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United States of America

Nuclear Regulatory Commission

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Duke Energy Carolinas William States Lee III Nuclear Station

Units 1 and 2 Prehearing Conference

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Wednesday,

September 3, 2008

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Gaffney, South Carolina

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The hearing commenced in the Cherokee County Courthouse
in Gaffney, South Carolina, at 9:30 a.m.

BEFORE:

Paul S. Ryerson, Chair

Nicholas G. Trikouros, Administrative Judge

William H. Murphy, Administrative Judge

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

9:30 a.m.

>>CHAIRMAN RYERSON: Welcome everyone. We are here to conduct an initial prehearing conference concerning the application of Duke Energy Carolinas, LLC to the United States Nuclear Regulatory Commission.

Duke is seeking a license to construct and operate two nuclear power reactors in Cherokee County, South Carolina. The site is called the William States Lee III site.

I'm Paul Ryerson. I'm an administrative judge at the NRC, trained as a lawyer, and I'm Chairman of this particular Atomic Safety and Licensing Board. That's not as lofty a position as our seating may indicate.

We're stuck with the way the courtroom is set up and the microphones, but I can assure you that my fellow judges will have just as much say as I do in our decisions after today.

On my left is Judge Nicholas Trikouros who is a nuclear engineer. And on my right is Dr. William Murphy who is a geochemist. I should introduce a few others that you'll be seeing today.

Ms. Erica LaPlante is our -- the panel's law clerk, who

1 is in front of me. We have Lorraine Carter who is the court
2 reporter today. And probably running around will be
3 Patricia Harich who's an administrative assistant to the
4 Board. Joseph Deucher is handling the web streaming
5 assignment today.

6 And this is part of a project that the NRC is
7 undertaking to try to make the Board's proceedings more
8 available generally, not only to those of you who are able
9 to come here today, but for everyone who has Internet
10 access.

11 And I've been asked to try to solicit some feedback on
12 the pilot project. So, if anyone out there on the Internet
13 has a view about how this is working, it would be helpful if
14 you would email your comments to WebStreamMaster -- and
15 that's all one word -- WebStreamMaster.Resource@nrc.gov.
16 Again, let me give that one more time. One word,
17 WebStreamMaster.Resource@nrc.gov.

18 Before we begin today I would like to give thanks on
19 behalf of all of us to the staff and the judges of the
20 Cherokee County Courthouse here in Gaffney, South Carolina
21 who have been kind enough to make this facility available
22 for our proceeding today and who have been just tremendously

1 helpful in helping us set up the web casting and doing all
2 the other things that are necessary to have this proceeding.

3 And in particular I'd like to thank Ms. Brandy McBee,
4 the Clerk of the Court as well as Sheriff Blanton and his
5 deputies.

6 Before I ask the counsel representatives who are here
7 today to introduce themselves, it might be helpful, again,
8 particularly since we hopefully have an audience on the
9 Internet to very briefly provide an overview of where
10 today's proceeding fits into the NRC's review process of
11 Duke's application.

12 The NRC staff, which reports directly to the
13 Commission, will review the application and will prepare
14 reports on safety and the environmental consequences.

15 The staff also conducts public meetings at the site and
16 has already done that. There may be more, I'm not sure, but
17 that is the role of the staff.

18 The Board, the Atomic Safety and Licensing Board, is an
19 independent judicial arm of the Nuclear Regulatory
20 Commission and we are independent and totally separate from
21 the staff. We don't work with or for the staff and we don't
22 communicate with the Commissioners during the course of any

1 of these proceedings.

2 We are independent of the views the Commissioners may
3 have on any individual application. Ultimately, the Board's
4 decisions can be appealed to the full Commission and
5 eventually to the federal courts if that's the case.

6 The third part -- the third major part of the agency is
7 the Commission itself, which is consisted of the moment of
8 four Commissioners who are appointed by the President and
9 confirmed by the Senate.

10 They will be conducting, most likely themselves, a
11 mandatory hearing as well independent of anything that
12 happens today. There will be a mandatory hearing concerning
13 this application.

14 The Commission also receives a report from an Advisory
15 Committee on Reactor Safeguards which will also be factored
16 into the ultimate agency decision on this application.

17 So, what's our purpose today? What's the Board's
18 purpose?

19 The Atomic Energy Act provides an opportunity for
20 interested stakeholders to petition for a hearing on
21 specified specific issues which we generally call
22 contentions.

1 And the Blue Ridge Environmental Defense League, which
2 we'll generally refer to as BREDL, if that's alright, has
3 petitioned for a hearing on 11 specific contentions.

4 Our task today is really a very narrow one, very
5 specific one, and that is to determine whether BREDL has
6 submitted one or more admissible contentions.

7 What do we mean by admissible contentions? The
8 Commission's rules establish requirements for a contention
9 to be admissible; that is, for it pass the first stage
10 before the contention goes to an actual hearing before the
11 Board.

12 There are a number of requirements in the regulations,
13 but I think they fundamentally get at two issues. The first
14 is: Is the issue appropriate for a hearing before a
15 licensing board?

16 In other words, if a contention deals with a broad
17 category, broad policy issues pertaining to nuclear energy
18 in general, but not to Duke's application in particular, it
19 would most likely not be appropriate for a hearing before
20 the Board.

21 The second question is: Has the petitioner shown enough
22 in its petition to justify a hearing? So that if we have a

1 hearing it's not going to be a waste essentially of
2 everybody's time and resources.

3 And I want to be clear that the petitioner doesn't have
4 to win on the merits with its petition, but it has to show
5 enough to pass that threshold test, which is quite different
6 from what is true in the federal courts and I believe in
7 most state courts where normally a complaint is filed and
8 for quite a while in the process the Court simply accepts a
9 lawyer's representation that there's a good faith basis for
10 every factual assertion that's made. That's not the way the
11 rules work at the NRC.

12 There actually has to be some factual basis put forward
13 in the petition.

14 Judge Trikouros, Dr. Murphy and I have looked over at
15 this point over 200 pages of briefs that have been filed in
16 connection with BREDL's 11 contentions. And we have
17 determined that it would be helpful to have a formal
18 argument today on four of those contentions. That's number
19 one, three, five, and eight.

20 But no one should draw any conclusions about our
21 decisions on any of the contentions as a result of that.
22 All of the contentions remain in the running and nothing

1 should be drawn from the fact that we have identified those
2 four.

3 We may have questions about any of the contentions,
4 which we'll get to, I think, after the formal arguments.
5 And in particular I want to put the parties on notice now
6 that we're almost certainly going to have some questions
7 about Contention 2, which we hadn't previously identified
8 specifically.

9 And an issue in particular that arises under Contention
10 2 is the significance of Table S3 that appears in
11 10CFR51.51, I believe. That's a table that sets forth on a
12 generic basis some of the environmental consequences of the
13 uranium fuel cycle.

14 And one of the issues that we'd like to be asking some
15 questions about is whether Table S3 precludes consideration
16 of greenhouse gases specifically, which is an issue raised
17 in Contention 2.

18 Before I ask the party, the counsel and their
19 representatives to introduce themselves and go over some
20 basic ground rules, I'd like to ask my fellow judges if you
21 have any comments at this point okay.

22 >>JUDGE TRIKOUROS: No.

1 >>CHAIRMAN RYERSON: Dr. Murphy?

2 >>JUDGE MURPHY: No.

3 >>CHAIRMAN RYERSON: Okay. Would representative
4 for the petitioner introduce himself?

5 >>MR. ZELLER: Yes, good morning, Your Honor. My
6 name is Louis A. Zeller. I'm representative for the Blue
7 Ridge Environmental Defense League. I've been on the staff
8 since 1986 working on a variety of items.

9 >>CHAIRMAN RYERSON: Thank you, Mr. Zeller. Did
10 you want to introduce the woman who is accompanying you?

11 >>MR. ZELLER: Yes, to my left is Diane Biggs.
12 She is one of the affiants who has signed a declaration.
13 She lives within the radius -- the 50-mile radius of the
14 proposed site at Lee. Thank you.

15 >>CHAIRMAN RYERSON: The applicant?

16 >>MR. BESSETTE: Good morning, Your Honor. My
17 name is Paul Bessette. I'm with Morgan, Lewis & Bockius
18 representing Duke in its application. To my right is Kate
19 Nolan, counsel for Duke Energy and to my left is my
20 colleague Kathryn Sutton, also from Morgan Lewis.

21 >>CHAIRMAN RYERSON: Thank you. Welcome. The NRC
22 staff?

1 >>MS. BROCK: Good morning, Your Honor. I'm Sara
2 Brock and I represent the NRC staff. I'm accompanied by
3 Michael Spencer who also represents the NRC Staff. And Adam
4 Gendelman is an attorney with our office who will be
5 assisting us today. We also are accompanied by several of
6 our staff members.

7 >>CHAIRMAN RYERSON: Thank you. Okay. The
8 timing, I think we've indicated in at least one of the prior
9 orders, we'd like to cover, I think in order, Contentions
10 one, three, five and eight to start with, allocating up to
11 40 minutes for those.

12 So, we're going to have a flexible time keeping system
13 here. If you're peppered with a lot of questions and the
14 Board has questions we may go longer. At the same time I
15 encourage representatives and counsel not to talk if you
16 don't need to about any particular contention and we'll
17 hopefully move along.

18 We have read the briefs, I can assure you. We've read
19 the briefs carefully, so it's not necessary to repeat what's
20 in the briefs.

21 Mr. Zeller, you're welcome to reserve as much of your
22 20 minutes or so for rebuttal and you can do it the same for

1 all or you can do it for each different contention. How
2 would you like to handle that?

3 >>MR. ZELLER: Yes, thank you, Judge Ryerson. I
4 would tend to want to use 10 minutes first and then reserve
5 10 minutes.

6 >>CHAIRMAN RYERSON: And that would be true for
7 all -- on all four arguments?

8 >>MR. ZELLER: Yes, sir.

9 >>CHAIRMAN RYERSON: Okay. All right. We hope
10 and expect to be finished between noon and 1:00 or so. We
11 may have to go after lunch depending on our questions. We
12 will take obviously at least one break between now and noon,
13 maybe two if that seems to work better. We'll see how that
14 goes.

15 If anyone has a cell phone I would ask you just to turn
16 it off for the duration of this session today. Any other
17 comments from the judges before we begin? Dr. Murphy?

18 >>JUDGE MURPHY: Not right now.

19 >>CHAIRMAN RYERSON: Anything the parties think we
20 need to address before we begin these arguments? As I said
21 we will have some questions after these four topics are
22 covered.

1 >>MR. ZELLER: Your Honor, if I might.

2 >>CHAIRMAN RYERSON: Yes?

3 >>MR. ZELLER: We will be talking about specific
4 contentions, but there are some preliminary things which I
5 could spend a minute or so on. You did mention Table S3.
6 Blue Ridge Environmental Defense League does plan to
7 petition for a rulemaking in that matter and we anticipate
8 that in the future.

9 The other point I would like to make briefly and I will
10 come back to it through today's arguments is that there are
11 many arguments back and forth about whether the rule is
12 subject to attack in the adjudicatory proceeding. This
13 tends to run, I think, throughout many of the back and forth
14 briefs that you have seen between the Applicant and the NRC
15 staff and Blue Ridge.

