JUDGE HAWKENS: Let's proceed to six.

MR. POLONSKY: Okay. I believe that many of the following questions go to a misinterpretation that the Citizens had about whether AmerGen used a locally or locally thinned areas in the base case. As I've just explained, we did. This assertion, essentially, we read it as assuming that we didn't use any of the external data to create locally thinned areas, and we did, so the answer to this question is we don't know what they're referring to, because we

did use the external data taken from the 24 calc and converted those into circular areas, and assigned them into these five bays as locally thinned areas.

Question seven, they state that again we were overly optimistic using the average thicknesses in Bays 1, 3, and 7. I described how we selected the thicknesses for Bay 1 in detail, and how we checked it against the external points. I've also described in 3, 7, and 15 how we used the external data. Again, for Bay 7, there is no external data below 11 foot, or internal data below 11 foot, so we're not sure what Citizens are talking about with respect to Bay 7. But Bays 3 and 15, I described how we used the average general thickness of the adjacent bays, and then used a normal distribution check of the external points against that general thickness value.

For question eight, as to whether or not the NRC believes that the 106 external measurements should form the base case from which sensitivity studies would be conducted, we didn't read the Staff's affidavit as requiring that, and will defer to the Staff to answer that question.

As for question nine, we've already covered this issue about Bay 1. It was conservative and acceptable to use the external UT data points and

get a value greater than 826 mils. As I described, it would be higher than that if you used the ones outside of the locally thinned area.

Question ten, again is the same thing. The only way you arrive at 0.788 inches is if you average all of the external points, and just use external points, which we know are bias thin.

Question eleven, we have already discussed the extrapolation that we did, and we think that that's bounding, so we don't think there ought to have been a different technique.

For question twelve, seeing as my five-minute bell has already rung, I will move quickly. Question twelve, the fact that the internal measurements, which cover less than 1 percent produce non-conservative and uncertain estimates, first of all, 1 percent is misleading. The internal grids were selected after interrogating the entire, or a lot of the internal diameter surface of the drywell shell to select those grids. So to say that oh, they're only in one area, we looked at a lot of the circumference and selected those areas, particularly, so in some ways they, themselves, the internal grids are conservative themselves.

And, as I explained, the internal grids

tend to coincide with the former sand-air interface where the level of highest corrosion was. And for those bays where it looks like once we got access to the outside, that there was not nominal thickness below 11 foot, and we adjusted the values for the 3D model accordingly. So we believe we've been reasonable in our interpretation, and bounding in most cases.

Question thirteen, the issue about 1.81, if all of the local and generalized acceptance criteria have been met. This question challenges the current licensing basis. It's outside the scope of the proceeding, and most certainly is outside the scope of what the Commission delegated in its August 21 order. And we're not going to be addressing it for that reason.

Question fourteen, discuss the assertion that the Staff's reliance on the Sandia study to support conclusions about the drywell shell is misplaced. Sandia's analysis is overly conservative. In the first instance, they did not use the modified capacity reduction factor, which was addressed at the ACRS, and they came up, even without using that, with a safety factor of 2.15, which satisfies the AMSE code. And if they had used that modified capacity

reduction factor, we believe they would have come up with a higher number, in the range of 2.83, which is previously entered as an exhibit, Applicant's Exhibit 41, slide 27, where at the bottom it shows Sandia without modified capacity reduction factor 2.15, and with it 2.83.

Citizens also attempt to undermine the Sandia study with citations to Dr. Hausler's contour plots, which the Board has found not reliable. So I believe I've addressed the Board's fourteen questions. Happy to answer other questions, if there are, or retire.

JUDGE HAWKENS: Thank you. We'll now hear from the NRC Staff.

MR. POLONSKY: Thank you, Your Honors.

MS. BATY: Good morning, Your Honors. I'd just like to begin by briefly summarizing the Staff's position.

JUDGE HAWKENS: Before you do, Ms. Baty, would you like to reserve any time for rebuttal?

MS. BATY: Oh, yes. Thank you for reminding me. The Staff would like to reserve 15 minutes of our allotted time for rebuttal. And I highly doubt we will use all of our allotted time, anyway.

I'd like to begin by briefly summarizing the Staff's position. As we stated in our June 11 submission to the Commission's order of CLI08-10, the Staff's understanding -- based on our understanding of what AmerGen plans to do, our position is that their analysis will address and bound Judge Baratta's concerns. And, in any event, no additional analysis, including the 3D analysis that AmerGen has committed to perform, is needed to support a finding of reasonable assurance of the structural integrity of the drywell shell during the period of extended operation.

The Staff's finding of reasonable assurance was based not on this commitment and license condition, but rather the analyses that have already been performed, including the confirmatory analysis performed by Sandia, and the extremely conservative analysis performed by GE.

The finding is also based on the results of the 2006 inspections, and AmerGen's Aging Management program, as enhanced by commitments, including the commitment to perform full-scope UT measurements every other outage.

It's also important to have a little background about how this license condition and

commitment came into being. AmerGen, who proposed this, volunteered to do this during an ACRS Subcommittee meeting. Then AmerGen submitted this as a formal commitment based on the response received from the ACRS Subcommittee, that the ACRS Subcommittee thought it was a good idea. Then the ACRS suggested that the Staff make it a license condition in order to better quantify the existing margin.

It is not -- another important point to understand, is that it is not the Staff's practice to specify precisely how a licensee performs an analysis. The Staff does not intend to -- unless the results of this analysis show that the drywell shell does not meet the code specified acceptance criteria, the Staff will not be performing an in-depth review. Rather, the Staff will be reviewing the summary report that we received in considering whether the analysis looks rigorous, whether it was consistent with good engineering practice, and whether it's compliant with various codes and standards.

JUDGE BARATTA: Could you explain, though, how you would do that if you're not going to look at the detailed report?

MS. BATY: Your Honor, we did not -- this is not required for our finding of reasonable

assurance. We are not requiring AmerGen to even submit this analysis for review and approval. Rather, they have agreed to provide us with a summary, and if we review it, and we find that it lacks rigor, or that it doesn't comply with accepted engineering practice, or it doesn't have compliance -- it doesn't comply with various applicable codes and standards, we will be asking questions, and we may perform an audit. But unless the analysis shows that the shell does not meet code-specified acceptance criteria, or AmerGen decides to request a change to its current licensing basis, the Staff is not going to be performing a detailed review of the analysis.

JUDGE ABRAMSON: All right. Counselor, let's pick this up right here, because it seems to me this is the crux of this whole matter, is what's the Staff going to do to get comfortable that AmerGen meets its commitment. And what you're telling me is you're going to rely on the honor system. And we appreciate that that's generally been the approach of the Agency where things are not critical. But I personally was involved right after the Three Mile Island accident in assisting the Staff with a review of all safety analyses by all licensees, and the Staff did in-depth review of safety analyses, mandatory

transient analyses to make sure that those analyses were, in fact, reasonably representative, and reasonably conservative.

Is it your view that this particular confirmatory analysis that's being done under this commitment, or that will be done under this commitment does not rise to the level that needs Staff detailed scrutiny and review? Is that what you're telling us?

MS. BATY: Yes, Your Honor, because, as we stated in our briefs and the affidavit that Mr. Ashar provided, the Staff's finding of reasonable assurance is not conditioned upon, and relies in no way on the outcome of this analysis.

JUDGE ABRAMSON: So what is the Staff's view then of the value of trying to quantify this margin?

MS. BATY: This was, as I explained, the origin of this commitment and this condition is not something that the Staff required. It's something that the ACRS suggested, and that the applicant volunteered to do.

JUDGE ABRAMSON: And you don't think that the reason the ACRS suggested that this be done raises the level of importance of this?

MS. BATY: Your Honor, I don't believe

that I'm prepared to -- that I have a good answer for that.

JUDGE ABRAMSON: That's okay. You can stop there.

MS. BATY: My understanding is how this came about, and that the GE analysis was done in the early `90s, and that the ability to quantify -- there were limitations to what computers, the mesh that could be -- the finite element analysis that could be performed at that time based on what computers could accomplish. And now that is much greater, and so this analysis will just provide a better way to quantify. Right now, we have a worst case scenario. With GE it was an extremely conservative analysis.

JUDGE ABRAMSON: So will the Staff be looking at the assumptions and model that's used in the to be submitted 3D analysis, and comparing those to the assumptions that were used in the original GE analysis to see whether, in fact, the GE analysis was hyperconservative?

MS. BATY: Your Honor, my understanding is that we will be reviewing -- we will review what we get to look to see whether it was a rigorous analysis, whether it was consistent with -

JUDGE ABRAMSON: Yes, you don't need to

repeat that.

MS. BATY: Yes, don't repeat. That's what we will be doing. And I don't know -- I would have to check -- if you would permit me, I can check with the Staff member here, but I can't give you that detail.

JUDGE ABRAMSON: Let me ask counsel for AmerGen, is there any reason that you would not be willing to submit more than a summary report, submit enough detail that the Staff could look at it in more depth?

MR. POLONSKY: I'd have to get back to you with that, if I could answer it -

JUDGE ABRAMSON: Later? That's fine.

JUDGE HAWKENS: That's fine.

MS. BATY: But, Your Honor, realizing that this would be a change in the Staff's position, if we were to -- because our position is that we have reasonable assurance based on what has been done.

JUDGE ABRAMSON: I understand your legal position, counselor, but let's take a close look at what's going on here. One of my colleagues has said that he thought that it might be useful to do a little more with the commitment, with the analysis and the commitment. The Applicant has now said what we're doing is better than what Judge Baratta had suggested.

The Commission has referred it to us for resolution, which in my mind means they're asking us to suggest how this might be resolved, and how it might best be handled.

The norm for dealing with commitments is that the Staff reviews the commitment, that's not for a Board to deal with. Norm is when there's a condition on a license, the Staff looks at that condition on the license to see whether it's met. And what's happening here, at least in my mind, is the Commission has asked us, is that condition sufficient to satisfy Judge Baratta's concern? And, to me, that means are we comfortable that the Staff is going to assure that that condition is satisfied? And if you're telling me the Staff is going to give it a cursory review, that does not give me a very warm feeling.

I understand the trust me philosophy, but the Commission in particular asked us to looked at this issue, and to suggest to them what's an appropriate resolution. And I'm not very happy with what I'm hearing about the Staff's business as usual on this one.

JUDGE BARATTA: Yes. I share Judge Abramson's concern. I mean, this resulted from an

attempt by me to address the uncertainty that we have with respect to the number of data points, and such, that we take. And while I do feel that your commitment to get the analysis done is a good one, I didn't think you went far enough. And what I'm hearing now is that it's almost like when this thing comes in, it's going to get filed, and I think it's going to get filed in something other than a square file. That bothers me.