16 Just to bring to your attention something that you know
17 well. The Commonwealth of Massachusetts versus the NRC
18 decided in the First Circuit earlier this year saying that
19 the NRC must consider any news and information regarding
20 environmental impacts before renewing the nuclear power
21 plants operating license and further that NRC may not refuse
22 to provide at least one path of which the challenging party

1 and establish the connection between the rulemaking and the
2 licensing proceeding.

3 So, it would be not let something fall through the
4 cracks. Many times in the past when an argument has been
5 thrown out, yet it seems to be that well. You have a point
6 there, but you're in the wrong place.

7 That may be our fault at times, but also it does seem
8 to have presented in the past more or less an impenetrable
9 wall whereby we try to find where an issue should be raised
10 properly and if we are rebuffed and get returned.

11 So, I think (low audio) we can see the way we solve
12 some of the more difficult problems. That's all I have.

13 >>CHAIRMAN RYERSON: Thank you, Mr. Zeller. Does
14 the applicant have anything at this point?

15 >>MS. SUTTON: Nothing further, Your honor.

16 >>CHAIRMAN RYERSON: Thank you. Staff?

17 >>MS. BROCK: Nothing further.

18 >>CHAIRMAN RYERSON: Thank you. All right. We
19 will begin then with your argument, Mr. Zeller.

20 Approximately 10 minutes on Contention 1. Let me just --
21 again, for the benefit of our larger audience, let me read
22 that.

1 Contention 1 states: The NRC cannot hold a fair hearing
2 at this time because the application adopts by reference the
3 design and operational practices that have not been
4 certified by the NRC or accepted by the Applicant.

5 Mr. Zeller?

6 >>MR. ZELLER: Yes, thank you, Your Honor. In a
7 nutshell, the key components for the design of the
8 Westinghouse AP1000 pressurized water reactor have not been
9 approved by the Nuclear Regulatory Commission.

10 We have pointed out that the letters going back and
11 forth between Office of New Reactors, for example, about the
12 scheduling and some of the problems there. We know that
13 some of these issues have an impact on some of the
14 contentions that we'll be talking about today regarding
15 protection from seismic events, earthquakes and water
16 hydrology issues.

17 So, the fact that the Applicant has made the Design
18 Control Document for the Westinghouse AP1000 was a matter of
19 choice. They have chosen to use that Design Control
20 Document as the basis as a reference document for their
21 application.

22 >>CHAIRMAN RYERSON: Mr. Zeller, don't the

1 Commission regulations expressly authorize that procedure?

2 >>MR. ZELLER: They do, but they do not require
3 them to preference a design. There are other avenues for an
4 applicant to go; for example, a custom built site plant.
5 There is flexibility within the rules, so it's not required
6 to use one of the generic designs in that.

7 So, I think that is probably in a nutshell what some of
8 the problems are that we have raised in this contention.

9 >>JUDGE TRIKOUROS: Mr. Zeller, you mentioned
10 seismic. Isn't that a site issue? Would that be handled
11 under the AP1000 DCD Rev. 16 amendment or would that be
12 something that's associated specifically with the Lee site?

13 >>MR. ZELLER: Well, it's both, really. I mean,
14 you're talking about the site. Plainly, there are specifics
15 with regards to seismicity and we are talking to experts in
16 this area; Professor Talwani, for example, at South Carolina
17 University and others about some of those issues.

18 Of course, it's an engineering problem as well; the
19 reactor, the strength of the rebar, the (low audio). These
20 are issues, high level or high frequency I should say and
21 low frequency vibrations have different impacts. I guess
22 we'll get into that a little more later.

1 >>JUDGE TRIKOUROS: Can I pursue that for just a
2 second? There is an AP1000 DCD that was approved by the
3 Nuclear Regulatory Commission Rev. 15 which really
4 encompassed the vast majority of the components that you're
5 talking about and was approved and likely will not change.

6 The Rev. 16 of this DCD is handling certain selected
7 items, but I don't know on a percentage basis what it might
8 be, but I would guess less than 5% of the design. So, you
9 know, 95% let's say of the design of this plant is set in
10 concrete, so to speak.

11 And therefore I was trying to understand how that
12 remaining 5% would impact the fair hearing concern that you
13 have and I think you expressed it in your petition regarding
14 litigation of multiple issue -- litigating twice on an
15 issue, multiple times on issue.

16 And I couldn't make the connection to your contentions
17 and the remaining Rev. 16 issues and how that might lead to
18 having to litigate multiple times.

19 And seismic was one that you had mentioned, but I had
20 originally thought that wasn't one because of the reasons I
21 stated.

22 >>MR. ZELLER: Well, I think there is. That's one

1 reason, I believe, that this contention should be admitted
2 is because further exploration and discussion needs to be
3 had.

4 There is a genuine dispute here between what Blue Ridge
5 has said and what the Applicant has said. So, we have not
6 only a disagreement, but a genuine dispute.

7 Some of the scheduling changes which have been
8 identified by Office of New Reactors and others within NRC
9 talk about the East Tennessee seismic zone; the radioactive
10 waste structure abutting a Class One structure, near surface
11 ground effects and what not.

12 So, these are issues which are technical issues and
13 which are unsettled which would affect the scheduling of it.
14 And so far as we can tell the Design Control Document is not
15 set to be completed until some time in 2011 and here we are
16 in 2008.

17 So, that is the reason we have raised this petition and
18 why we're asking for the relief we're asking for.

19 >>CHAIRMAN RYERSON: Mr. Zeller, you said that the
20 Applicant did not have to proceed by this particular route,
21 but in doing so doesn't the Applicant do so at it's own
22 risk? And aren't the interests that you represent protected

1 then by the consequences if something happens?

2 If, for example, there are substantial changes in
3 Revision 16 that require changes in the application, don't
4 you have an opportunity at that point to address those in
5 new contentions? And don't you have an opportunity in the
6 rulemaking, the final rulemaking with respect to the AP1000
7 design Revision 16 to comment on the rulemaking?

8 Aren't your interests protected that way? And if not,
9 why not?

10 >>MR. ZELLER: Well, there is a risk for us in
11 waiting until perhaps some other avenue becomes available.
12 As you say, Revision 16 could be followed by Revision 17. I
13 mean, we don't know that yet.

14 And so, here we have an opportunity now because we see
15 the AP1000 -- Revision 16 as being a moving target and so we
16 are using the opportunity which is available to us here and
17 now to raise some of these questions.

18 The risks to the Applicant we understand those. And
19 whichever route they go -- this is a difficult engineering
20 and technical and environmental problem to solve and that is
21 the fundamental nature of atomic power reactors. It has
22 been for half a century. That has not changed. The physics

1 have not changed.

2 The rules have changed, but the generic design concept
3 without wanting to step into the area of rulemaking and what
4 not in getting out of area of risk here is the problem it
5 obtains.

6 Here we have a Design Control Document which we see
7 still in flux and so we are using this opportunity to hear
8 them now today to ask you the judges to admit this
9 contention because we have this opportunity now.

10 There may be further opportunities, I don't know. I
11 don't know if it would be better to wait. I can't answer
12 that question.

13 >>CHAIRMAN RYERSON: The thrust of your contention
14 as I understand it is essentially procedural. Your
15 contention as you've described it is that Duke didn't have
16 to select this procedure and that you feel basically the
17 procedure is unfair. That the current Revision 16 -- to use
18 your words I believe -- is a "pig in a poke" at this point.
19 I understand the procedural argument.

20 I guess the question I have for you as you sit there,
21 are there specific problems with Revision 16 that are stated
22 in your petition in Contention 1 that you feel ought to be

1 either adjudicated now or referred to the rulemaking
2 process?

3 >>MR. ZELLER: I would say yes, the answer to that
4 is a flat yes. The technical issues I believe have to do
5 with some of the other contentions which we have raised.
6 So, Contention 1 may be largely a procedural issue. That's
7 the way it's couched, of course.

8 The technical issues are, I think, detailed more in
9 some of the other contentions. Obviously, they are related.
10 We're talking about the same device. We're talking about
11 the same adjudicatory procedure and licensing process. So,
12 it's difficult maybe to find, you know, what the difference
13 might be.

14 However, you're right, it is largely a procedural
15 issue, but the technical issues are why we are concerned.

16 >>CHAIRMAN RYERSON: Thank you, Mr. Zeller. I
17 think we'll come back to you for your final 10 minutes. The
18 Applicant?

19 >>MS. SUTTON: Yes, Your Honor. Kathryn Sutton
20 for the Applicant. There are many reasons why this proposed
21 Contention 1 is not admissible. Mr. Zeller would have you
22 believe that he has a material dispute with the Applicant

1 and that's not true. He has a dispute with the NRC process
2 and that's at the heart of why this proposed contention is
3 not admissible.

4 As we fully briefed in our answer BREDL's request to
5 suspend the proceeding is at heart a challenge to not only
6 the NRC regulations, but also Commission policy.

7 What regulations, you may ask? Well, there's
8 principally 52.55(c) and 52.73(a) which explicitly allow a
9 COL application to reference a design certification
10 application.

11 Next, petitioners also claim their claim regarding
12 improper reliance on non-certified design documents also
13 constitutes a challenge to Appendix D to Part 52 itself.

14 We're going to continually reemphasize throughout this
15 proceeding that this is just not correct. Any generic
16 challenges to the NRC rules or the amendments to the AP1000,
17 Petitioners have the rulemaking avenue open to them in which
18 to make those arguments.

19 And finally, I would like to emphasize that there is
20 also before we move to the policy statement in terms of
21 regulations there is a challenge here to 10CFR Section
22 2.104(a) which requires that the NRC publish a notice of

1 hearing as soon as practicable after the NRC has docketed
2 the application and the Duke application has been docketed.
3 So, we're complying with rules as is the staff.

4 Thus on this basis alone we believe that the proposed
5 contention is not admissible and it violates
6 2.309(f)(1)(3)(i).

7 Now, I'd like to move next to the policy statement
8 itself and we've briefed that extensively, but there is some
9 new information on that here.

10 The policy statement expressly states that a contention
11 that raises an issue on a design matter addressed in a
12 design certification application should be resolved in the
13 design certification rulemaking proceeding -- that's what I
14 just emphasized before -- and not the COL proceedings.

15 So, the Commission has clearly contemplated this
16 submission in its regulatory framework.

17 >>CHAIRMAN RYERSON: Has BREDL raised issues that
18 you feel would be appropriate for referring to the
19 rulemaking?

20 >>MS. SUTTON: No, Your Honor because clearly as
21 part of this policy statement there is an opportunity to
22 hold otherwise admissible contentions in advance.

1 But as we have fully briefed, we do not believe that in
2 this case the proposed contentions are admissible. And I
3 will get to that in two seconds if you will allow me.

4 I'd like to point out that on July 23rd, 2008, the
5 Commission reiterated this policy and this framework that
6 we're talking about including holding contentions in
7 abeyance when it rejected a motion to suspend the notice of
8 hearing at the Harris COL proceeding. I refer you there
9 to CLI08-15.

10 Therein, the Petitioner made arguments that are
11 essentially the same as those that BREDL is offering here in
12 this proceeding saying that, you know, they're asking the
13 Commission in that proceeding to suspend the hearing notice
14 until the Commission completed its design certification
15 review of Revision 16 to the AP1000 because resulting
16 modifications will be incorporated into the design and
17 operational practices for the Harris plant in that
18 proceeding.

19 Much like BREDL here, the petitioner in Sharon Harris
20 claimed that it was impossible to hold a fair hearing until
21 completion of the design certification rulemaking because of
22 the interconnection between the design and the rest of the

1 COL application.

2 It's very similar to the arguments that BREDL has
3 offered and the Commission's reasoning in rejecting those
4 arguments in the Harris proceeding is directly relevant to
5 the disposition of BREDL's proposed contention herein.

6 And again we talked about when the Commission set up
7 the regulatory paradigm in 50.55(a) and 2.335(a) it
8 recognized that if there is an issue with respect to the
9 design certification it should be forwarded to the staff to
10 be dealt with in the rulemaking proceeding associated with
11 the amendment.

12 However, if there is an admissible contention and this
13 gets back to your question that it should be held in
14 abeyance and they did recognize that the NRC regulations
15 nonetheless allow the Applicant given this regulatory
16 framework to proceed at it's own risk.

17 And one thing in terms of the opening arguments I think
18 that's important to add here is that that risk to which the
19 Commission refers is not the risk that the Board will
20 suspend the proceeding. It's simply the risk that the risk
21 of delay in issuance of the COL until the underlying design
22 certification rulemaking is complete.

1 That is a risk that the Applicant bears the burden of,
2 but it is not the risk of suspending the proceeding. That's
3 a key point in this case.

4 Now, in this case proposed Contention 1 is not
5 otherwise admissible, as you've just asked about in the
6 context of the new reactor policy statement in the Regs.
7 Because it fails to meet the admissibility criteria in
8 2.309(f), one, three, five and six it should be rejected
9 regardless of the arguments that I just made regarding the
10 policy statement and the underlying regs.

11 In particular, the proposed contention fails to meet
12 the admissibility requirements of NRC regulations because it
13 only claims in general without the requisite support, expert
14 or otherwise, and specificity that Rev. 16 to the DCD
15 contains "serious safety inadequacies" and those are the
16 words that have been used by the Petitioner.

17 They've provided -- one example is the purported
18 incomplete recirculation screen design identified by the NRC
19 in the letter accompanying the docketing of the application.
20 There's two points I'd like to make on this front.

21 First, the NRC docketing letter itself does not
22 identify a serious safety inadequacy of any sort. It merely

1 discusses the status of certain open items that could impact
2 the staff's review schedule. It does not go to the merits
3 as you used that terminology earlier.

4 Moreover, Commission precedent prevents petitioners
5 from pointing to such NRC communications alone as the basis
6 for a genuine dispute which merits adjudication before the
7 Board. There's a long line of precedent. I'd be happy to
8 cite it to you. It's in our answer as well.

9 In addition the Petitioner's vague allegations that
10 Duke cannot prepare a proper SAMDAA; that's a Severe
11 Accident Mitigation Design Alternative Analysis, due to
12 alleged deficiencies in the AP1000. Again, lacks
13 specificity. They lack expert support and they fail to
14 raise a genuine dispute on a material issue.

15 Apart from the generic non-specific nature of the
16 complaint this aspect of proposed Contention 1 completely
17 ignores the content of the applicable sections of the COL
18 application and that a Petitioner cannot do. They must look
19 at the application.

20 As we explained in our answer in particular FSAR
21 Section 19.59 which deals with probabilistic risk assessment
22 results and insights in Section 7.3 of the ER, which is the

1 underlying SAMDAA analysis addressed this and Petitioner has
2 not taken issue with those with the requisite specificity
3 and/or support.

4 So, BREDL has simply failed to dispute the information
5 in the application or provide any basis for its assertion
6 that Rev. 16 somehow invalidates the PRA or the SAMDAA in
7 the application.

8 >>JUDGE TRIKOUROS: Your position is there's no
9 proper contention for us to hold in abeyance?

10 >>MS. SUTTON: Absolutely, Your Honor, and there
11 are numerous reasons for that. Thank you.

12 >>JUDGE TRIKOUROS: With respect to RAIs not being
13 permissible for any intervener to pick up as a contention
14 basis does that also hold true for the Advisory Committee on
15 Reactor Safeguards?

16 >>MS. SUTTON: That it would -- absent additional
17 specificity and support, the fact that the ACRS has asked a
18 particular question about a reactor or an application or
19 particular licensing action, no. That in and of itself does
20 not serve as a basis. It could be a partial basis, but not
21 in and of itself; not alone.

22 >>JUDGE TRIKOUROS: Mr. Zeller mentioned in his

1 petition -- in fact, it was in his reply. Mr. Zeller, you
2 mentioned that the Applicant "rolled the dice" with respect
3 to this application with an amendment pending.

4 What did you mean by that? How does that have
5 significance to us? And that referred to the "at your own
6 risk" statement in 52.55(c).

7 >>MR. ZELLER: Sure, I understand. The problems
8 of trying to certify and get approval for a license in this
9 case, I believe, should not be a certainty. The best way to
10 do it, I cannot determine that. I'm not Duke Energy or
11 Progress Energy or Southern Company. They know their
12 business, but how to do that may be possible and may not be
13 possible.

14 So, the metaphor about rolling the dice is they
15 selected Method A and not Method B. If Method B perhaps the
16 older method of doing it under which all existing reactors
17 in operation today were certified a unique design on a site
18 working out all the problems. That's how it has been done
19 in the past.

20 The new rules which have been put into place over the
21 last decade or so, both procedural and under Part 52 of the
22 Combined Operating License are untried. So, I say you pay

1 your money and you take your chances.

2 >>JUDGE TRIKOUROS: You don't see a difference
3 between a revision to a design certification versus a design
4 certification that has not yet been completed?

5 As I referred to earlier the 95% aspect of this design
6 is already certified and approved and tested, et cetera.
7 It's only the small percentage that we're talking about.
8 You still see that as a risk?

9 >>MR. ZELLER: Well, its 95% perhaps; however,
10 it's important to remember that an AP1000 reactor has never
11 been constructed any place in the world.

12 So, the entire design, 100% of it, is still
13 experimental in nature until we have some operating
14 experience, then the 95% figure is basically a paper or
15 exercise, a prognostication based on good information or not
16 good information. We don't know yet that yet, so the 5% is
17 -- may be accurate, but it's still talking about 100%
18 unknown.

19 >>JUDGE TRIKOUROS: We could go further on this,
20 but I think we're okay for now.

21 >>CHAIRMAN RYERSON: Let's move on to the Staff.

22 >>MS. BROCK: Your Honor, the only thing that the

1 staff would add -- Sara Brock for the NRC Staff -- the only
2 thing that the staff would add to this discussion is that
3 when the Commission referred to an applicant referencing at
4 their own risk in 52.55(c) they were discussing that as
5 compared to referencing an already certified design not as
6 compared to using the old Part 50 process as Mr. Zeller is
7 referring to.

8 That, of course, is still open to an applicant, but the
9 specific "at their own risk" discussion suggests also as the
10 Applicant suggested they're a little bit quicker than that;
11 that they could in the end not get a license at all if the
12 staff did not certify this design or something came up in
13 the rulemaking process for it.

14 It could be either a delay or potentially they would
15 have to go back to the beginning if the design was not
16 certified. Obviously, that's somewhat less of a risk as
17 Judge Trikouros has pointed out with an amendment to a
18 design than an already previously certified design.

19 >>CHAIRMAN RYERSON: Let me ask you, do you agree
20 with Ms. Sutton's characterization of the staff's letter as
21 dealing with the review schedule and not raising a merits
22 issue, if you will?

1 >>MS. BROCK: To a certain extent. Staff has sent
2 several issues on Rev. 16's AP1000 to Westinghouse, who is
3 the applicant in that procedure -- proceeding. And thus far
4 -- may I have a moment to consult?

5 >>CHAIRMAN RYERSON: Sure.

6 >>CHAIRMAN RYERSON: If you could speak into the
7 microphone.

8 >>MS. BROCK: I'll move it a little closer. Is
9 that better? Thus far, the letters that the staff has sent
10 on the AP1000 have been schedule-oriented letters that we've
11 been identifying issues that we believe will take longer for
12 us to review or potentially things that we're concerned
13 about, but we will not able to certify this design.

14 >>CHAIRMAN RYERSON: Thank you. Mr. Zeller?

15 >>MR. ZELLER: Yes, thank you, Your Honor. The
16 correspondence between NRC and the Applicant in this matter
17 I think is revealing. There certainly could be more
18 technical expertise applied to this, but in our view the
19 back and forth shows that there are technical issues as well
20 as procedural issues.

21 I mean, the technical issues here again are of concern
22 to the staff and that's reflected -- as I said before the

1 Senior Project Manager Office of New Reactors, Joelle
2 Starefos, on April 2nd talks about some of the incomplete
3 recirculation screen design of the reference design.

4 The response methods used to produce the final ground
5 seismicity source characterization of region and that would
6 be for the referenced COL as well as for the COLA and the
7 potential application and characterization dynamic response
8 of fill material under the Rad Waste Building.

9 So, if that's only 5% of the issues then maybe they
10 should be resolved and then we can go forward. If that's
11 all it is, then why not resolve those, hold the procedure in
12 abeyance until those are resolved if it's only 5%.

13 >>CHAIRMAN RYERSON: Anything further, Mr. Zeller?

14 >>MR. ZELLER: No.

15 >>CHAIRMAN RYERSON: Why don't we move on then to
16 Contention Number 3. I'll read that. Contention 3 --
17 BREDL's Contention 3 reads: Duke's application does not
18 identify the plans for meeting its water requirements with
19 sufficient detail in order to determine if there will be
20 adequate water during adverse weather conditions such as
21 droughts. Mr. Zeller?

22 >>MR. ZELLER: Thank you, Judge Ryerson. Duke in

1 this matter says that this contention should be dismissed
2 because regional surface water temperature assertions are
3 beyond the scope of the proceeding.

4 I don't know how that could be when looking at the
5 importance of water supply to a nuclear power reactor;
6 looking at the events all around us with regards to water
7 supply, that would be the drought. We see that water supply
8 trends are on a collision course.

9 We read the Environmental Report that Section 2.3.3.1.2
10 tests done between 1974 and 2006. We talked to an expert in
11 this area at Duke University, Mr. Holman, who is formally
12 the Secretary of the Department of Environment and Natural
13 Resources, and he shows that by 2030 daily water use
14 increases by 35%, long-term precipitation trends over the
15 last century from 1893 to 1993 will decrease from 50 inches
16 to 46 inches per annum.

17 >>CHAIRMAN RYERSON: Mr. Zeller, are Mr. Holman's
18 views set forth in your petition in any way?

19 >>MR. ZELLER: They are not explicit in the
20 petition, but we have been in discussion with Mr. Holman.
21 So, what I'm saying here is that the water supply issues are
22 not beyond the scope of the proceeding doesn't make sense

1 because of the reality of the situation.