MS. BATY: Well, Your Honor, I don't think the Staff's -- at the risk of incurring the ire of this Board, I would have to state that you are going to be sending a memo to the -- or referring some kind of -- preparing some kind of paper for the Commission, but I do have to say that - and I understand that this Board is looking at how -- and Judge Abramson, especially, you're looking at a way to resolve this and looking at a solution, or a compromise, or some sort of -- developing a way of approach to this issue. And I understand that, but I also -- realizing that it would be the Commission's position -- and the Commission is the only one who has the authority to direct the Staff in how it reviews applications.

JUDGE ABRAMSON: We don't doubt that. We're going to give an advisory opinion, or a

memorandum, or however that comes out. What I'm suggesting is that, from my perspective, my advice to the Commission would be to have the Staff check this.

MS. BATY: And that's very well and good, but I am not, of course, in a position to commit the Staff to performing an in-depth review, given that our position throughout this proceeding, and the position that we took in our SER, our analysis tells us that we have reasonable assurance, and that there is a margin. And that the only purpose of performing this analysis is to be better quantify that margin, using modern techniques that are now available to us, that were not available in the early `90s, and that's the sole purpose of doing this.

JUDGE ABRAMSON: And, by the way, the Board's original ruling was to that effect.

MS. BATY: That is correct.

JUDGE ABRAMSON: We don't doubt that there are reasonable assurances. That was the majority opinion. And, in fact, in that, I believe Dr. Baratta concurred. His concern was simply, let's get a little more careful with this 3D analysis that's going to be done to quantify things, and I think the Applicant sounds like they have addressed that quite thoroughly, and so the missing link here is what's the Staff going

to do?

JUDGE BARATTA: And you're correct. I mean, we don't have the authority to direct you to do it, but we have been asked by your boss, our boss, to advise them on what should be done.

MS. BATY: I really cannot go beyond that at this point. If that's what this Board -- I can't commit the Staff to perform any kind of review, because our current position is what I have stated, so I don't think we can get much further with this without direction from -

JUDGE ABRAMSON: That's fine. We don't need any more. We understand.

MS. BATY: Okay. Turning to the specific questions that this Board has posed, the Staff notes -- we note that this analysis has not yet been performed, and as duly noted here, the Staff has not had an opportunity to review it, any type of review of what AmerGen is going to do. And, therefore, we're not prepared at this point to answer detailed questions about the assumptions that were made in the analysis that has yet to occur.

Therefore, with regard to Questions One through Five, AmerGen has addressed those questions quite thoroughly. And the only question among those

that seems to be relevant to the Staff was part of Question Three, reviewing the mesh -- how we would review for convergence and conservatism. And, once again, assuming that the Staff was under some -- had some reason to be performing a detailed analysis, either because we are ordered to by the Commission, as you suggest, or AmerGen requests a change of its CLB, or the analysis doesn't show that the shell meets the code specified acceptance criteria, we would review for -- we would examine the approach used for optimizing the mesh, finite element size mesh, and we would see what -- we would review whether the chosen mesh size is consistent with good engineering practice. But not having seen it, not having had a chance to review it, we can't provide any more detailed answer.

With regard to Question Six -

JUDGE HAWKENS: Ms. Baty, in the event that this analysis were to reveal that it was less than 2.0, less than the CLB, can you walk me through what the process would be, and what impact that would have on the renewal?

MS. BATY: Well, Your Honor, I -- it's hard to speculate what impact that would have on the renewal, because I believe there's a good likelihood

that this analysis will be completed before a renewed license is even issued, given I understand AmerGen's plans to submit it before -

JUDGE HAWKENS: I believe that was part of the commitment, it was before the -

MS. BATY: Right. But it will be -- and I'm guessing based on the way this proceeding has progressed, that they will not be in possession of a renewed license by the time this is submitted.

If it would show -- in the highly unlikely event that it would show that they do not meet the required code acceptance criteria, the Staff would, indeed, be performing an in-depth review, and would probably be requiring additional analysis on the part of the Applicant to provide justification. And if that justification was not provided, the Staff would have to take appropriate action, including possibly -- I mean, the Commission certainly has the power to shut the plant down and order decommissioning, commencing decommissioning.

So, in short, there would be a lot of action taken, including very detailed analysis of -- review by the Staff of this analysis in the highly unlikely event that the analysis doesn't provide an acceptable result.

Turning to Question Six, again, AmerGen, I believe, has addressed Citizens' assertion that -- Citizens seem to be under the impression that AmerGen should use just the external points. And AmerGen has cleared up that they are not, in fact, relying solely on the internal points. They are also considering the external data points.

With respect to Question Seven, once again it appears that Citizens have misinterpreted what AmerGen plans to do. And AmerGen has clearly stated that they are considering the external points.

With regard to Question Eight, which is a question directed more to the Staff, about whether AmerGen must use the 106 external data points and its base case. Citizens have misread Paragraph 8 of Mr. Ashar's affidavit. Mr. Ashar did not state that the 106 external UT measurements must form, and exclusively form the base case. If that's how his paragraph was interpreted, it's simply been misread. The Staff's position is that all available data should be considered, and the Staff's position is further that the 106 external UT measurements represent the extent of local corrosion, they represent the locally thinned areas.

Turning to Question Ten, I believe that

AmerGen has explained, has responded to this concern of Citizens, and the Staff's review of what -- of the documents submitted by AmerGen, including the diagram. It appears to be reasonable, but, of course, the Staff has not had an opportunity to review the assumptions that were made in this analysis at this point, but it appears reasonable at first blush. And, once again, it appears that Citizens are pushing for an analysis relying exclusively on the external measurements, which would be unduly conservative.

Question Eleven, I believe AmerGen has addressed that. And based on the Staff's understanding of what AmerGen intends to do, we believe that they are using an extrapolation technique in considering both the internal and external.

With regard to Question Twelve and the 1 percent argument made by Citizens, just to echo. This question relates to a contention that was challenging the spatial scope of UT measurements. And that contention was not admitted by this Board, and the appeal of that decision is still pending with the Commission.

Furthermore, the record reflects that the severe corrosion of the drywell shell is localized, is not a generalized corrosion, and the bathtub ring that

we all spoke about last September. And, so, the Staff's position is that AmerGen has adequately characterized the extent of the corrosion of this drywell shell. And the record reflects the number of UT measurements that were taken in order to select the locations for the UT measurements that they have repeatedly taken.

With regard to Question Thirteen, as this Board found in its initial decision, AmerGen's acceptance criteria is part of the CLB, and issues related to the adequacy of the CLB are outside the scope of this proceeding. The single issue that the Commission referred to this Board is whether the 3D - is about the 3D analysis that they plan to perform. And they simply did not ask this Board to revisit the acceptance criteria that's in the CLB.

However, in any event, the conditions that would give rise to a safety factor of 1.81 do not exist, because generalized corrosion of the drywell shell has not occurred. It has not been degraded throughout to a uniform thickness of .736. And there's no evidence that that's going to occur in the future.

Finally, with regard to Question Fourteen, the assertion that the Staff's reliance on Sandia is

misplaced. First of all, the Sandia analysis was a confirmatory analysis, and it was not the sole basis of the Staff's reasonable assurance finding.

The Sandia study used the average external UT measurements from 1992, in addition to, they used the external measurements for the general thickness criteria from 1992, no internal points. Plus, they used a couple of -- two locally thinned areas.

The difference between the 1992 and the 2006 measurements really is negligible. The record reflects -- furthermore, the record reflects that the UT measurements, the external UT measurements were taken at areas selected, at thin areas, and they're biased. And that is what this Board found in its initial decision.

Finally, Citizens' argument relies on Dr. Hausler's contour plots, which this Board found in its initial decision to be unreliable.

To repeat the Staff's position, I'm sure it's very clear that the Staff's finding of reasonable assurance was not based on this promise to perform condition, commitment to perform this 3D analysis, and that our finding of reasonable assurance is based on the analyses that have been performed, the results of the 2006 inspection, and AmerGen's Aging Management

program, which includes full scope UT measurements every other outage, and inspections to insure the integrity of the coating.

I have nothing more unless the Board has further questions for the Staff.

JUDGE HAWKENS: Thank you.

Mr. Webster, are you prepared to proceed?

MR. WEBSTER: Could we just spend five minutes setting up our projection here?

JUDGE HAWKENS: Let's take a 10-minute break. We'll return at 10:43. Thank you.

(Whereupon, the proceedings went off the record at 10:34 a.m., and resumed at 10:47 a.m.)

JUDGE HAWKENS: Please be seated.

Mr. Webster, you may proceed.

MR. WEBSTER: Thank you, Judge. If I may, I would like to reserve 10 minutes for rebuttal.

JUDGE HAWKENS: We will take that request into consideration.

MR. WEBSTER: Thank you, Judge. First of all, I'm afraid I'm forced to object to testimony by AmerGen regarding the distribution, the normal distribution of the external points. While my recollection is somewhat hazy, and I haven't quite been able to find it in the record, I do believe there

was some argument about what was the appropriate statistical distribution, and we'll address this point in a briefing afterwards. With regard to the averages, we'll address that point in the presentation. The physical properties in the model, again, we don't believe that has been stated previously in the record.

With regard to the NRC Staff, I have an interesting presentation. I think the thing that really sticks out is the Staff's assertion there is no generalized corrosion of this drywell. I mean, it's very, very clear that there is a -- in the sand bed region there is generalized corrosion. AmerGen's own estimates very clearly show that.

JUDGE ABRAMSON: Okay. Let's not belabor it. Let's get on to what we've got to look at.

MR. WEBSTER: Well, I think it's troubling, Judge Abramson, that the Staff doesn't even appear to understand that, even at this juncture. So the big picture here is that the limiting margin is probably the margin above the safety factor of two, which is a CLB requirement. The problem is, we don't know what that margin is, so it's rather difficult, as we've all maintained all along, to decide what the appropriate margin frequency is, when we don't know

what the margin is, you don't know what the limiting margin is, and you don't know what the uncertainty of the limiting margin is.

AmerGen's modeling is supposed to quantify this margin, but we've heard nothing about how they're going to do that. We need to know more than whether it's just above the safety factor. We need to know something you can relate to the measurements, unless AmerGen's proposal is to continuously remodel each time they take some more measurements. AmerGen had an original proposal to actually evaluate the margin in terms of thickness. They now seem to have dropped that proposal.

There's an open question about what the required limit of uncertainty is. I realize the Commission has not referred this issue to the Board, but we believe that Judge Baratta's requirements make it necessary to provide an estimate of the uncertainty, initially a best estimate, and then some bounding estimates of the uncertainty.

Finally, we believe that they must do the analysis before a license is granted, not as a condition, and I refer you to Indian Point decision which again will pick up the briefing.