2 >>JUDGE TRIKOUROS: Mr. Zeller, let me interrupt
3 you. When you say the "water supply issue" are you
4 referring to concerns over nuclear safety or are you
5 referring to concerns over simply the ability of the plant
6 to stay online? What is the issue as you see it with
7 respect to water supply?

8 >>MR. ZELLER: Well, it's partly an environmental
9 issue in that we have cumulative impacts which need to be
10 considered upstream and downstream. Of course you know --
11 or perhaps you don't -- about the Cliffside coal-fired power
12 plant which is upstream just over the state line on the same
13 river.

14 You've got the Summer nuclear plant downstream which
15 increases in the amount of consumptive use in both of those
16 facilities. In the facility, for example, at Cliffside with
17 a new permit that is not within the purview planning of the
18 Nuclear Regulatory Commission, but it's a part of the
19 environment that people in the Carolinas are living with.

20 So, it's not a part of the proceeding. It's not a
21 consideration under the Nuclear Regulatory Commission rules
22 and regulations, A) I think it should be, and B) it plainly

1 has an impact in this matter because we are talking about
2 the specifics of water use and a very large water user.

3 This proposed plant would use many times more water
4 than the entire public water supply use and agricultural use
5 in Cherokee County by a factor of four. So, it's not a
6 small use even if it may be a relatively small with regard
7 to the entire river flow.

8 The river flow and amount of rainfall and the heating
9 which is going on because of global warming are factors
10 which will affect this plant's operation over the life span
11 of its 40 year licensing period.

12 So, we're talking about the middle of the 21st century.
13 So, the trends going back over the last century is why I
14 mentioned what I did need to be looked at. And looking back
15 maybe 20 years it's insufficient.

16 >>CHAIRMAN RYERSON: Did you have a question?

17 >>JUDGE TRIKOUROS: I do. You referred to the
18 intersection of drought and water temperature in your
19 petition. And when I look at that you seem to be referring
20 to the intersection of a drought that's greater than has
21 ever occurred and a water temperature that's greater than
22 has ever occurred. So, that implies to me the global

1 warming issue.

2 However, in the same area of your petition -- I think
3 the same page, in fact -- you referred to an issue regarding
4 the use of an annual mean flow in which you reference the 2%
5 of the river being withdrawn into the intake.

6 And then you refer to a terminology -- you used the
7 word "snapshot" in your petition saying that one should not
8 use annual averages. One should use -- I assume that means
9 "worst case conditions". That refers to today, not
10 necessarily a global warming world. Am I reading that
11 correctly?

12 >>MR. ZELLER: That's right. That's correct.

13 >>JUDGE TRIKOUROS: Okay. All right. So, I am
14 going to have a question -- maybe I should ask it now --
15 regarding this issue of snapshot. I mean, clearly, a
16 nuclear design analysis -- although I wouldn't use the word
17 "snapshot" -- is a similar concept invoked in all nuclear
18 design analysis.

19 So, for example, if the river were at -- and this is
20 really for everyone -- if the river were at numbers like
21 538 cubic feet per second flow, that's prior to any action
22 taken by the plant to divert to make a Pump B, and looking

1 at the design consumptive usage that the plant will use --
2 will divert.

3 You end up with about 10% or 12%, 13% depends on
4 whether you use the 73 CFS number or the 55 CFS number for
5 the plant withdrawal.

6 Significantly greater than 5%. It's, like I said,
7 closer to 10% or 12% maybe even 13%. Is that acceptable?
8 Is that snapshot an acceptable snapshot in this -- in the
9 world of licensing this plant?

10 >>MR. BESSETTE: If I can just take a minute to
11 consult.

12 Your Honor, the question you asked is an issue that has
13 to be resolved with the State of South Carolina particularly
14 with regard to the water use and the water use permit.
15 Those discussions are ongoing.

16 The fact of the matter is whatever permit requirements
17 the State of South Carolina imposes Duke will have to comply
18 with them. And currently, I mean, we have as noted in our
19 ER and the FSAR we have certain requirements; the 538 CFS
20 which you mentioned which is based on the 99 Island Dam flow
21 requirements and the flow of the plant and we determined we
22 would not be using water from the river below that.

1 But there are ongoing discussions as noted in the ER.
2 There are consultations with South Carolina which are
3 required and those are prerequisites to the NRC issuing the
4 Combined Operating License to the plant. I would like to
5 raise that particular issue was not raised by BREDL in its
6 petition.

7 >>JUDGE TRIKOUROS: I understand, but I still
8 would like to ask the question. I'm just thinking I have a
9 small hydro dam that produces -- I don't know what it
10 produces -- 45 or 50 megawatts perhaps. And I have two
11 nuclear reactors producing 300 megawatts -- 3,000 megawatts
12 electric and I'm certainly not going to shut down
13 3,000 megawatts of electric in favor of a 45-megawatt hydro
14 plant. At least that doesn't make a lot of sense to me.

15 So, you're saying all of this is ongoing and yet if I
16 don't shut the plants down I have an increasing impact on
17 the river because -- and it depends on the make of Pump B
18 situation. So, you're saying this is all ongoing with the
19 State of South Carolina, but none of it is addressed in your
20 environmental report?

21 >>MR. BESSETTE: The environmental report does
22 provide river use restrictions on certain flow conditions as

1 stated and it is our intent to comply with those, but the
2 discussions have to on go with South Carolina.

3 I mean, to state that we would go below -- we would
4 continue to operate the nuclear plant as opposed to go below
5 the minimum code requirements on the 99 Island's Dam I think
6 it's speculation at this point.

7 >>JUDGE TRIKOUROS: I understand.

8 Is the 483 CFS number going to be a tech spec for the plant,
9 a safety tech spec or is it going to be an environmental
10 tech spec? Or any idea how that's going to get implemented
11 in the operation of the plant?

12 >>MR. BESSETTE: We have not proposed that as a
13 tech spec, Your Honor. We assume that it would be a
14 requirement in any of the permits issued by South Carolina.

15 >>JUDGE TRIKOUROS: So, it would be a requirement,
16 but it wouldn't be either a safety or environmental tech
17 spec?

18 >>MR. BESSETTE: We do not propose that as a
19 safety tech spec at this time. It would be a permit
20 requirement we'd be required to comply with and consult with
21 South Carolina.

22 >>JUDGE TRIKOUROS: I'm looking over at the staff.

1 >>MR. SPENCER: That's our understanding, too.
2 Compliance with the state requirement would be a matter for
3 the State permit.

4 >>CHAIRMAN RYERSON: Dr. Murphy, do you have any
5 questions?

6 >>JUDGE MURPHY: Yes, for Mr. Zeller please. I
7 think it's fair to say that everyone whose read this
8 contention have had some questions about what the central
9 focus of it is because it covers rather a broad range of
10 legitimately important questions and issues.

11 And in our answer to your petition the Applicant Duke
12 said that the most fundamental and fatal defect in this
13 contention is that BREDL fails to provide any support for
14 its basic underlying premises; that is, the water
15 temperatures in the Broad River have and will continue to
16 increase.

17 So, it seems to me that there is an interpretation that
18 the contention relies on a notion of future climate change
19 and indeed we do talk about future climate change.

20 Are there issues such as water use issues or other
21 issues beyond future climate change? Is it true that the
22 contention relies solely on projections of future climate

1 change?

2 >>MR. ZELLER: I believe that's right. The
3 projections which we are seeing are based on events which
4 are happening now. For example, we're seeing water
5 restriction in place from the state line of North Carolina
6 along the I-85 corridor all the way to Georgia as part of
7 South Carolina (low audio) and is under severe drought (low
8 audio).

9 More counties were added over the past few months, I
10 guess, a lot of states with South Carolina. So, we are in
11 the midst of some of these changes and some of the
12 predictions actually didn't raise every -- cite every
13 expert. We didn't bring in Al Gore's information, for
14 example, about impacts on water supply and what not, but
15 it's fairly common knowledge.

16 So, I think if we bring up a specific issue about where
17 the evidence that we are bringing up to show that there's a
18 problem here, that's not the whole picture. We have brought
19 up as much as we could at the time in order to meet the
20 requirements of the procedure here under 2.309.

21 But there is more to say about this and I believe that
22 the data is on our side. What we are seeing not only in

1 South Carolina but across the southeast and as you well
2 know, reactors that are operated by Tennessee Valley
3 Authority were reduced to half power precisely because of
4 issues we are talking about here.

5 The water was too high and the environmental report
6 submitted by Duke says that under local surface water
7 quality resource of processing and cooling water is from the
8 Broad River.

9 It's possible to connect the dots here and see that
10 there is a looming crisis with regard to the water supply
11 and I think TVA's example should be (low audio).

12 >>CHAIRMAN RYERSON: Mr. Zeller, is it still your
13 position that there is a safety issue with the AP1000
14 reactor in the event of an emergency shut down that relates
15 to water supply?

16 >>MR. ZELLER: Mr. Zeller: I'm uncertain if there
17 is an actual safety issue. The option is to shut the
18 reactor down.

19 >>CHAIRMAN RYERSON: The position of the Applicant
20 as I understand it is that the AP1000 design does not
21 require a water supply for safe emergency shut down and I
22 just want to know if you disagree with that?

1 >>MR. ZELLER: I do not disagree with that, Your
2 Honor.

3 >>CHAIRMAN RYERSON: Thank you. And I guess the
4 other question I have is in your petition you refer to
5 outdoor or maybe public knowledge of increasing
6 temperatures. But what is there in your petition that
7 supports this fundamental concept that there are going to be
8 increasing temperatures and drought conditions? What in
9 your petition supports that?

10 >>MR. ZELLER: I think as I just pointed out the
11 drought conditions in South Carolina all the way to the
12 state line; in fact, all the upstate area.

13 >>CHAIRMAN RYERSON: Those are mentioned in your
14 reply, weren't they, as opposed to your petition?

15 >>MR. ZELLER: That's right.

16 >>CHAIRMAN RYERSON: Okay. Just so we're clear,
17 the test that we have to use is the adequacy of the petition
18 that you filed. In other words, that's what has to stand or
19 fall. And the Applicant and the Staff can file new file
20 answers -- have filed answers which bear upon the adequacy
21 of your petition and your reply is supposed to address those
22 answers.

1 But the reply is not an opportunity to, if you will,
2 fix the original petition. In other words, if there is not
3 factual support in the petition, we really can't consider it
4 unless there's good reason.

5 As I look at the petition, I'm looking very hard for
6 any factual support on the issue of drought or increasing
7 temperatures.

8 >>MR. ZELLER: I understand what the Judge is
9 saying in this matter and I'm aware of the jurisprudence as
10 well; however, we are in the early stage in this proceeding.
11 This is a preliminary meeting here today to discuss some of
12 these issues.

13 I would hope that everything that has been said both in
14 oral arguments and back and forth with the briefs you
15 mentioned would be considered and if this judge panel is
16 constrained in any way from considering this information,
17 then, I don't know why that would be.

18 I understood that the panel itself was independent from
19 the agency in the course of the hearing and due precedents
20 and previous decisions by the Commission and all the
21 decisions made under the Atomic Energy Act and National
22 Environmental Policy Act. I understand that fully.