In terms of presentation today, I'd like

to pick it up factually first, and then address the Board's questions all at the end, if I may. I may pick up some along the way, as well. Obviously if you would like it any different, I'd be more than happy to change it.

JUDGE HAWKENS: That's fine. Thank you.

MR. WEBSTER: So, first of all, I think it's clear, this is Citizens Exhibit 6118. I think it's clear that there are three data sets here. We've had lots of different argument about what the appropriate data sets are. There's the external data, that's the red line there. There's the trench data in two bays, and then there's the grid data, which is the larger dots in the middle there. And, broadly, this data doesn't disagree that much.

Obviously, it's taken from different areas, so one wouldn't expect perfect correlation. The internal data is, by necessity, by physical necessity, always taken at around the 11 foot 3 level, and that's because there's concrete on the inside apart from where these trenches exist. The external data is sometimes taken above the 11 foot 3 level, sometimes below the 11 foot 3 level, but it's the only data that we have that deals with the area below 11 feet. So we basically submit that what should be done

here, contrary to AmerGen's suggestion, we're not saying you should use only the external data. We're saying you should use all the data. And we're saying we have some known data points. Those known data points are where you actually did the measurements, so it makes sense to assign in this fine mesh model, it makes sense to assign the meshes where the points are actually taken to be the values that you've measured there.

JUDGE HAWKENS: When you look at the external data points, and we discussed this quite a bit during the original hearing, how would you propose those measurements be adjusted for the fact that there was grinding down? Would you propose they take off 100 mils, they add 100 mils back, would they 200 mils back? As I recall, there was that level of uncertainty. What would you suggest would be a reasonable way to deal with that?

MR. WEBSTER: Okay. Well, I think this is dealt with actually by AmerGen's Exhibit 27 at 17, which says that some inspected spots are over-ground, not all, but some. So I think the first step is to identify which of those spots were over-ground. And the result of that over-grinding, it says accommodates -- were slightly deeper than originally found by .03

to .1 inches. So, again, I think you need to go back to the original data. I think we need to look at the records that we've got about grinding, and we need to find out which of the points actually were over-ground. And then if correction is appropriate based on those records, then correction should be made.

Just as -- while we're on this subject of bias, this is the evidence at the hearing that AmerGen pointed to, to show bias. It actually doesn't show bias, at all. This is purely a measurement, micrometer base measurement of the state of the drywell around the measurement point, nothing to do with bias.

Now, this is the trench data. And, again, here we have quite a lot of data. These trench data really provides quite a nice vertical profile. It's limited in terms of the circumferential profile, but it provides a very nice vertical profile, and we don't quite understand why it's not used. Basically, we have all this data. It's hard to understand why the Applicant isn't assigning the meshes to actually have the actual values that have been measured.

Judge Baratta's requirement talked about analysis of the actual condition of the drywell. AmerGen's proposal is not the actual condition of the

drywell, at all. It is some sort of bizarrely smooth, dimpled shape, that has nothing to do with reality, or at least has a tangential connection to reality. It's not as close to reality as it could be.

So just on the 1 percent point, obviously, the internal measurements, this is AmerGen email. Seven hundred square feet is the drywell, the measured area is 3.9 square feet, so that's a little more than half a percent. And Mr. Polonsky talks about scanning around the drywell, obviously, because they couldn't go below 11 feet. Actually, the area that's subject to the most corrosion, AmerGen simply could not check. Like, for instance, in Bay 1, as we'll see a little bit later, the higher level measurements didn't show any corrosion, but Bay 1 is one of the most corroded bays. So that circumferential scan is of very limited use. And what's more, no data has ever been produced from that circumferential scan, no records whatsoever, actually.

Now, moving on, these are the measurements in Bay 1. What we see is that the measurements range, the lowest 1.3 is 665 mils, .665 inches; .7 is 669 mils, .669 inches. And, in fact, when we plot these out, Dr. Hausler's plots, much maligned, I might add. I don't quite understand how these contour plots

could be incorrect. They're simply a result of applying a mathematical algorithm. It's not really a question of correct or not correct. These are a visualization of the data. They show you -- they present a visualization. That's what they do.

Obviously, the very limited data we have, we're not clairvoyant here. We can't find out what is in between these points. We can only look at what data we've got. So the question here is, well, this is what Mr. Tamburro, and AmerGen showed a slide from AmerGen Exhibit 16, which represents these areas in Bay 1. So there's Area 3, which AmerGen has in some way included in its area, it's thin are, that's putting in Bay 1.

The problem is that the visual observations actually show that there's a bathtub ring. All the visual observations are that there's a bathtub ring running around the outside. That bathtub ring is represented by Area 2. Now, Area 2 is not included in AmerGen's model at all, not even mentioned. And then we have Area 3, which lays off to the left. And here, I think there's some very misleading issues.

If we look up the top there, there's two points up at the top, Point 15 and Point 14. Those

points were actually taken by AmerGen to check - well, actually, they were taken by GPU, but to check whether the meter was working. When they were taking this data, they couldn't believe how thin this bay was, so they went up to the nominal area where they knew it was uncorroded, to see whether the meter would give them an uncorroded reading, and indeed it did, so that showed that the results were right.

Now, the only way that you can come up with an estimate of -- that's larger than 826 for that area, which is Area 1 on this chart, which is over to the left slightly towards the bottom, is if you include .15, which is the nominal 1160. If you exclude the nominal, and then average those other points, I just did it at the table over there, the average is actually 751 mils, which is way below the 826, which AmerGen has assigned to this area.

So, yes, that's just showing -- that's the same diagram that Mr. Polonsky showed. It just corresponds, just want to illustrate it does correspond to Dr. Hausler's representation. And, of course, the other point to pick up is that the problem with a lot of these measurements is they're very narrowly focused around the vent lines. There are big areas between the vent lines where we just don't have

measurements, and in certain places across those areas it's going to create a huge amount of uncertainty, admittedly, but that's what we're stuck with because of the limited amount of data that we have.

So picking up, just to confirm that for Bay 1 then the proposal is nothing like the reality. AmerGen has repeatedly suggested that Bay 1, a conservative estimate for Bay 1 is around .8 inches. Now, they're assigning it 826, and the thin area in Bay 1 does not encompass anything like the thin area that's actually been observed.

JUDGE BARATTA: In what respect, counsel?

MR. WEBSTER: In the respect that the bathtub ring is not present in the model, and the area to the left, which is an average of 751 is also not present in the model. So when you actually extrapolate, as well as interpolate, beyond, we see this area to the left, towards the middle, which is extremely thin. And it's extremely thin because this is driven by a point, the thinnest point measured, I think, which is .5, which is the one on -- it's a minus 44, minus 24, and that's a thickness of 685, I think.

JUDGE ABRAMSON: Counselor, we had a lot of discussion of extrapolation and interpolation in

Dr. Hausler's model, so I don't see a need to spend a lot of time on it now, unless my colleagues would like to.

MR. WEBSTER: Yes. Okay. Moving forward, Bay 13, a couple of problems here. One big problem is that the measurements in 2006 missed out many of the thin points that were measured in `92. We see here in the right column, the measurements that are in bold and to the right, and a right justified, in the remaining wall thickness, 2006 column, which is the second from the right, were not measured in 2006. So we know those areas are thin. We just don't know how thin they are right now. In general, the 2006 measurements came out to around .2 inches thinner than the previous set of measurements, so Dr. Hausler suggested that the only thing we can really do is apply a correction of .2, and then put them in there. That's certainly better than missing them out completely. But, obviously, it's far less than ideal. It would be much better to actually have a measurement.

Again, here what we see, two things. Dr. Hausler's plot, we see the measurements plotted out, and we see AmerGen's assessment of what these thin areas are. Again, what AmerGen has included in its

model is actually Area 3, at a thickness of 758 mils. I'm sorry, I think this is 658 mils. I'm not quite sure why that's done, but, anyway -- but the problem is there's a big area here, again, the bathtub ring area, which is totally omitted from the model. And, so, we don't think the model is anything like a realistic representation of what's going on. It's, admittedly -- we agree that it's difficult to produce a realistic representation, but we think we should do the best we can.

This is going back to the original estimate by AmerGen, which clearly shows that there's an area there, 12 by 12. That's where the 658 comes from. Right. There's an area there, 12 by 12, which is 658 mils, but then there's a much bigger area, the bathtub ring area is assigned as Area B, which is a thickness of .751. Now, AmerGen is proposing to use a thickness of .907 for Bay 13. So it's kind of hard to understand how that thickness has been assessed by AmerGen as 751, and morphs into being 907.

Again, if we look at the extrapolated plot, what we have here potentially is a huge area which is less than 725 mils. A very large area. The sensitivity analysis that AmerGen is doing just doesn't encompass this area, at all. That's really

the problem with the sensitivity analysis, is that it should bound the potential solutions for the thickness of this drywell shell, and it simply doesn't do that.

Now, here I just wanted to illustrate, this is -- I just picked a random from Dr. Hausler's affidavit, contour plot. What this really shows is that the little blue area at the top in the middle is the area of the internal measurements. So you can see just how little area is covered by the internal measurements. And what a leap of faith it is to go from a few of those internal measurements, miss out all the external data, and then project forward from those.

This is the actual three, we see how few measurements there actually are. Now, looking at the averages, I mean, we don't think averages, to be very clear on this, we think averages -- we're going to have to do some averaging. The contour plots is a way of averaging. That's straightforward, so we think averaging is going to have to be used, but we think we should make the model as realistic as possible by fixing the points at which we have measurements to be the thickness measured. And then using averaging through contour plotting, or another kind of extrapolation routine. I mean, we can work on the

interpolation routine, but we're going to have to do some averaging between the points. We need to come up with the best estimate between the points. And if there's a correction needed, Judge Abramson, we believe that we should find the records and actually try and figure out what it's needed to be.

I don't want to belabor this one. I think it's pretty clear. The right-hand column here, this is from AmerGen Exhibit 16 at page 5. It's the right-hand set of tables. It shows in the second column the average of the external points. And then on the left, I've put the diagram that AmerGen is using here. So, for instance, in -- let's pick a bay, in Bay 13, AmerGen is using an average of 907, but the average of the external points is .986, or .786, sorry. So there's a difference of .2 inches between -- well, .12 inches between the Bay 13 measurements, and the actual was proposed. And in every case, I think that what's proposed is actually quite a bit -

JUDGE BARATTA: Let me interrupt you at this point. I hear what you're saying about using actual data, but there's a -- in the original discussions we had here last September, it was pointed out that there is a region over which you'd have to have something in order for it to impact on the total

capacity of the drywell shell. And I believe, and it's in that same section that Judge Abramson referred to before, where we were told that it's on the order of about 18 inches. I can find in the transcript where that was said. Yes, I think it was Dr. Mehta, if I recall, said that. So you get to a point where this type of detail on such a very local basis just gets washed out, because the material is averaging.

MR. WEBSTER: Well, that's -

JUDGE BARATTA: I don't understand.

MR. WEBSTER: Can I just -

JUDGE BARATTA: Yes.

MR. WEBSTER: If I can pick that up. I mean, if you look at the size of this area, this bathtub ring on this diagram, it's about 12 inches by -- well, it's not very clear from that diagram. This is to scale. The size of the ring there is about 16 inches by about 54 inches, so these are sizeable areas.

JUDGE BARATTA: I'm not taking issue with that. What I'm saying, you were saying that we should use the actual measurements, which are only over a fairly small area. I don't remember what that was, but I go to page 477 at 18, that's where Dr. Mehta says that the square root of R over T, referring to

the radius and thickness of the material, the extensive 18 inches, you know, this is my judgment call, but shouldn't affect materially the buckling margin, referring to if you've got things smaller than 18 inches variations, it's not going to really affect that. Okay? And so, in essence, the material itself is averaging a lot of this out, which is what you'd expect, because it's a reasonably stiff material. So I'm trying to get how fine do we have to do this in terms of the model.

MR. WEBSTER: I think what's interesting here is this is the -- these are the cutout areas that were put into the GE model, 36 -- they were 12 by 12 in the middle, and then 3 feet square around the outside in the transition area. And those -- putting in those areas reduce the buckling capacity by around 9.5 percent.

JUDGE BARATTA: And that's consistent with what -- if it's more than 18 inches, which clearly that is, it's going to have an effect.

MR. WEBSTER: And so I think you're right, that we may not have to go -- I mean, I think it's a question of how do we do this interpolation. We may do it more -- it may not be useful to go down to the mesh size of the model, because we don't really have

the data to support going down to the mesh size of the model.

JUDGE BARATTA: Right.

MR. WEBSTER: But we need to go down to an area which is smaller than would be -- make a difference structurally.

JUDGE ABRAMSON: Counselor, let me see if I can't get you to sort of encapsulize what your view is of the analysis that AmerGen is proposing to do, and their statement that this would be conservative. And I understand all the questions about the data, but I'd like to hear you address maybe in bullet form, give me a few -- give us the bottom lines, if you will, of how you think they err, and how it should be fixed.

MR. WEBSTER: Okay. So just let me take it from the top then. The first problem, the commitment isn't all the way around. It should require AmerGen to assure the Staff that the model does not show any problem, rather than waiting for AmerGen to highlight a problem. So that's the first problem.

The second problem, they've over-averaging. I mean, the averages, even if you had -- I mean, although some degree of averaging is needed, the areas that they've averaged are too big.

Third problem, the actual averages derived aren't based on the data. I mean, if you think about it, and they've averaged, they only used the internal data from Bays 5, 9, 11, 13, 17, and 19. Bay 13 is actually modeled as the lower -- as the average of the lower part of Bay 19, and the average of Bay 5. So there's some strange -- it's very hard -- we know that bay-by-bay there's -- each bay is very different. It's a very strange approach to then start using bays that aren't even adjacent to try to derive some thickness, when you actually have data in the bay.

JUDGE BARATTA: Right. Again, when I read the affidavit, I had the same concern. And that's why we had some questions. Now you've heard that they did take additional information, not just strictly the thickness measurements, but the photographs that they have, and visual inspection and such, which you saw last time, into account, and in an effort to try to capture or get additional information for those areas that they don't have thickness measurements. I may be over-simplifying things, well, they're taking this bay which is not -- because if you look at the photographs, they show they are similar.

MR. WEBSTER: Well, actually, the visual inspections, as I said, do backup the assertion about,

for instance, the bathtub ring is a notable feature of all the visual inspections that have taken place since the sand was removed, and that's not present in the model. So I take issue, although that's an assertion of counsel, I don't think that's on the record, and I find it hard to believe, if they did do that, they didn't do a very good job doing it.

The fourth problem is that they're using -- the capacity reduction factor they're using is far too high. We know from Sandia that the capacity reduction factor should be much -- the enhancement is not justified. Actually, if you go back and look at the Brookhaven National Lab's report, they also concur that they're double counting this hoop stress. And our experts, Russ Engineering, has said the same thing. They tend to agree that to be conservative, you should take the .206 capacity reduction factor, not the .3 something that AmerGen is proposing to use. And, at minimum, this needs to be included in the sensitivity analysis. It's not very hard to include in the sensitivity analysis, because as AmerGen showed, it's just a linear correction factor at the end, so you derive a -- you can smear out the results with the capacity reduction factor very, very easily.

Next problem, no explicit account for

uncertainty. The sensitivity analyses don't bound the results, as we've shown.

JUDGE BARATTA: Well, let me quote from your own exhibit with regards to that, and see if they want to rethink that statement. I'm referring to the article that's by George Apostolakis, and Joshua Reinart, and looking at page, I think that was Exhibit C-3. Is that correct?

MR. WEBSTER: Yes, I do believe it was, Judge.

JUDGE BARATTA: If I go to the Article page 357, Section 3, Model Uncertainty, and then the second paragraph, which reads: "The methods that deal with model uncertainty include prediction expansion and model set expansion. In prediction expansion, a single model is chosen as the best one to represent the system. Recognize that this model has uncertainties, and may model some characteristics of the system better than others. Sensitivity studies are performed on the various assumptions to analyze the effects of the choice of the assumptions on the model output", in other words, the result. "The uncertainty is dealt with by applying an adjustment factor of the model results, the adjustment factor may be multiplication or additive, or both may be

necessary."

So I was troubled by a very early statement where you said that well, they haven't taken into account the uncertainty. And yet, by your own exhibit, that is one way of doing that, which appears to be what they have attempted. Now, whether they've done it correctly or not, that's something -

MR. WEBSTER: Perhaps I misspoke. We happen to think it would be ideal to actually explicitly deal with the uncertainties in the model, and we put forward that as a way to go. But I think provided that the sensitivity analyses fully bounded the data, then I think that's absolutely an alternative approach, which would work. It's just a question of how do we fully bound the data. And the approach that we've put forward, which is to do a Monte Carlo analysis, and then repeatedly extrapolate and interpolate, would insure automatically that we fully bound the data. AmerGen's proposal just doesn't do that. Okay?

May I should run through the Board's questions now, just to make sure. I think I can pick up, actually, on the -- this is about double counting. Pick up on the 181 point. Oh, something very interesting happened. In the modeling, between GE,

and the Staff keeps saying it's relying on the GE model. And one thing that's very interesting is, actually, the GE fixed T analysis, which did the sensitivity analysis, used a different model to the GE model. They actually changed it and used a -- this is from AmerGen Ex. 39, says that now mesh refinement activity on the global pie slice model enabled them to use a pie slice model for everything. And that gave zero percent margin on the base case. And that's why you end up with the sensitivity -- originally, there was a margin of greater than 14 percent. But when they revised the model, the margin dropped to zero, and that's why, then when they did the sensitivity, you can see that the load factor dropped from 6.141 down to .562 in the thinnest case. So that's where you get the 9.5 percent reduction. And that's why that ends up being, if the first one is zero margin corresponds to a load factor, a safety factor of 2, then that 9.5 percent then comes to 1.81. And that, indeed, is what Dr. Hartzman has confirmed. And I don't think the Staff is disputing that.

Now, why is that important? I think that's important because what it shows is that the limiting margin -- the margin above the safety factor of 2 is much more likely to be the limiting margin,

the margin above the acceptance criteria. And that's why we need to know the margin above the safety factor of 2 before we derive the Aging Management Plan. It's unacceptable to derive it after, because we don't know what this margin is, if there is any margin at all.

The Sandia model. The problem here is that the thicknesses assigned in the Sandia model just don't correspond to the data. And we've never quite been able to understand why. Looking at, for instance, Bay -- Sandia ascribed the thicknesses not bay-by-bay, but between bays. So Bay 19-1 was assigned a thickness of .858. By AmerGen's own exhibit and the external data, Bay 19 has an average there of .801. Bay 1 has an average of .802, so it's hard to see how Bay 19-1 comes out to .858.

Similarly, Bay 13-15 is .842. Bay 13 is .786, Bay 15 is .788. And, admittedly, Sandia was using the previous data, the Staff has asserted it's not much different. It actually is quite different, so the thicknesses used in the Sandia model, again, thicker than we have measured in this drywell by quite a bit.

The second issue with the Sandia model is that the thin points were directly under the vent headers, not very realistic, and minimize the effect

of the thin points. Nonetheless, the thin points still cause the buckling mode shown.

I don't wish to belabor it, Judge Abramson, if you don't want to. The Sandia model has a mesh - I knew it didn't have the mesh there, just illustrating the mesh side in model techniques is easily thin enough to pick up, is easily small enough to pick up quite small local variations.

JUDGE BARATTA: Again, that's true. There's no doubt about that, but from a material standpoint, it doesn't matter. There's a radius of effectiveness, in other words.

MR. WEBSTER: I understand that, Judge. And, indeed, you may not have to go all the way down to the mesh size to -

JUDGE BARATTA: I just want to make sure, because it's oftentimes a confusion factor that people have.

MR. WEBSTER: Again, the Sandia analysis, the Staff says they're relying on it, or at least part of their -- what they're factoring in. Sandia specifically said that, basically, the focus of the model was to look at the relative reduction in design margin due to the corrosion model, not the absolute stresses or stability limits, which are calculated.

And Sandia calculated a 44 percent reduction caused by this corrosion. So that's what we should focus on with Sandia, is that there's huge reduction from design. The actual absolute amount, Sandia aren't claiming that's accurate. That's why we need the next model. So that's Staff Exhibit 6, the Sandia report at page 12.

Didn't Sandia very specifically say that they looked at whether to use an enhanced capacity reduction factor? They can't. After the ACRS meeting, the chief modeler from Sandia wrote in saying that he did not agree with the Staff's approach, which was to correct the Sandia model for the higher capacity reduction factor, which AmerGen has shown a slide of. He said that, "The capacity reduction factor already accounts for the hoop tension which develops in the shell. This is evidenced by the double lobe shape of the buckling mode in the sand bed region. Therefore, we do not think it is appropriate to take additional credit for the presence of the hoop tension." So there's really -- it's pretty clear, NRC Staff's own modelers think that NRC Staff is taking the wrong approach here. Indeed, our expert opinions confirm that.

JUDGE HAWKENS: Counsel, I know this is

one of the issues we asked the parties to address, but even assuming you're correct, that doesn't have any direct relevance to the issue that was referred today. Is that correct?

MR. WEBSTER: Well, I think it depends on whether the Staff -- I'm really presenting this, first of all, to respond to the Board's question.