1 But the facts that we have brought to your attention if
2 it's in the petition or in the reply, I think are a part of
3 the back and forth discussion; the logical train of thought,
4 if you will, from the contentions which we raise.

5 Maybe it is a different point of view, but that is that
6 the petition says one thing; the answer says well, there is
7 no reasonable basis for this argument because of A, B and C.
8 And so you argue A, B and C and that is not cognizable by
9 the Board. I don't understand that.

10 Maybe someone could explain that to me, but it does
11 seem like we've thrown down the gauntlet and we have an
12 argument. We have a dispute, plainly. And so, I think the
13 argument back and forth should be -- with all due respect --
14 in its entirety.

15 >>CHAIRMAN RYERSON: Thank you, Mr. Zeller. We
16 got the Applicant a little bit out-of-turn before, but what
17 would you like to say at this point?

18 >>MR. BESSETTE: Your Honor, I would like to
19 address several issues. As a preliminary matter, I believe
20 Mr. Zeller mischaracterized our answer when he said that.
21 He said regional surface water issues are beyond the scope.
22 Our answer, certainly, the ER addresses regional surface

1 water issues.

2 Our answer is that the issues raised by Mr. Zeller were
3 beyond the scope of this proceeding and unsupported. I want
4 to make that clarification.

5 Also, as you pointed out Your Honor, he had no expert
6 support at all in his original petition. And I want to
7 focus on the original petition. You know, BREDL's sole
8 basis as it described in its original petition, the one
9 basis in this petition called basis is that the availability
10 of cooling water is a significant constraint to safe shut
11 down of the proposed plant.

12 He then goes on to have a five page description which
13 raises additional issues unrelated to the basis and they are
14 all related to hypothetical elevated water temperatures in
15 the Broad River, presumably from climate change.

16 Although there was a different issue raised in the
17 basis of the description, we addressed both in our answer
18 just briefly here today. Boiling it down, it appears that
19 BREDL's concern that Duke has not adequately analyze the
20 safety and environmental impacts of assumed increased river
21 temperatures on such things as down river ecosystems and
22 water uses, plant water consumption, plants efficiency,

1 reliability, rig stability, severe accidents, impacts to
2 customers, and reactor cooling including technical
3 specifications. He then adds that drought will exasperate
4 all of the above temperature impacts.

5 As we've noted in our answer, this petition -- this
6 contention is inadmissible because increased water
7 temperatures and related impacts are based on pure
8 speculation and are entirely unsupported by the facts or
9 expert opinion and fails to address the very exact
10 information that addresses his concern in the environmental
11 report. Specifically, section 2.3.3.1.2 in ER Figure 2.3-22
12 in our Environmental Report provide the precise data that
13 Mr. Zeller is looking for.

14 It contains temperature data from 2006 from ten
15 sampling locations, quarterly batch samples, to 1973, 1974
16 data from 23 stations batch samples taken on a monthly
17 basis.

18 And that data shows that there is no appreciable
19 differences in ambient temperature of surface water
20 temperatures over that span or period. And that is all
21 depicted in the ER. BREDL does not reference or refute any
22 of that data.

1 As the Commission has stated Petitioner must read the
2 pertinent portions of the application and BREDL hasn't done
3 so here. BREDL also fails to provide any support, expert or
4 otherwise, that climate change or global warming will
5 somehow impact appreciably river water temperatures.

6 Even assuming global warming as a fact, you cannot just
7 claim that global warming will somehow increase river water
8 temperatures. Again, that is entirely refuted by the data
9 we have. The fundamental precept of NEPA is that applicants
10 are not required to consider environmental impacts that are
11 remote and speculative.

12 Because BREDL's contention is entirely based on the
13 unsupported and incorrect assumption that river water
14 temperatures have and will continue to increase, this
15 contention should be rejected.

16 In fact, it's not even clear what else we could do to
17 address the river water temperature increases when we have
18 actual data that shows it is not.

19 >>CHAIRMAN RYERSON: Let me ask you, Mr. Bessette,
20 about your motion to strike. BREDL's reply -- BREDL filed,
21 I think, a 20 page reply in response to which you filed a 19
22 page motion to strike asking us to strike significant

1 portions of BREDL's reply.

2 In your view, are any of the items that you want
3 stricken material in this sense: that if we considered them,
4 it would change the outcome?

5 >>MR. BESSETTE: With regard to this contention?

6 >>CHAIRMAN RYERSON: With regard to all
7 contentions.

8 >>MR. BESSETTE: Yes, I think there were several
9 issues with regard in particular -- things come to mind on
10 the seismic issues. Mr. Zeller raised Charleston seismic
11 zoning issues and in particular the definition of act of
12 fault in the vicinity of the plant. He then threw in an
13 entirely new argument which he discussed today.

14 >>CHAIRMAN RYERSON: I understand what his
15 arguments are and I understand where they're due, I believe.
16 My question for you is: Do you consider any of those
17 arguments material in the sense that it should change our
18 decision if we did consider it?

19 >>MR. BESSETTE: No, because we believe they're
20 all inadmissible.

21 >>CHAIRMAN RYERSON: Let's assume a hypothetical
22 world in which we were very generous and we considered

1 everything in BREDL's reply. Would that change the outcome
2 in your view about any of the contentions?

3 >>MR. BESSETTE: Well, I mean, it may, Your Honor,
4 because we haven't had a chance to reply to all of these new
5 issues. For instance, he's raised issues on the Eastern
6 Tennessee seismic zone and he's raised issues on, I think
7 it's Option 3 of evaluating the movement of fill material in
8 a seismic event.

9 Those are brand new issues that were just raised for
10 the first time in the reply; issues that were present --
11 could have been raised when the application was submitted.
12 So, we have not had a chance to reply to them.

13 I believe our reply would demonstrate that the issues
14 are adequately explained and are not admissible, but we
15 certainly haven't had an opportunity to reply and he
16 fundamentally raised those issues without any late file
17 contention standards.

18 We don't object if he wants to raise new issues under
19 the appropriate late file contention standards he should do
20 so and he hasn't done that. And to do so, he would have to
21 demonstrate that this is new and significant information.

22 >>CHAIRMAN RYERSON: One of the items and we are

1 going across several contentions here and we'll give you
2 time to get back on them. I want to take a break before the
3 staff speaks. But while we're on this motion, one of your
4 objections, if I understand it was that we should not
5 consider the U.S. Supreme Court decision in Massachusetts
6 versus EPA because it wasn't in his original brief?

7 Is that your position, that we shouldn't consider a
8 Supreme Court decision if it's not in his brief, in his
9 original petition?

10 >>MR. BESSETTE: Your Honor, of course, you can
11 use whatever legal basis you need to make a decision.
12 However, one of the fundamental guidance -- the guidance
13 fundamentally the Commission has provided is that replies
14 are not an opportunity to cure a faulty petitioner.

15 You don't get to just throw out an idea, get the
16 Applicant's detailed responses and then go, "A-ha" and then
17 just use that as a fishing expedition. And we believe he's
18 done so here.

19 He's raised, for instance, in the seismic area, he
20 never referenced the 200 pages in the entire seismic
21 response. In the reply he does that for the first time.

22 We said he doesn't provide any legal or factual

1 support. In the reply, he provides factual support. So, to
2 the extent that he is raising these new lead support and
3 facts, yes, we believe that should be stricken because there
4 was to reason he couldn't have done so originally.

5 With regard to the resources available to the Board, of
6 course, you should use whatever appropriate precedent is
7 available. With regard to precedent, to consider his new
8 arguments would be completely counter to long established
9 Commission precedent of not allowing petitioners to raise
10 new arguments or provide legal support.

11 >>CHAIRMAN RYERSON: Thank you. And again, I
12 distracted you a bit from Contention 3. Is there anything
13 else you want to say on Contention 3?

14 >>MR. BESSETTE: Just briefly, Your Honor. You
15 did mention -- as I stated, his original contention was
16 based on safe shut down of the plant and as we stated
17 earlier, he -- Mr. Zeller acknowledges it now -- appeared in
18 his petition to misunderstand the operation of the river as
19 associated with the AP1000.

20 The AP1000 allows for safe shut down without reliance
21 on any external water supply, does not run Broad River as an
22 ultimate heat sink contrary to many plants that exist today

1 and there are no river water temperature limits in the tech
2 specs associated with the ultimate heat sink.

3 And finally, I want to emphasize that we believe BREDL
4 also misapprehends NRCs environmental requirements regarding
5 plant availability. Duke was required and did address the
6 impact of frequency and duration of water supply shortages
7 in its ER and its FSAR; however, it does not require Duke to
8 do what BREDL is asking, which is to assume predicted or
9 prolonged periods of drought.

10 Duke however has analyzed historical -- actual
11 historical meteorological data and addressed that
12 information in its application. It's well established that
13 NEPA review is subject to a rule of reason. There is no
14 legal basis for a contention merely because some
15 environmental uncertainty makes this regarding a plant's
16 proposed water supply.

17 And I refer you to an old case of Palo Verde,
18 LBP-82-117(a). The rule of reason allows for the
19 possibility that a plant may be forced to shut down for lack
20 of sufficient (low audio) at some juncture. It is not as
21 what BREDL requires that there can be no uncertainty
22 regarding water supplies. Thank you.

1 >>CHAIRMAN RYERSON: Thank you. Do you have any
2 questions, Judge?

3 >>JUDGE TRIKOUROS: I'll wait for the staff.

4 >>CHAIRMAN RYERSON: The NRC staff, anything on
5 this?

6 >>MR. SPENCER: Yes, Your Honor. I'm Michael
7 Spencer for the NRC staff. The Applicant has gone over many
8 of the issues. Our arguments are contained in our answer to
9 the petition. We would simply say that new issues, new
10 claims brought up on behalf of BREDL should not be
11 considered by the licensing board.

12 We would just say that new claims brought up by BREDL
13 in its answer should not be considered by the licensing
14 board. Our general argument made in the brief -- made in
15 our answer to the petition is they've simply not provided
16 support for their contention.

17 It appears that every find in their contention relies
18 upon some assumption of increase in drought or increased
19 water temperatures. They simply have not provided any
20 support for that.

21 >>CHAIRMAN RYERSON: Thank you, Mr. Spencer.

22 >>JUDGE TRIKOUROS: Whether or not a contention is

1 admissible or inadmissible is -- if you put that aside for a
2 minute, if a contention raises important issues associated
3 with the current licensing of this plant that we're airing
4 and discussing, I think.

5 With respect to this global warming question and the
6 impact on the plant, I think existing reactors have run into
7 this problem. I know of three or four where river water
8 temperatures were originally designed based to 85 degrees
9 Fahrenheit and started to experience numbers closer to 90
10 degrees Fahrenheit. So, it is not an occurrence that --
11 it's not so remote and speculative from that point of view.

12 Now, I don't know if the river water temperature or the
13 bay temperature in another case increased because of global
14 warming or because of any of a hundred other factors. I'm
15 not commenting on that, but this idea that an environmental
16 input to the plant could change is not a new idea and the
17 plants have dealt with that on an individual basis in each
18 case by re-evaluating the design basis analysis for the
19 plant and concluding that they can continue to operate
20 safely with the higher river or bay temperature whatever it
21 is.