JUDGE HAWKENS: I understand.

MR. WEBSTER: And second of all, to respond to the Staff's -- what in our view is an over-reliance on the absolute numbers in the Sandia report. The Staff keeps saying the Sandia report did not show any problem with the capacity -- with the factor of safety. The reality is the Sandia report wasn't designed to be a compliance or non-compliance -

JUDGE ABRAMSON: So let's think about what's been sent down to us for our advice, which is will this analysis bound -- is it conservative, and will it bound the kinds of sensitivities that Judge Baratta was concerned about? And is additional analysis required, generally? Now, the Board initially in its original ruling said we don't need anything more. It's done. We believe we have enough to have reasonable assurances, so I have a hard time understanding what the Commission meant by, "Is

additional analysis required"? Are you suggesting that Staff needs to do additional analysis, Applicant needs to do additional analysis? How do you read that piece? Let's get to the meat.

MR. WEBSTER: Okay. Judge Baratta's statement, and I know Judge Baratta is here, so I think it says that it was essential to do this modeling. So I think the Commission read that and said okay, it's essential. Now let's figure out how good it needs to be. Does it meet the requirement? Judge Baratta set certain requirements. He said I would propose certain requirements, certain additional requirements. And the Commission said okay, well, is the Applicant's analysis -- and we're talking about the Applicant's analysis, and what really should happen is the Applicant should do a good analysis. And the Staff should then fully review it.

And, moreover, it should be part of the hearing record. And it should be available for Citizens to review, as well, because it's an inherent part, finding this margin is an inherent part of the -- figuring out whether the Aging Management program is adequate, so that is the issue.

JUDGE ABRAMSON: You can take the question of whether it's part of the hearing record up with the

Commission. That's not for us.

MR. WEBSTER: Right. I mean, the -- I agree. So the question is, is any additional analysis needed? Now, here we need a crystal ball, because, first of all, as I said, there's a lot of argument about what Judge Baratta's requirements are.

Now, we believe that if the sensitivity analysis fully bounds the uncertainty, what is very likely to happen is that we will see that the prediction included the uncertainty capacity reduction factor, as well as all the other factors, the prediction will vary from a point that's below two, likely to a point that's above two. We will have a high degree of uncertainty. We will be back sailing in the choppy waters of the sea of uncertainty. So the question is what do we do then? And we believe that you can't get much on -- this model was -- we're really talking -- I think about the model in this way. The model is a Ferrari, the data, unfortunately, is like an old trailer. And what we're really doing here is we're pulling an old trailer with a Ferrari. And what we really need to do is at least get ourselves a decent quality trailer to pull. And that's why we believe the additional analysis is not going to be on the computer side, it's going to be on actually taking

more measurements. And it may be there are techniques actually to go from photographs and try to produce interpolations from the photographs, so it doesn't have to be physical measurements. There are many techniques that can be applied to attempt to get a better idea about what the thicknesses of this shell, the distributive thicknesses of the shell are. And then once we've applied those techniques, we need to redo the model. Hopefully, that will narrow the bounds of uncertainty, and then we'll find out (a) do we have CLB compliance here with a reasonable degree of certainty, which we believe is a relatively high degree of certainty. (B) What is the limiting margin? And (C), is the Aging Management program adequate?

And that's really -- that's the additional analysis we believe is required, is those things. And that's totally within your jurisdiction. And that's what the Commission has asked for to do. We believe it might be best, in some ways, if we did the first part of the question first, and then the second part, because the Board is in a good position to clarify exactly what Judge Baratta meant by his statement.

JUDGE ABRAMSON: I beg to differ with that. Only Judge Baratta is in a position to clarify what Judge Baratta meant.

JUDGE BARATTA: You have about 11 minutes, with your 10 minutes left if you decide you need them, and if we decide you have them.

JUDGE HAWKENS: Let me give some guidance. If you wish to use the full hour, go ahead. This is really your opportunity to rebut what they have said. So if you wish to use your full hour, you should. If you feel you need not use it all, you're welcome to do that, as well.

JUDGE ABRAMSON: Where this is going, I think, is -- Judge Hawkens, are you suggesting that even if he uses his full hour, after we hear rebuttal from the other two, if he has something important to say we'll let him say it? Or are you saying he needs to reserve time now? I think that's the question that has to be answered.

JUDGE HAWKENS: Use your full hour. And if we feel we need to hear from you, we will address that afterward.

MR. WEBSTER: Okay. Thank you, Judge. Just to say that there were a number of assertions in the original presentations which were entirely incorrect, and this is to correct, and I hope we can add some service to the Board by pointing out those particular errors.

JUDGE HAWKENS: I assume you did that in the initial stages of your presentation.

MR. WEBSTER: Well, that's correct. But I don't know what they're going to say in the next -- in rebuttal.

JUDGE HAWKENS: And then are we going to give them the opportunity to rebut your rebuttal?

MR. WEBSTER: Well, if they believe there are statements in my -

JUDGE HAWKENS: I understand. Continue, please.

MR. WEBSTER: That are consistent with the record, absolutely, I think you should get -

JUDGE HAWKENS: And a reminder to everybody, you're going to have the opportunity for supplemental briefs where you can address anything, as well.

MR. WEBSTER: So this is the -- I think we've already dealt with this point. Let me now try and pick up somewhere in my presentation. Let me pick back up.

Very strange about the Sandia model, by the way, sort of explains what we were talking about before, about the thicknesses. Sandia says that the thickness assigned to each region were based on

limited measurement data, since a very small percentage of the shell has been examined. And they say many cases the raw data was not available. This led to the use of averages provided by AmerGen throughout the relevant documentation, so, again, it's strange, but it seems like Sandia didn't actually go through the raw data. It's not quite clear what they really meant by that. But the bottom line is that the data that they used is not reflective of what's present right now.

Now, coming back. I think it might be useful here to go all the way back to the start. This is the Brookhaven National Lab's view on the original GE model. First of all, there's a problem with the stress, and Brookhaven Labs are basically saying that you have to limit the high stress to the localized areas. The effect of these -- and that's another reason I think why we need to be careful with modeling these localized areas. It leads to -- local corrosion leads to increased stress, and so we need to get to a level where we can actually figure out what that increased stress is.

They were predicting an excess beyond the ASME code, but Brookhaven said provided these areas are localized.

JUDGE BARATTA: Let me ask you, and you may not be able to answer this since you're not a stress analyst, but I -- when you have a relatively thick area adjacent to a relatively thin area, such as we have at Bay 1, do you have any idea, doesn't that produce a stress concentration at that interface?

MR. WEBSTER: I think that's what the Sandia model shows, is you do have stress concentration at that interface. So, basically, Brookhaven said provided these areas of severe corrosion are localized, then we're okay. The problem is the data doesn't show it to be localized. The data shows, at least in Bay 13, it could be very extensive.

Now, Brookhaven then said that -- this is based, as I'll show on the next slide, on a margin of over 14 percent. They said if the actual thickness in the sand bed region of 14R is close to the predicted thickness of .736, there may not be adequate margin left for further corrosion. And we are close to .736, so we're somewhere around -- I think the thinnest bay is somewhere around .788, so that kind of informs the question of how good the amp has to be, has to be very good, because there's very, very little margin.

This is Exhibit 56, Citizens Exhibit 56. This is just confirming that the margin was over 14

percent. It was actually the post-accident condition that gave the 14 percent buckling margin. Now, the critical path has shifted to the refueling condition. And in the GE model, to reiterate, that now the base case is zero, at .736. So in view of these observations, it is essential that the licensee perform UT thickness measurements at refueling outages, and at outages of opportunity for the life of the plant. I think that's been belabored long and hard, but I think what's most interesting, it says the measurements should cover not only the areas previously inspected, but also accessible areas which have never been inspected, so as to confirm that the local -- so the corroded areas are localized.

Both of these assumptions are the bases of the Staff's acceptance of these results. Now, that assumption that the corrosion is localized isn't met. Corrosion is very general, in some places very severe, so the original analysis that the conditions that the Staff set for accepting it are no longer met.

Picking up the hoop tension point. The licensee may have double-counted the effects of hoop tension. Last, the instability analysis, stress calculated by ANSYS Code may have already taken into account the effects of hoop tensile stress. It then

says, "But it appears that the effect of hoop tension in the ANSYS calculations is small, and there is sufficient margin, there is sufficient margin in the results to compensate for the potential double counting." So that was based on the assumption there was a substantial margin. In fact, that margin dropped to zero. And so because that margin dropped to zero, again, that sufficient margin doesn't exist, didn't exist any more. And this all goes, Judge Abramson, to why we need a good model.

JUDGE ABRAMSON: Counsel, let me ask you a question here. You seem to be very comfortable with the analysis done by the two National Labs to support the Staff. Is that right? I mean, you're certainly relying on them. You're taking them to be good expert pieces of work. Is that -

MR. WEBSTER: Well, our experts have looked at these, and have found no serious problems with them.

JUDGE ABRAMSON: It's not uncommon for the Staff to use these kinds of outside experts to help them do their confirmatory analysis. And would you have discomfort if one of these organizations, or a similar organization were used by the Staff in its examination of the work that's to be submitted?

MR. WEBSTER: Not at all. We'd be more than happy, provided that the Staff then allows the Staff of the National Labs to actually present the results, and does not then take the results and do things that the staff of the National Labs think is inappropriate.

JUDGE ABRAMSON: Well, that will, obviously, be a Staff judgment, but the Staff hires consultants to do things. Okay. Thank you.

MR. WEBSTER: Let me wrap back now. I think that's most of the slides that I've got, so let me wrap back to the point about Mr. O'Rourke's affidavit. Mr. O'Rourke's affidavit doesn't say that the base case is going to include these at small areas. We've done our best here to try to respond to the small areas, which we only found out about yesterday or the day before.

Mr. O'Rourke's affidavit actually specifically says that the base case is contained in Table One. Table One makes no mention whatsoever of these thin areas. Mr. O'Rourke's affidavit refers specifically to Citizens Exhibit 46, which basically just reiterates the same things in the O'Rourke affidavit. Citizens Exhibit 45, which was in the record, and contained a specification of the thinned

areas, was not referred to by AmerGen at all. I would have thought that for purposes of clarity, and for the purpose of fully informing the Commission about what it was actually going to do, AmerGen might have referred directly to Citizens Exhibit 45.

Furthermore, the O'Rourke affidavit makes no specification at all for what these areas are. It merely gives you -- it mentions that five thin areas were modeled, note the past tense. Doesn't talk about the future, they will be modeled. It says the past tense, they were modeled. And it gives a range of their thickness. No specification whatsoever. So it's very fortunate the Commission referred this question down to this Board, because, otherwise, we could have had the whole proceeding end up going off on a misapprehension, that AmerGen was not going to do these thin areas, when it is. I mean, we don't think this actually makes a huge degree of difference, because the thin areas that they're proposing aren't -- they aren't reflective of the actual conditions, so the modeling is still inadequate. But, clearly, it's unfortunate that we only found out about this, and you and the Commission only found out about this at this very late stage of the proceeding.