22 I don't know how that would work in this world of DCDs

1 and I'm not going to get into that, although it is an
2 interesting question. So, I just wanted to point out that
3 this is not something that if it occurs there is some cliff
4 that someone falls over.

5 And so, I just want to make that statement that this
6 isn't something that is a very major concern. But,
7 nonetheless, it's worthy of mentioning that it has occurred
8 in existing reactors.

9 >>JUDGE MURPHY: I have a question for the staff
10 which -- just to help me clarify how the process is working
11 here. My understanding is that the staff prepares the
12 environmental impact statement to satisfy the NEPA
13 requirements eventually and I presume that you're working on
14 that now and you make use of the environmental report from
15 the Applicant to prepare that; is that correct?

16 >>MR. SPENCER: Yes, Your Honor.

17 >>JUDGE MURPHY: One of the points raised in the
18 petition was that there is a lack of completeness with
19 regard to the issue of temperature and future climate
20 change. And that may not be a safety issue and it may not
21 be an issue that's within the scope of this procedure
22 because it is a docketing issue, but it seems that it could

1 be an issue in the context of environmental concerns.

2 And whether or not the possibility of climate change
3 has been fully considered in -- or completely considered in
4 the -- to the extent that such environmental changes need to
5 be a part of an environmental impact statement.

6 So, my question is rather simple now: Is the staff
7 addressing future climate change in their environmental
8 impact statement? Do you feel that is within the scope of
9 what needs to be complete -- a complete addressing of
10 environmental issues?

11 >>MR. SPENCER: Can I confer?

12 >>JUDGE MURPHY: Sure.

13 >>MR. SPENCER: Your Honor, the staff is currently
14 considering these global warming issues and the extent to
15 which the staff might incorporate them into their
16 environmental impact statements. We haven't decided to
17 change our guidance in that regard.

18 It's not entirely clear how it would necessarily apply
19 to each particular plant. So, it's something we're looking
20 at. That's -- I mean, we don't have, like, a firm concrete
21 answer on that on the extent to which such an issue would
22 need to be -- should be considered or should be considered

1 with respect to particular plants.

2 And it wasn't raised by BREDL. They didn't raise that.
3 The NRC staff guidance, for instance, requires -- or NRC
4 staff regulations requires some -- explicitly require any
5 analysis of this issue. Meaning basically, the
6 environmental issues are considered, but they need to be
7 material, too.

8 And so, there has to be some significant change that
9 would be material to our considerations for it to have --
10 potentially have an effect on our decision-making.

11 >>JUDGE MURPHY: Thank you.

12 >>CHAIRMAN RYERSON: Thank you, Mr. Spencer. If
13 there are no further questions at this time --

14 >>MR. BESSETTE: Your Honor, may I just -- Paul
15 Bessette here just to address one issue raised by Judge
16 Trikouros with regard to river temperature.

17 I think it's important to understand that the AP1000
18 design river temperature is just not an important design;
19 not for safety, not for operation. The temperature of the
20 cooling water systems are generally driven by the cooling
21 tower design, which is an AP1000 design certification issue.

22 Again, it's just not an important design parameter for

1 the AP1000. We raised that appropriately in our answer.

2 >>CHAIRMAN RYERSON: Thank you.

3 >>JUDGE TRIKOUROS: Just to make a point. I'm not
4 concerned at all with the river water temperature from the
5 point of view of the plant. The only concerns I would have
6 with respect to -- and it wouldn't be river water
7 temperature so much as it would be the flow issue that we
8 discussed. And that's environmental, that's not safety.

9 >>MR. BESSETTE: Thank you.

10 >>CHAIRMAN RYERSON: Mr. Zeller?

11 >>MR. ZELLER: I looked back to the answer. I
12 don't think I misread it, maybe I misspoke it, but the
13 answer on July 22nd does say Contention 3 should be
14 dismissed because, one, regional surface water temperature
15 has surfaced are beyond the scope of the proceeding. So,
16 unless I misspoke (low audio).

17 And I do think the NEPA Section 1 (low audio). These
18 are all practical means and utility responsibilities that we
19 have for future generations.

20 I read the quote and that's on page 28 of the answer of
21 Contention 3 whether it's regional surface water.
22 Assertions are beyond the scope of the proceeding. Those

1 basis and safe shut down earthquake because they failed to
2 include the more recent information regarding the type,
3 frequency and severity of potential earthquakes in violation
4 of 10CFR Part 100. Mr. Zeller?

5 >>MR. ZELLER: Yes, thank you, Your Honor. I have
6 a hotter microphone now. Can you hear me all right?

7 >>CHAIRMAN RYERSON: I've heard you all the way
8 through. I think there is a problem on the other side of
9 the room. Can you hear Mr. Zeller, staff? Okay, we're
10 fine.

11 >>MR. ZELLER: Yes, thank you. In a nutshell, the
12 regulation states the responsibilities of the applicant for
13 a Combined Operating License that you shall evaluate all
14 citing factors and potential causes of failures, such as
15 physical properties and materials underlying the site of
16 ground destruction and effects of ground motion that may
17 affect the design and operation of the proposed nuclear
18 power plant. That's 10CFR100.23, paragraph D4.

19 The site criteria do include the following assessments:
20 ground motion, surface tectonic, non-tectonic defamation,
21 seismic floods and waves, soil and rock stability, action
22 and potential slope stability, cooling water supply and

1 promote safety structure citing.

2 Regulatory Guide 1.208 points to any new information
3 related to seismic source that impacts the hazard
4 calculations must be evacuated and incorporated into the
5 probabilistic seismic hazard analysis in the COL
6 application.

7 The applicant has not updated the Eastern Tennessee
8 seismic zone models and I think that's where one of the --
9 that is part of the problem here that we raise in our
10 contention.

11 >>CHAIRMAN RYERSON: Mr. Zeller, when you say that
12 "the Applicant has not updated the models" can you be a
13 little more specific? What is the more recent information
14 that you say the Applicant has not included?

15 >>MR. ZELLER: The seismology issues are subject
16 of ongoing internal debate between the Nuclear Regulatory
17 Commission and both Duke and TVA and Westinghouse, the
18 manufacturer of the AP1000. The referenced COLA, Combined
19 Operating License Application, is the TVA one and of course,
20 that is one that is holding up the review schedule.

21 So far as I understand that these matters are unsettled
22 and there is some back and forth, some, dispute, really, as

1 to how these factors can be accounted for.

2 >>JUDGE TRIKOUROS: Mr. Zeller, sorry to interrupt
3 you. I didn't get what you said. You're saying that these
4 matters are not settled within the DCD proceeding? Is that
5 what I heard?

6 >>MR. ZELLER: Correct.

7 >>JUDGE TRIKOUROS: Okay, that's fine.

8 >>MR. ZELLER: The DCD -- you're exactly right.

9 In fact the seismology as well as the hydrological analysis
10 in that is the basis for this application.

11 In our submissions we have pointed to letters from the
12 Office of New Reactors, the Bergman Letter and subsequent
13 correspondence showing that additional information for
14 seismology is necessary and that these -- that the
15 application is not complete.

16 The referenced Combined Operating License, that is for
17 TVA, is not complete. And this letter shows that the
18 completion of TVAs application is delayed. Maybe there is
19 new information which I haven't heard about, but so far as I
20 understand, that these things are still unresolved.

21 And that is the fact, Your Honor, at the heart of our
22 contention is that the Design Control Document and its

1 stability in such circumstances as a seismic event, which is
2 highly -- is not remote and speculative, I should say, in
3 the upstate of South Carolina. It needs to be dealt with.

4 >>CHAIRMAN RYERSON: Mr. Zeller, your position as
5 I understand it is that there are experts at the University
6 of South Carolina who have said that any reactor at this
7 site should be designed to withstand the equivalent of
8 another Charleston earthquake referring to the, I guess,
9 probably, one of the largest earthquakes on the East Coast
10 in known history. But you don't identify who they are.
11 Why?

12 >>MR. ZELLER: Good question. At the time I was
13 talking to Dr. Pradeep Talwani at the University of South
14 Carolina at Columbia and I asked him in fact specifically if
15 he could be -- do the expert affidavit or something like
16 that and he was simply too busy with his administrative and
17 educational chores to take that on. So, that's where it
18 stands.

19 >>CHAIRMAN RYERSON: Okay, I'm sorry. I didn't
20 mean to interrupt your presentation.

21 >>MR. ZELLER: In a nutshell, the application is
22 still complete. The Office of New Reactors has written to

1 Vice President Dolan at Duke Power about these same issues.
2 So, it is a Design Control Document issue that is the basis
3 for the application. And all this is unsettled, so that is
4 the basis for our contention.

5 >>CHAIRMAN RYERSON: The applicant, Mr. Bessette
6 or Ms. Sutton? Mr. Bessette?

7 >>MR. BESSETTE: Yes, Your Honor. Again, several
8 of the issues raised by Mr. Zeller were not raised in the
9 petition. At this point, I want to focus on the issue of
10 actually raising the petition.

11 He raises two purported basis for this contention.
12 First, that an AP1000 reactor, I think WLS site, should be
13 designed to withstand another Charleston earthquake as you
14 stated and that that information is somehow missing from its
15 application.

16 And secondly, that the Environmental Report wrongly
17 seems to suggest there are no active faults near the Lee
18 site. If this contention fails to meet any of the basic
19 contention admissibility standards. Although BREDL asserts
20 in general that the FSAR is insufficient, it fails to cite
21 to a single page of the entire FSAR in its petition.

22 Particularly, Section 2.5 of the FSAR contains more

1 than 200 pages of analysis, tables, figures of extensive
2 geological, seismological and geotechnical data pertaining
3 the Lee site and the surrounding area, including Charleston.

4 It was prepared by a team of geologists and engineers
5 with substantial expertise in seismic hazards analysis and
6 engineering geology.

7 As questioned today, BREDL furnishes in its petition no
8 expert opinion of its own to counter any of this
9 information, notwithstanding the technical complexity of
10 the issues; therefore, it is entirely unclear which specific
11 portions of the hundred pages of seismic information
12 contained in the FSAR that BREDL believes it is deficient.

13 With regard to the factual information provided by
14 BREDL in proposed Contention 5, it fails to explain the
15 potential safety significance of that information or how it
16 impacts the analysis in Section 2.5. That information
17 relates to the Charleston seismic source, presence of active
18 faults and WLS AP1000 units of design margin.

19 I'll address each of these briefly. With regard to the
20 Charleston seismic source, FSAR Section 2.5 provides a
21 comprehensive compilation of current geological data
22 concerning earthquake sources, maximum earthquakes and

1 earthquake rates. Specifically, FSAR Section, 2.5.2.1.2 and
2 Table 2.5.2-201 include a catalog of earthquakes from 1627
3 to 2006 within a 200 mile radius of the Lee site.

4 That information specifically includes the Charleston
5 seismic source. In fact, Section 2.5.1.1.3.2.1 discusses
6 the specific tectonic features of the Charleston source
7 including an 1886 earthquake.

8 Two other sections including 2.5.2.2.4 and 2.5.2.4.2.1
9 discuss the most current characterization, updated
10 characterization of the Charleston seismic source, and it
11 particularly includes the type, frequency and severity of
12 that information which is the basis of the contention.