A point which I'm now trying to recall.

JUDGE ABRAMSON: That prerogative is left to old people like me.

JUDGE BARATTA: Yes, you're too young to have that.

MR. WEBSTER: Well, I think it's this. I mean, I hope that the additional briefing that the Board is going to allow will also provide for the submission of expert testimony, because we are in a position where our expert testimony was based on the assumption, and I think it's a perfectly reasonable assumption, that the O'Rourke affidavit and its description of the base case did not include thin areas. And now we discover it did include thin areas, as you see. We're quite prepared to argue about that, as are they adequate or not. But in terms of the appeal record, we have a rather strange record. The record doesn't fully reflect that these thin areas actually are going to be modeled.

The diagram AmerGen has put forward is not in the record, and so it's kind of a very strange record at the moment. So we believe that as a matter of cleaning up the record -

JUDGE ABRAMSON: Can you give me a 30-second summary of how this particular issue relates to the appeal of our order?

MR. WEBSTER: Well, Judge, obviously, I can't really put myself entirely in the minds of the Commission.

JUDGE ABRAMSON: No, but it must relate to your appeal somehow.

MR. WEBSTER: But if the Commission were to decide that Judge Baratta was right, and this analysis is essential to fully -- to provide reasonable assurance that the shell meets the CLB, then that would mean that this analysis would be required as part of that reasonable assurance.

JUDGE ABRAMSON: And this is a matter that in your appeal you raised, you said to the Commission, Judge Baratta has it right, and everybody else has it wrong, and this needs to be done. Is that the way this went?

MR. WEBSTER: Well, we certainly thought Judge Baratta had it right. Yes, that's a straightforward issue we've raised, is that, if you recall, the whole discussion about what the CLB actually was, if it was the safety factor of two in the CLB or not. The Staff made a lot of attempt to kick it out of the CLB in a rather strange set of arguments, which were summarily rejected by the whole Board, which we believe entirely right in that case.

And then the question came well, okay, so it is in the CLB, so how has AmerGen shown that they've met it? And we believe that AmerGen did not show that they met it, and that's part of our appeal to the Commission. And we don't know. We concur with the Staff that the Commission has not decided one way or the other on this appeal, but it's certainly open to the Commission to decide that this model is required, and that this model, therefore, has to be done prior to the close of the proceeding. Or even the Commission may decide, if it has sufficient specificity, it could be done post-hearing. We don't know. I mean, that may be another question.

But the Commission obviously thinks this question is important, Judge Abramson. And so we don't think the Commission will be asking you the question if they didn't have some reason to do so.

JUDGE ABRAMSON: That much is clear to me. I'm just trying to figure out what chain of logic leads -- how this is incorporated into your appeal, and what -- how this flows into the decision the Commission has to make on your appeal.

MR. WEBSTER: I think, as I said, it flows into the -- we've really argued that we can't -- the same thing I argued today, that we can't decide on the

adequacy of the amps until we know the limiting margin. And so the Board, with due respect to the Board, our issue is well, we'd like to know the limiting margin first, then we can talk about the frequency and so forth. And so that's how I think it flows into the appeal.

So let me summarize. I seem to be getting ahead. Do you have any more questions? Maybe I should run through the questions that you put forth. Are there any that are an issue? We've covered most of those, so let me just summarize now. And if I don't quite use all of my time, then that will be fine.

So, in summary, the Commission, we're here on the shore, very nice. It's a beautiful day on the Jersey shore, and once more in Tom's River. And the Commission had decided to try to rescue us from this sea of uncertainty. The Commission sent the Navy to rescue us from that sea of uncertainty, and so AmerGen and the Staff have now finally slightly diverged. I mean, we saw from the briefs that the Staff was assuming that AmerGen would use the external points. They didn't do that. The Staff is now saying well, AmerGen could basically do what it likes, because there's no need for this model, as far as I can tell.

Obviously, we believe that's inconsistent with the view of the Commission. The Commission would not have referred this question if this was just kind of a sort of cursory tick the boxes type of thing. Indeed, I was at the ACRS meeting, and this issue came up. And the reason -- one of the reasons that the ACRS felt more comfortable is precisely because AmerGen offered this model at the ACRS meeting. So it's part and parcel of the finding of the ACRS that this thing would be done. And specifically discussed at the ACRS meeting, was that if the model showed some problems, then there were mechanisms to come back and deal with that. So this is not a cursory tick the box. This is something that absolutely needs to be done very carefully with much more thought than we've seen so far from AmerGen, I'm sad to say. And it needs to be viewed very carefully by the Staff, not have a quick look at the summary which will say everything is fine.

I could write the summary now, everything is fine. That's the summary the Staff's going to get, then they can tick the box. That's totally inadequate. The Staff needs, and I think here the State of New Jersey has joined us in saying that the Staff needs to get hold of a copy of this analysis.

And what's more, with the metal fatigue analysis, kind of interesting. The metal fatigue analysis, the Staff has actually reviewed that at Exelon's site. The reason they've done that is precisely so that Citizens cannot get a copy of that metal fatigue analysis.

So, therefore, we believe that it should be specified that not only should the Staff review the analysis carefully, they should review the analysis carefully at the NRC headquarters. And they should be prepared to provide either a proprietary, or a non-proprietary version to Citizens. Citizens have an agreement with AmerGen, which allows AmerGen to provide us with proprietary information. AmerGen has provided us with a number of pieces of proprietary information. There's been no problem with that whatsoever. AmerGen has held up the idea that the proprietary nature of this document could foreclose disclosure. Well, Sandia managed to produce quite a detailed report with no proprietary problem. So we don't quite understand why AmerGen can't produce a non-proprietary report that's highly detailed. And we don't understand why we couldn't have disclosed to us the whole report with all the proprietary information.

I sincerely hope that Mr. Polonsky will finally realize, or AmerGen will finally realize that

this is not something you can sweep under the rug. An old saying, "Justice shall be done, and it shall be seen to be done." And that's what should happen here. Time and time again, we've had assertions from AmerGen which have turned out to be incorrect or wrong. And let's not allow those assertions to rest. Let's actually do the work, do the analysis, find out what actually is going on. And that's all we've ever wanted in this proceeding.

It's kind of amazing to me that it's taken us around two years to get to the point where we finally get closer to getting to what we want, which is a rigorous, scientific, realistic, and fully considered assessment of the state of the drywell. I would have thought that the NRC's relicensing process would have automatically provided that. Clearly, I would have thought wrong.

It is only through the intervention of Citizens that this analysis will be done properly. And we are here relying on you, the Board, to insure, to make a very considered decision about how this analysis shall be done. And to leave room for, in the case of high degree of uncertainty, about compliance for further analysis to be done.

We believe the Board, as I said about a

year ago, we believe the Board is fully qualified, is very intelligent, and we've seen is also courageous. So we look forward to a decision from this Board, which finds appropriately that the analysis should be based on all the results taken, that any corrections should be bounded fully in records. It may be necessary here to reopen the record, because at the moment we don't have anything on the record about this grinding, about how it was done. The only place that we have anything about the grinding is where I pointed to, so we don't have any justification which points were over-ground, or by how much. Maybe we would have no objection to reopening the record for AmerGen to put those records forth so we could have a look at them, and we could then take some considered view about corrections, rather than this guesswork, which has been thrown around.

We must explicitly evaluate the uncertainty. We can do it a number of ways, as long as we fully bound the data, and fully bound the uncertainties, then we are happy to do it by sensitivity analysis, or by Monte Carlo, which really is just an automated sensitivity analysis. I don't think it's really any different.

JUDGE ABRAMSON: It's enormously

different, having done a lot of those things.

MR. WEBSTER: Well, it requires a lot more computational power, absolutely.

JUDGE ABRAMSON: Not just that. It requires an awful lot of assumptions about the statistical variations, and the distribution functions of the parameters that are being used to sample Monte Carlo. It's a very -

MR. WEBSTER: Judge Abramson, we see that AmerGen is already making assumptions about the statistical distributions of the data, and hasn't presented any information, as far as I recall, to justify that. So that's another reason why Monte Carlo would be useful, because it would entail some systematic careful analysis of what statistical variation is present in these input data.

And then, finally, I'd like to point out that Stress Engineering has put forward how one would do a state-of-the-art analysis. A state-of-the-art analysis means that we dispense with the capacity reduction factor. We measure the shape of the vessel, and we measure the thickness of the vessel, as far as we can. We can then place both the actual shape, and the actual thicknesses into a 3D model. And then we can find out, that's the most accurate way possible to

do this. And we believe that the time has come for the NRC to require AmerGen to do the most accurate, realistic model that can be done.

The Citizens of Tom's River deserve the best. AmerGen has been offering them, at best, last year's technology, in fact, 20 years ago technology. Citizens have fought long and hard. They have been justified at every turn, they deserve the best. We anticipate this Board will give them the best. Thank you.

JUDGE HAWKENS: Thank you, Mr. Webster. Are you ready, Mr. Polonsky? You reserved 15 minutes for rebuttal.

MR. POLONSKY: I think I'd like to cover five points on rebuttal, Your Honor. The first is that the majority of what we just heard is rehashing of what happened last fall. Using contour plots that are not reliable, using an extrapolation scheme based on extreme value statistics, which was debunked last fall, misinterpreting micrometer readings, and misrepresentation of the facts. Specifically, as an example, Citizens urging that AmerGen use all of the data, but in their reply specifically contained in Question Ten from the Board, clearly demonstrates that they want us to solely rely on the external data as

being representative; for example, the way they came up with 788 mils clearly can only be done with an averaging of the external data. And those data are simply not representative of the general thickness of the shell.

Similarly, their comparison of our diagram, and page 5 from AmerGen's Exhibit 16. AmerGen's Exhibit 16 on page 5 is a summary from each bay of all the averages of all the external points. And so to compare that to the average general thicknesses that we used is comparing apples and oranges, and inappropriate.

I also would like to point out that Dr. Hausler has provided new contour plots in their reply, and if I could draw your attention to just one of them, Dr. Hausler positions where he believes the internal grid locations are with respect to external locations. So, for example, on Figure 4, which is a contour plot of Bay 3, all the way up at the top is a small square box, and it says, "Approximate", I assume that's position and size of the 1 by 7 grid used for internal UT measurements. Similarly, you could go on to further pages and find where those grids are placed with respect to the external points. They are not correctly placed; and, therefore, the contour plots

themselves are wrong.

In AmerGen's Exhibit 40, the last page that we provided in our supporting references is the famous grid with the yellow and green triangles, and green rectangles, which shows the internal points juxtaposed with the external - I'm sorry - the internal grids and trough data juxtaposed against the external individual points. And you will see that there are many points that are above or within these grids. And those simply don't match up with what they have done. There's no information in the record here how Dr. Hausler came up with what he did, but it's incorrect. And so, clearly, even if you were to go these plots, which we don't believe you should, they are not reliable, because the internal data is in the wrong place, and the plots would clearly change.

The third item is, I believe, Citizens objection as to how the external data was treated, and whether that was in the record. And suffice to say, I'll just point you to Exhibit 46, and page one, two, the third page, which has an OCLR number of 29744. And the second to last paragraph says, "External point measurements were used in a limited way to confirm the basis for an engineering judgment", and it's the following language that's important, "assuming a

normally statistical distribution regarding an appropriate thickness to use in the re-analysis." So that's where my statement came from. If I said something different, I was relying on this document form the source.

As for "is more analysis required", because the scope of UT measurements, that is where UT measurements are taken, is outside the scope of the proceeding, and we don't believe that was part of the issue that was sent down to the Board from the Commission, we do not interpret the "is more analysis required" question to additional UT measurements in new locations. We viewed that, and we urge the Board to adopt a view that that is just asking our additional analyses, sensitivity analyses, et cetera, required, and our answer, AmerGen's answer is no, that they're not, that we have a sufficiently bounding analysis.

And, finally, Judge Abramson asked whether AmerGen would be willing to submit more than a summary. And let me clear up the misrepresentation, or misinterpretation, perhaps, of what a summary is. It is not going to be a single page with a sentence that says hey, it's fine. And it won't be a 20-page summary, either. AmerGen expects that it will be

hundreds of pages, that it will have figures, that it will have diagrams, that it will have data, and that it will allow a knowledgeable structural engineer to view it with an independent eye. The entirety of the information, all of the supporting information, will be available to the Staff at AmerGen's facilities, as all other information is. Whether it's proprietary or not, the standard procedure is that the Staff is allowed to come back and look at anything they want with any reasonable notice, and that will include the vendor information, and the validation and verification information, and at times they can even talk to the individual modelers at their request.

JUDGE HAWKENS: Mr. Polonsky, do you have an estimated date for when the analysis will be complete, and the invitation to the NRC Staff extended?

MR. POLONSKY: I do not, Your Honor. The commitment is merely that it be done, completed by April 2009.

JUDGE BARATTA: Would that include the submittal of the summary by then?

MR. POLONSKY: My understanding, and my client will correct me, is that before April 2009, we will have submitted the summary and made the

information available to the Staff for review.

JUDGE BARATTA: Thank you very much. I'll be honest with you. I was a little troubled with your modeling of some of these bays, and the point that Citizens brought out was along the lines what I was concerned about. I would take a careful look at, if you do have data, which you do in some cases, that suggest that it's not as -- the corrosion is not as extensive or whatever, you may want to include that in your model. Just, I don't understand why you're not. I mean, it could be beneficial, but you do have maybe some stress concentration factor to be considered. I just don't understand -- I kind of understand what you're trying to do in a way, but also it does take away from the realism, I guess. I don't know, that's something I'd like you to respond to in a way is, what you think about that or not. It just bothered me.

The other point that I didn't understand, and just go over Bay 15 again. I'd appreciate that. Looking -- I don't have the figure that -- I'm sorry, I take that back. It's Bay 15. I don't have the plot that shows the points that you got other than what you just pointed out, which is this page in Exhibit 40, I guess. How you concluded the 711 region there in size, I just couldn't quite figure that out from the

data that's there.

MR. POLONSKY: I'd be happy to address that, Your Honor, if I could just pause and take a look at Applicant's Exhibit 16, which is the 24 calc rev. 2. I'll pull up the page where that original 12 by 12 inch area would have come from.

JUDGE BARATTA: It may have been covered previously, but that was a while ago. I apologize.

MR. POLONSKY: Well, I guess the starting point would be in Citizens Exhibit 45, on page 10 of 12. It describes Bay 15 with a locally thin area, 18-inch diameter circular area that is 711 mils thick, and it references the 24 calc. So I'm now going to go to the 24 calc, but that's how we get to the 24 calc. Well, it's page 15 - I'm sorry - it's Figure 15-6 in AmerGen's Exhibit 16, which has Bay 15, which shows a locally thin area of 12 by 12 inches, that is 711 mils thick. It is that area that was then transcribed into an 18-inch diameter circle.

JUDGE BARATTA: The same thickness as the 12 by 12 in the other model.

MR. POLONSKY: Correct. Conservatively expanded out to 18 inches, but also keeping it 711 mils thick.

JUDGE BARATTA: Unless my brain isn't

working right, that's about two and a quarter times as much surface area that's thinned. Is that right?

MR. POLONSKY: If we go to Figure 15-3 of that same exhibit, this shows individual external UT measurement points with two concentric squares or rectangles. The inner square or rectangle has a single point in it, which is 711 mils, that is conservatively extrapolated out to encompass the entire area, assuming that the entire area is 711 mils.

JUDGE ABRAMSON: That would be -- there is one point that appears I think on that colored exhibit that we mentioned a moment, that that would be that point then?

MR. POLONSKY: Yes. There is only one point that is 711. The other ones that are shown on this slide are 777 mils, 791 mils, 793 mils.

JUDGE BARATTA: One point that I picked up on was the influence of a single data point on the average. As part of a sensitivity study, not only do we look at the actual model inputs, but sometimes we need to look at the -- how those model inputs were developed. And it was pointed out, if I followed the Citizens argument, that inclusion of the one uncorroded point seemed to have a tremendous influence

on the average that was used in the 3D model. Do you plan to address that, examine that in your report, or as part of your analysis?

MR. POLONSKY: I don't know, Your Honor. Mr. Webster made certain assertions, did not cite to the record. I can't even confirm that his assertions are in the record, but we'll, obviously, address those in some form of briefing.

JUDGE BARATTA: Well, he raises an interesting question from an analysis point that one has to be careful developing the model input, that you have to look to see if there are any outliers which might cause an undue bias. That's consistent with, like I said, what Apostolakis says in his Article 4.

MR. POLONSKY: I think the undue bias that we've introduced is in the bounding conservative way. For example, selecting the locally thinned areas, I mean, it's kind of ironic that Citizens are suggesting we use the external data and average it out for the entire bay. Well, we did use that data, and averaged it out for the entire locally thinned area, and yet, I guess we're hearing that that's not enough. That is a bounding conservative treatment of locally thinned areas. And then to extrapolate that square area into a circular diameter area adds even more surface area

to that conservative thickness.

JUDGE ABRAMSON: Let me pick this up for a second. One of the fundamental concerns, it seems to me that I'm hearing from Citizens, is the thought that all the way around the drywell shell at the top of the sand bed region there's some sort of corrosion; and, therefore, there's some sort of ring that might be weakened in the shell. Is that addressed by your use of the general area thinning well below the 1100 mils, or whatever the original thickness was? Tell me how the general thinning -- how you've addressed the question of the bathtub ring, that is.

MR. POLONSKY: First, of all, there is - we don't agree that there is a bathtub ring around the entire exterior. That's just not the case. There is, in certain areas, in certain bays where the sand-air interface was, and where water was present for a significant amount of time, significant corrosion. But that does not exist around the entire ring. In fact, there are many bays that have essentially no corrosion in them.

For those areas that have some corrosion, the external data points were taken at areas that were believed to have been the thinnest points, or biased to the thin side.

JUDGE ABRAMSON: And in the model that's been prepared, and not yet run, or is being prepared to be run, those areas of actual corrosion are modeled, and generally modeled to be thinner than the average measurements in those areas?

MR. POLONSKY: We believe that is the case. Not every single external UT measurement point, those taken from the 24 calc, that the 24 calc said would impact the local buckling criterion. An individual point.

Let me back up from last fall. We could have a hole in the shell. You could have a hole, and it wouldn't buckle. Problem with the pressure criterion, okay, but an individual point does not implicate a buckling concern, so you have to keep it in perspective.

JUDGE BARATTA: That one we recall.

MR. POLONSKY: I'm done with my rebuttal, if there are no further questions.

JUDGE HAWKENS: One second. I keep hearing the word "proprietary", and I have trouble understanding when these are classical techniques, why any such report would be proprietary. I think that is a concern I don't quite understand. I know certain organizations will, I found that interesting enough,

would consider my textbook to be proprietary, since it has the same statements that they have in their reports, but I understand in preparation of data, there's certain things that are proprietary, methods and such, but I kept hearing you refer to "proprietary", and I just -- I don't quite understand that.

MR. POLONSKY: I believe it was Mr. Webster who referred to it as "proprietary". I don't believe I used that word today. And, in fact, I don't believe the summary report, or the underlying data itself will be deemed proprietary by AmerGen. And my client can correct me if I'm wrong.

JUDGE ABRAMSON: Counselor, before you leave the stand, let's talk for a couple of minutes about how the process is designed to work, and how it, at least my view, it should work. You're going to submit -- the record of our proceeding is closed. There's now a proceeding that's still going on because the appeal hasn't been resolved. But, in my view, the record of our proceeding is closed. There's been no motion to reopen, and there's been no remand, there's been no indication from the Commission they want it reopened. They've asked for our advice on this particular point.

Your client has made a commitment to submit an analysis. In the order course of things, the Staff would review that analysis. Is that correct? And decide whether it likes it or not, and iterate with the Applicant on getting to a satisfactory result from that commitment?

MR. POLONSKY: I'll dwell on terminology here just for a second.

JUDGE ABRAMSON: Please.

MR. POLONSKY: You used the word "condition", and I don't believe this is a license condition. This is a commitment.

JUDGE ABRAMSON: Well, if I recall correctly, commitments -

MR. POLONSKY: I'm sorry.

JUDGE ABRAMSON: -- are license conditions.

MR. POLONSKY: Yes. I retract that, Your Honor. I'm sorry.

JUDGE ABRAMSON: And that, Mr. Webster, by the way, is an important thing for you to be aware of. This commitment is a condition on the license. Okay. Now, let's proceed.

MR. POLONSKY: Pretend that I didn't just say that.

JUDGE ABRAMSON: I'll pretend you didn't say it. You were promptly corrected by your colleagues.

MR. POLONSKY: My client expects to submit a significantly thick and detailed summary report to the Staff, and the Staff will review that report, is certainly our expectation. And if the Staff has any additional questions on it, then they would get back to my client with those questions. Any deficiencies in that analysis, assuming the license has been granted, would be handled in Part 50 space, as any other deviation or concern that the Staff would have on an operating plant.