13 In fact, the FSAR indicates that the ground motion
14 hazard for the Lee site is dominated by the Charleston
15 seismic source. If a BREDL assertion that the FSAR somehow
16 doesn't consider the seismic source is entirely unsupported
17 and factually incorrect.

18 With regard to active faults near the site, Duke's
19 application was prepared in accordance with Reg Guide 1.208.
20 As part of that, Duke did not use BREDL's definition of
21 active fault; instead used capable tectonic source as
22 defined in 1.208.

1 As we noted in our answer, capable tectonic source is
2 more concerted and bounds BREDL's definition of an active
3 fault. Section 2.5.3 concludes that there are no capable
4 tectonic sources within the WLS site vicinity.

5 Importantly, site vicinity is defined by Reg Guide
6 1.208 that's within a 25-mile radius. The Charleston source
7 is approximately -- Charleston is approximately 180 to
8 200-miles away. Again, BREDL ignores this information,
9 including the Reg Guide 1.208 definition of the vicinity.

10 With regard to the design margin of AP1000, 10CFR100.23
11 requires that the applicant determine a safe shut down
12 earthquake ground motion for a given site and estimate the
13 uncertainty inherent in its estimates for probabilistic
14 seismic hazards analysis.

15 The SSE is defined as the ground motion for which
16 systems start using components of the design pursuant to
17 Appendix S. FSAR Section 2.5.2 presents the Lee site
18 specific ground motion response sector in Section 3.7.1.1.3
19 compares that site specific ground motion specter to the
20 AP1000 ground motion design.

21 It concludes that the calculated site specific
22 horizontal and vertical response spectra are within the

1 seismic design margin of the AP1000. Again, BREDL ignores
2 this comparison of site specific information to AP1000
3 design criteria.

4 Finally, Your Honor, we were going to address the
5 motion to strike, but we believe we've adequately addressed
6 it in response to your other questions.

7 Again, there were issues raised in the response this
8 morning with regard to RAIs, with regard to Eastern
9 Tennessee seismic zone and issues raised earlier on seismic
10 response fill material were never raised in the petition
11 although all of that information was available.

12 In fact in April of 2008, Duke submitted a white paper
13 to the NRC on the Eastern Tennessee seismic zone updating
14 that data which again was available to BREDL at the time the
15 petition was filed.

16 >>CHAIRMAN RYERSON: Thank you, Mr. Bessette. The
17 NRC staff, do you have anything?

18 >>MR. SPENCER: Well, we would just -- Michael
19 Spencer for the NRC staff. I don't have too much to add.
20 Basically, with regard to the Charleston earthquake the FSAR
21 deals with that and BREDL never really contests that or
22 really engages that issue.

1 As for the act of faults claim, it seems like more of
2 an argument over definitions of what a site vicinity or
3 general location and that section of the ER that they
4 actually dispute says that the more detailed description is
5 in the FSAR. So, there is just not enough here to make an
6 admissible contention.

7 Now, as for the new arguments BREDL brings up in its
8 reply brief, we agree that the argument on the random
9 vibration theory in conjunction with Approach 3 and the
10 Eastern Tennessee seismic -- those are new arguments that
11 weren't in the original petition.

12 It appears that they've just taken those from staff
13 scheduling documents or docketing letters and really have
14 not added anything more to that than what we see in those
15 letters.

16 >>CHAIRMAN RYERSON: The staff hasn't actually
17 taken a position on the motion to strike; is that right?
18 You noted that you believe that there were some
19 inappropriate new matters raised in the reply, but you did
20 not take a position on the motion to strike, correct?

21 >>MR. SPENCER: Can we pause?

22 >>CHAIRMAN RYERSON: Sure.

1 >>MR. SPENCER: We agree with the substance of the
2 motion, not necessarily that it should be stricken from the
3 record. But we would agree that it can't be considered by
4 the licensing board.

5 >>CHAIRMAN RYERSON: The new information?

6 >>MR. SPENCER: New information, yes.

7 >>CHAIRMAN RYERSON: Thank you. Mr. Zeller, do
8 you have anything to add?

9 >>MR. ZELLER: Yes, Your Honor. BREDL is not
10 saying that Duke did nothing, but 200 pages of analysis
11 which is about the seismic impacts and what not appears to
12 have been used to discount the potential for earthquake
13 impacts.

14 The analysis of 25-mile radius for capable tectonic
15 source, which was mentioned, I think could be a part of the
16 problem, but if what we are hearing from Dr. Talwani is
17 correct that means that the capable tectonic sources perhaps
18 outside the 25-mile zone -- I mean, why are the 25 miles
19 come from? If there is a capable tectonic source of the
20 magnitude of the Charleston earthquake outside the 25-miles
21 should that not be considered? If not, why not?

22 >>CHAIRMAN RYERSON: Those opinions, again, just

1 to be clear, are not set forth in the petition, correct?

2 The opinions of Dr. -- I'm sorry, I missed his name.

3 >>MR. ZELLER: His name is not used in the
4 petition. That's the only omission I guess I would say then
5 of that document on that matter. We do not use his name
6 simply for the reasons I told you before.

7 >>CHAIRMAN RYERSON: Right, I understand.

8 >>MR. ZELLER: More recently on June 27th, after
9 April's submission on the East Tennessee seismic zone data
10 there is a letter of June the 27th to Westinghouse Electric
11 Company from Thomas Bergman in the Office of New Reactors
12 talking about the information provided in your June 3 letter
13 is insufficient with regards to earlier submittals,
14 technical items here and I'm going over the letter.

15 If those issues have been resolved, then I'm unaware of
16 that information and I would like to see how that has been
17 resolved. Thank you.

18 >>CHAIRMAN RYERSON: Thank you, Mr. Zeller. Let's
19 turn to Contention 8, which again, I'll read it for the
20 benefit of the audience here and on the Internet.

21 BREDL Contention 8: The assumption that uranium fuel
22 is a reliable source of energy is not supported in the

1 Combined Operating License Application submitted by Duke
2 Energy to the U.S. Nuclear Regulatory Commission. Mr.
3 Zeller?

4 >>MR. ZELLER: Thank you, Your Honor. Regarding
5 Contention 8, uranium fuel and the Combined Operating
6 License. Federal regulations do, of course, require under
7 10CFR50.33(f) require an assessment of related fuel cycle
8 costs for the licensing period, which would be 40 years.

9 So, what would be classified in the cost of uranium
10 fuel in the middle of the 21st century? We know that
11 worldwide uranium prices have increased more than 6 fold
12 within the last -- since 2001. And so, that is part of the
13 equation here which would affect the application.

14 This information, I believe, does not take into account
15 in the application --

16 >>CHAIRMAN RYERSON: Mr. Zeller, doesn't the web
17 site that you cite in your petition suggest that
18 conservatively worldwide there is at least an 80 year supply
19 of uranium?

20 >>MR. ZELLER: Well, there are -- it does say that
21 in that particular site there. In fact, Duke's
22 environmental report states that worldwide resources are

1 over 4.7 million metric tons; enough to last 70 years.

2 I would say that the percentages regarding the Lee site
3 or the Lee plants consumption are beside the point. No
4 matter what fraction of the worldwide supply that this plant
5 would use amongst all the reactors operating on the planet,
6 the cost of the uranium fuel would be based on worldwide
7 supply and demand.

8 So, a 6 fold increase in world uranium prices similar
9 to the doubling price of gasoline at the pump would have a
10 huge impact. So, that is the trend that we see. The curve
11 here looks to be a hyperbolic curve showing uranium prices
12 increasing over this period of time.

13 And there is an assertion within Duke's documents which
14 say that world uranium prices -- that the supply could well
15 double. I didn't see any substantiation for that. That is
16 speculative itself assuming that deeper sources or more
17 remote sources of uranium could have gotten less
18 concentrated or less high quality sources of uranium could
19 economically be used.

20 And that doesn't even address the questions of the
21 energy debt created by very energy intensive form of
22 extracting fuel; in this case, purifying uranium 235 from

1 the uranium ore can be done, which does not outweigh its
2 effectiveness as a fuel. That is it takes so much energy to
3 make the fuel for the less lower quality ores that it
4 becomes not only a cost issue, it becomes a practical issue.

5 You could spend as much energy getting the uranium out
6 of the ground, putting it into the reactor as you would get
7 out of the reactor. At some point, it becomes a balance and
8 then it becomes even greater.

9 And at the present time, we are looking at an energy
10 payback for nuclear reactors on the order of a decade with
11 the existing uranium ores extraction and the energy debt.

12 So, with that -- if that impacts the price, then all
13 this should be considered in the NEPA application since they
14 are required to consider the impacts of the uranium fuel in
15 their application.

16 >>CHAIRMAN RYERSON: Are those arguments
17 documented or set forth in your petition, Mr. Zeller?

18 >>MR. ZELLER: Some of the -- yes, we've made
19 mention of the Stormsmith site, which I know there was some
20 back and forth about that, but the analysis there has to do
21 with some of these very issues that I just mentioned.

22 And one can simply do the math there by going to that

1 site, which we cite in our petition and see that some of
2 these issues are coming to a head and the prospects for
3 uranium fuel, both from an economic standpoint and costs
4 matters and in terms of supply and energy I think are really
5 shaky at this point and a better case, absolutely, needs to
6 be made by the Applicant in this case.

7 >>JUDGE TRIKOUROS: Mr. Zeller, you said that -- I
8 assume you're speculating that the cost of uranium will
9 increase 6 fold? You made that statement?

10 >>MR. ZELLER: No, it has increased 6 fold.

11 >>JUDGE TRIKOUROS: Well, it's even more than that
12 if you go back enough in time, but I'm talking about the
13 future price of uranium. Even if it did increase 6 fold
14 from now into the future, you indicated that would be a huge
15 impact.

16 What did you mean by "huge impact"? What would be
17 impacted in a huge way?

18 >>MR. ZELLER: You mean from a cost point of view?

19 >>JUDGE TRIKOUROS: The cost of electricity?

20 >>MR. ZELLER: From a cost point of view, it would
21 have an impact, obviously, on to the rate payers and the
22 economics of the plant is also the environmental concerns

1 which I mentioned.

2 >>JUDGE TRIKOUROS: And everything you're saying
3 about uranium could also be said about any other fuel
4 supply; is that right? The price of oil, the price of coal,
5 the price of other things?

6 >>MR. ZELLER: You can say that uranium -- you
7 could say that about uranium. I could say it about
8 petroleum. Although, some dispute that, but yes, I think
9 you could say it about petroleum. I don't think you could
10 say it about coal. You can certainly not say it about solar
11 and wind.

12 >>CHAIRMAN RYERSON: Thank you, Mr. Zeller. For
13 the Applicant?

14 >>MS. SUTTON: Yes, Kathryn Sutton for the
15 Applicant. Your Honor, there's many reasons again why this
16 proposed contention is not admissible. Let's first begin
17 with the web site that Mr. Zeller has cited to. It clearly
18 contradicts and undercuts their basic argument.