JUDGE ABRAMSON: This is not a condition precedent to the issuance of the license. Help me for a minute. It is a commitment to submit something before the commencement of the license, extended license term, so the license could be granted today. The license extension could be granted today, it's not a condition precedent on the issuance of the license extension.

MR. POLONSKY: That's been AmerGen's understanding, and from what I heard from the Staff, that's -

JUDGE ABRAMSON: Is that correct, Ms.

Baty? This is a condition -- it is not a condition precedent to the issuance by the Agency of the license, the requested license. It is simply a condition that has to be fulfilled prior to commencement of the term. Is that right?

MS. BATY: Yes, Your Honor. That's correct. And I believe that was also this Board's finding in its initial decision, that it's not a condition precedent to the issuance of a renewed license. In some cases, a renewed license is issued several years before -- more than two years, five, ten years before they go into their period of extended operation, and then having to come before the -- yes, it is a condition that must be completed before April 2009.

JUDGE ABRAMSON: And from your statement, this is likely to be several hundred pages of -- in this report. Is it inappropriate for me to assume that this report will describe how the data was gathered, treated, assembled, and used as input for the model?

MR. POLONSKY: All of those, Your Honor.

JUDGE HAWKENS: And it's your understanding it's not -- the summary itself will not be proprietary?

MR. POLONSKY: That's correct.

JUDGE HAWKENS: So if Citizens, for example, requested a copy, or requested to look at the summary, they would be able to coordinate with you.

MR. POLONSKY: Our understanding is that the summary will be placed on ADAMS, which is the NRC's -

JUDGE HAWKENS: Oh, in the public record.

MR. POLONSKY: Publicly available for anyone to download.

JUDGE BARATTA: You will agree with that?

MS. BATY: Yes. Absolutely. It will be a document of correspondence, and will be available for everyone, I mean, anyone with a computer. And it will be available on the public docket, as well.

JUDGE BARATTA: I do understand, because of the type nature of the calculation that there's literally thousands and thousands of additional information, basically the numbers that go into this thing, which the only way you can get them is they're in some sort of computer, electronic media, so I understand that you can't really -- there's a practical limit as to what can be made available.

MR. POLONSKY: Yes, Your Honor.

JUDGE ABRAMSON: Is the calculation being

done with a generally available computer code, or is it a proprietary code of your client's consultant?

MR. POLONSKY: It is a generally accepted methodology, and code. I believe it's the ANSYS code. I mean, I think that's even what -- I believe Sandia used ANSYS, as well. No. Okay. Sandia did not use ANSYS, but the GE model was done under the ANSYS code. If what you're getting at is can someone replicate it, then yes, they can if they want.

JUDGE ABRAMSON: Yes. And let me just state what I understand of the situation. We have a closed record at our proceeding. In order for an issue that would be raised by -- as a result of whatever information is contained in that report to come back to us would have to be -- the record would have to be reopened. Is that -- do you agree with that, counselor?

MS. BATY: Yes. And actually, the motion would have to go to the Commission first, and then perhaps it would be referred. But yes, it would be required to reopen the record.

JUDGE ABRAMSON: There's no longer a proceeding before us at this point.

JUDGE BARATTA: Mr. Webster, are you satisfied with the fact that you will be able to get

the report? It sounds like -

MR. WEBSTER: Well, obviously, it would be very helpful to get the report prior to decisions made on licensing. It would also be helpful if could get hold of the electronic summary before the analysis. If they're using ANSYS Code, I don't quite know what part of the analysis will be proprietary.

JUDGE BARATTA: He said none.

JUDGE ABRAMSON: He says he didn't use the term "proprietary".

MR. WEBSTER: Well, he has asserted in the past that it would be proprietary.

JUDGE ABRAMSON: Well, come to that in the road when you reach it. Thank you, Mr. Polonsky.

JUDGE HAWKENS: Thank you, Mr. Polonsky.

MR. POLONSKY: Thank you very much.

JUDGE HAWKENS: Ms. Baty?

MS. BATY: I have just a few points of clarification, some of them from the Staff who's with me today. I'd like to say before we leave today, we should set the record straight that we misspoke earlier when the Staff -- we said that we just -- or correct any misapprehension that the Staff is going to be doing some sort of cursory review of this, or simply filing it in the circular filing bin. That's

completely incorrect.

The Staff understands the interest of the parties, and the public in this 3D analysis. And the Staff will be conducting an -- first of all, as a general matter, the Staff will be conducting an inspection under 71003 as part of the license renewal process to insure the completion of various commitments, including license conditions.

JUDGE HAWKENS: When you say 71003, what are you referring to?

MS. BATY: It's an inspection procedure, the license renewal inspection procedure. The intent of that document is to inspect commitments, and we will be looking at the license conditions, as well, including this one. And we will be looking at the details of the analysis. However, in addition, we are going to be receiving the summary report, which, as has been stated here, will be put on the docket, and will be publicly available. And it should provide - the Staff expects to get a beefy, and it has been represented here today that this summary is going to be a rather beefy summary. It's going to be a hundred pages, and the Staff expects that that summary will provide a clear understanding of what was done, the assumptions that were made, and the basis for the

various conclusions. And the Staff is prepared to review that summary.

And, as a similar example, recently there was the confirmatory analysis of the metal fatigue calculation. And there, the licensee provided a summary, and the Staff proceeded to conduct an audit of the material. And the Staff is preparing to issue a supplemental SER, in which we detail our review of that analysis.

The Staff interests as we review the summary will be in insuring that the current licensing basis is upheld. And, I mean, it's important to keep in mind, the summary -- this 3D analysis that has yet to be performed, is not part -- is not going to change AmerGen's - Oyster Creek's current licensing basis. The purpose of this analysis is to better quantify the margin, but it isn't going to change their acceptance criteria, which is already part of their CLB. And it's not going to change any other aspect of their current licensing basis, unless we get a separate request from AmerGen to make a change to their license. And the current licensing basis, of course, according to the regulations in Part 54 continues into the extended, any extended period of operation.

The Staff has heard representations about

proprietary information, and just to be clear, that if a document is represented to us as being proprietary, the Staff cannot disclose it. And we are under the Trade Secrets Act, and, actually, we could be - individuals who are caught disclosing such information could be sent to prison, so we won't be disclosing anything that is duly proprietary, and the proprietary privilege adequately asserted.

As a general note, we know -- the Staff understands that we're here to talk about this specific question that's been referred by the Commission to this Board. And the Staff respectfully requests that any material submitted today was an attempt to reargue contentions that were either not admitted, such as contentions challenging the spatial scope of inspections, or the inspection technique, that those matters are all pending before the Commission at this point.

We also heard some representations about the Sandia report, and the use of the capacity reduction factor. Capacity reduction factors are calculated based on the compressive and tensile stresses derived from the load combinations from the refueling loading. Credit for tensile stresses has been researched extensively, and was presented to the

ACRS in January of 2007.

The ACRS Code case for Section 3, Case 757, recognized the methodology for cases -- recognized the use of the capacity reduction factor for cases other than internal pressure. And I hope I have accurately represented what my technical advisors have presented. Anyway, the Staff also would note that some of the information presented with regard to Sandia's disagreement with the Staff about the capacity reduction factor is not -- doesn't tell the entire story, and we would refer the Board to a publicly available document, Packages ML070670513, which is a letter to the ACRS Chairman from the Director of License Renewal, explaining that Sandia was not prepared to use capacity reduction factor because they had not had an opportunity to review all of the work that has been done on that, on the use of that by Dr. Clarence Miller.

So unless there are further questions from the Board, that's all I needed to -

JUDGE BARATTA: I just -- I do want to clarify, I was not suggesting that you would release proprietary information. I hope that we've already had that point clarified I think, and thank Mr. Polonsky for clarifying that he does not expect it to

be proprietary.

MS. BATY: One final point, is that with regard to the analysis that will be submitted, it will, obviously, be submitted under oath and affirmation. That's a requirement for their submissions to the Staff. And if anything would prove to be inaccurate, incomplete, that's likewise subject to criminal prosecution, as well.

JUDGE HAWKENS: Thank you. Please bear with me one minute while I have a few moments with my colleagues.

MR. WEBSTER: Judge, before you go off the record, there are a couple of things I would like to correct.

JUDGE HAWKENS: One second, please. Thank you. Mr. Webster, to the extent you have matters that you want to bring to our attention, we're going to allow you to do it in a supplemental brief. The case is submitted. We thank counsel for the their presentations. They were very helpful. They answered our questions, and they clarified a lot of matters for us.

Yes. I want to make it clear, each party will have the opportunity to provide the Board with a supplemental brief, not to exceed 10 pages. Mr.

Webster had indicated a week, he would require a week in order to prepare that. Is that what you'd like, Mr. Webster? That would be Thursday, September 25th.

MR. WEBSTER: A week after the transcript is available, Judge.

JUDGE HAWKENS: All right. It will be a week after the transcript is on ADAMS. There should be a three-day turn-around, so I anticipate they'll be on ADAMS at the latest on Tuesday.

MR. POLONSKY: Apologies for the sound from the mic, but I understand that the Board typically gets a copy of the transcript many days before it's on ADAMS. Is it possible once the clerk or the Board receives it, that the clerk can distribute it, and that might speed things up, as well?

JUDGE HAWKENS: Regrettably, it's not. But we -- generally, when we get it, if we work closely with SECY, we're able to get it either one day, at most two-day turn-around, so we will make every effort to get it out there as quickly as possible.

MS. BATY: Your Honor, if I may request, can we get an email. My only concern is that there will be confusion about when exactly it became

available, so if we could get some sort of notice saying your time starts now.

JUDGE HAWKENS: We will have our law clerk provide counsel with an email telling you when the -

MS. BATY: That will be appreciated.

JUDGE HAWKENS: -- clock is triggered.

MS. BATY: Thank you.

JUDGE HAWKENS: And you had indicated you would like an opportunity to respond to what you perceived as new information with an affidavit. That is granted, not to exceed five pages.

MR. WEBSTER: Thank you, Judge.

JUDGE HAWKENS: The Board anticipates for the information of the audience and counsel, as well, we're going to anticipate issuing a decision some time during the month of October.

Because we are guests here, I have certain individuals I would like to thank. They've been very gracious to us. Ocean County, first of all, for allowing us to use this facility once again, and several individuals I want to identify, focus on especially, Mary Porcellini, who's receptionist for the Board of Chosen Freeholders, Donna Flynn, Director of Public Information Division. She's been consistently the last three times we've used, is just

exceeding gracious, and a wonderful sense of cooperativeness and humor throughout. And Alan Avery, the Administrator, and the Ocean County Sheriff's Department, as well. They've been out here supporting us, and we're grateful for that.

This hearing is adjourned. Thank you very much.

(Whereupon, the proceedings went off the record at 12:27 p.m.)