19 There are many section of this that are discussed in
20 Duke's answer that explain why it does, but in essence, I
21 point to our answer on page 80 that WNA, the World Nuclear
22 Association explains that while uranium exploration was

1 relatively stagnant between '85 and 2005, the past few years
2 have seen a significant increase in exploration effort which
3 could readily double the known economic resources.

4 Also between 2005 and 2006, the uranium resources
5 increased by 15%. And it goes on to say that if prices are
6 doubled, they would further expect -- this is WNA -- a ten
7 fold increase in measured resources over time due both to
8 increased exploration and reclassification of resources
9 regarding what is economically recoverable.

10 Again, this is the same source material that BREDL
11 sites and it just simply does not support their argument as
12 a matter of fact.

13 The figure that Mr. Zeller has referred to on page 40
14 of the BREDL petition only illustrates the historical
15 uranium production and demand in the western world between
16 1945 and 2004 and it's devoid of any sort of information
17 about forecasted supply and demand for the post-2004 era.

18 So, proposed Contention 8 should be dismissed on this
19 basis. Now, I would like to point out that the ASLB in the
20 North Anna COL proceeding recently reached the same finding
21 and rejected BREDL's same contention on this basis alone.
22 And I point you to LBP-08-15. It's a slip opinion and you

1 should look at page 49. I'll quote the Board there because
2 I think it's important for purposes of this proceeding.

3 BREDL has not cited any document that read as a whole
4 theory that uranium supplies will be insufficient to support
5 the operation of, in that case, North Anna Unit 3 during its
6 licensing period. This same conclusion holds true in this
7 proceeding.

8 But there is another independent ground upon which to
9 reject the contention here. Namely, it fails to establish a
10 genuine dispute with the Applicant on a matter of law or
11 fact.

12 Yes, in trying to meet the standard BREDL does cite
13 certain portions of the application, and here I will point
14 to tech spec 4.2.1 which discusses fuel assemblies to be
15 used in the AP1000; ER Section 5.7 which discuss uranium
16 fuel cycle impact; and ER -- ER standing for Environmental
17 Report -- Section 9.1.2 discussing Duke's supply and demand
18 and energy balance under the new action alternative.

19 However, none of these references are relevant to the
20 contention and none support admissibility of that
21 contention.

22 First, BREDL does not explain in any way, shape or form

1 how tech spec 4.2.1 is even remotely relevant to future
2 reliability of global uranium fuel supplies. It simply
3 describes the number and type of fuel assemblies to be
4 installed in making the reactor core.

5 With respect to the ER Section 5.7 it only concerns the
6 environmental impacts of the uranium fuel cycle.

7 And third, BREDL's reliance on section 9.1.2 is
8 similarly misplaced. It discusses the consequence of the no
9 action alternative in the context of Duke's electric supply
10 and demand balance. Again, bearing no relevance whatsoever
11 to uranium fuel supply.

12 What is important as well is that BREDL fails to
13 reference in its petition the section of the ER that does
14 relate to its alleged concerns about the reliability of the
15 uranium fuel cycle. In this case it's ER Section 10.2.2.
16 It's entitled "Irreversible and Irretrievable Commitments of
17 Material Resources".

18 It's quoted extensively, again, in Duke's answer at
19 pages 83 through 84. And this section of the ER also relies
20 upon the very same WNA web site that the petitioner relies
21 on. So, that web site not only contradicts BREDL's claims,
22 but also highlights that there is no material dispute here

1 with the Applicant because we're citing the same source
2 material, although Petitioner is citing it in a mistaken
3 manner.

4 Finally, I must add that in trying to challenge the
5 application, BREDL does engage in more speculation that if
6 there is a plan to address reported uranium supply issues
7 through the use of plutonium fuel, and in that case they're
8 referring to MOX or mixed oxide fuel, then such information
9 is also missing from the application.

10 This is simply uncorroborated speculation that does
11 not, again, establish a genuine dispute with respect to the
12 application. Thank you.

13 >>JUDGE TRIKOUROS: If Duke were to decide to use
14 plutonium, and I guess they do have a collaboration with
15 Shaw Group and Areva using weapons of grade plutonium to
16 convert to mixed oxide. The -- as I see it, the AP1000 --
17 at least I couldn't find anywhere the AP1000 DCD was
18 licensed to operate with mixed oxide fuel. And I just did a
19 quick look, but I didn't see anywhere where that showed up.

20 >>MS. SUTTON: Yes, Your Honor. We are unaware as
21 well that the DCD would envision the use of such fuel in the
22 first place. And in any event, it would require a change to

1 the DCD COLA, which again, would offer additional
2 opportunities for intervention.

3 Moreover, it would probably involve a separate
4 licensing proceeding much as it did with the current
5 generation of reactors that are using that sort fuel.
6 Again, offering petitioners a chance to participate in any
7 such decision-making process.

8 >>JUDGE TRIKOUROS: Exactly the road I was walking
9 down. Therefore, there would be a significant opportunity
10 for BREDL to take note that they -- that a license
11 application or a license amendment is occurring or a new
12 request for use -- the use of MOX. It would be noticed, I
13 assume, at that point and one could intervene at that point?

14 >>MS. SUTTON: Yes, Your Honor.

15 >>CHAIRMAN RYERSON: Thank you. NRC staff,
16 anything further?

17 >>MS. BROCK: The NRC staff has nothing beyond its
18 brief on this contention that we haven't mentioned.

19 >>CHAIRMAN RYERSON: I'm sorry?

20 >>MS. BROCK: We'd be happy to answer any
21 questions.

22 >>CHAIRMAN RYERSON: Thank you. Mr. Zeller,

1 anything in wrapping up on Contention 8.

2 >>MR. ZELLER: Thank you, Your Honor. Just one
3 point. I haven't heard anything new here today about this.
4 So, I think we have said enough about the technical issues
5 with our submissions and our responses.

6 Regarding Environmental Report Section 9.1.2, I know we
7 did make reference to that, but in my work yesterday to
8 address some of these very issues and to clarify some
9 things, I attempted to go to the NRC's web site to the
10 application documents to the Environmental Report, Chapter 3
11 to gain access to Section 9 and could not do so.

12 I tried again after an hour. I tried again later on.
13 I tried again at about 4:00 o'clock this morning, or 5:00
14 o'clock when I left out, and it was still -- I was still
15 unable to access that part of the application.

16 I should have made a copy of the several hundreds of
17 thousands of pages out there and it's my fault, but I was
18 really at a loss to explain why that section of the
19 application could not be accessed.

20 >>CHAIRMAN RYERSON: Were you able to access that
21 at an earlier time, that section?

22 >>MR. ZELLER: I did, sure, way back, but that's

1 months ago, but I attempted to deal with it yesterday.

2 >>CHAIRMAN RYERSON: Apparently, there is some --
3 for want of a better word -- glitch with the NRC system that
4 happened today or yesterday.

5 >>MR. ZELLER: We understand.

6 >>CHAIRMAN RYERSON: Sorry you weren't able to --
7 we appreciate you getting up at 4:00 a.m. and checking on
8 it.

9 >>MR. ZELLER: I would have been better prepared
10 if I were able to access it yesterday, but I couldn't.

11 >>CHAIRMAN RYERSON: Thank you. Well, now I think
12 --

13 >>MS. BROCK: Your Honor?

14 >>CHAIRMAN RYERSON: Yes?

15 >>MS. BROCK: (Low audio). We do have our hard
16 copy of the environmental report in the Cherokee County
17 library here.

18 >>CHAIRMAN RYERSON: But it's 1,000 pages -- 700
19 or 1,000 pages long, isn't it?

20 >>MS. BROCK: Yes. It's pretty thick.

21 >>CHAIRMAN RYERSON: We won't force Mr. Zeller to
22 read that now. Thank you for the offer.

1 It's now about ten of 12 and we will have a few
2 questions on some of the other contentions, I think. At
3 least as I said earlier on Contention 2 and Table S3 in
4 particular.

5 I think our preference would be to plow ahead and
6 hopefully we can finish by 12:30 or so and have lunch
7 afterwards unless I see a groundswell of opposition to that
8 approach.

9 Why don't we start it that way. And I guess, let me
10 start with you, Mr. Zeller, on BREDL Contention 2. Again,
11 for the audience's benefit, let me read that.

12 The Applicant fails to analyze the carbon footprint of
13 the construction and operation of the William States Lee
14 Nuclear Reactors 1 and 2 in its Environmental Report.

15 And I guess the first question I have for you Mr.
16 Zeller is what is the legal basis for the requirement that
17 the Applicant do so? Why does the Applicant have to analyze
18 and evaluate the carbon footprint?

19 >>MR. ZELLER: The Applicant is -- well, several
20 basis. I believe beginning with the Massachusetts versus
21 EPA, that carbon dioxide is a pollutant under the Clean Air
22 Act of 1970. Duke does put carbon dioxide in its report --

1 in this application, I should say, with intermittent sources
2 such as diesel engines and what not.

3 It refers to Table S3 which does not include carbon
4 dioxide and that the Commission's decision CLI-01-04
5 required Duke to analyze carbon dioxide emissions from
6 uranium fuel.

7 It did analyze emissions which include sulfuric oxide,
8 nitrous oxide, et cetera, but did not analyze carbon dioxide
9 from the fuel.

10 >>CHAIRMAN RYERSON: Okay. Let's just make sure
11 everybody is in agreement on this point. Does everyone
12 agree that there is nothing in Table S3 that addresses
13 carbon dioxide? Applicant? Is that a fair statement.

14 >>MR. BESSETTE: It's my understanding that it
15 does not address carbon dioxide.

16 >>CHAIRMAN RYERSON: Staff?

17 >>MS. BROCK: The staff does not believe that
18 Table S3 directly addresses carbon dioxide. It does believe
19 that there are other things addressed which we can use to
20 help analyze carbon dioxide.

21 >>CHAIRMAN RYERSON: Okay. But the issue we are
22 getting to right now, I think, is there a requirement --

1 well, let's go back in a sense before Table S3. I mean,
2 does the Applicant disagree? Well, let me rephrase that.

3 What is the Applicant's position that as of today, post
4 Massachusetts versus EPA, is there an obligation on
5 someone's part to analyze carbon dioxide emissions in
6 connection with or limited to the uranium fuel site?

7 >>MR. BESSETTE: I guess the answer is no. The
8 Massachusetts -- the EPA case referred to which was cited
9 for the first time in the reply relates to vehicle emission
10 standards. And although it does say that carbon dioxide can
11 be used as a pollutant under the Clean Air Act, it doesn't
12 say -- provide any requirement of how EPA should administer
13 that.

14 It just said that EPA did not adequately justify its
15 exclusion of carbon dioxide as a pollutant. So, I don't
16 think that's directly applicable. And even if it were, it
17 doesn't require consideration of a carbon footprint, which
18 my understanding is that it's kind of birth to death
19 analysis of carbon dioxide from the manufacturer of all
20 components under the law.

21 With regard to S3, S3 is a clear -- it says Applicant
22 shall take as given the information in S3 in its COL

1 application, which is the uranium fuel cycle. So, we
2 believe it does preclude a challenge saying you should have
3 considered something S from something else.

4 In fact, if you look at footnote one, I believe, on
5 Table S3, it says -- it states: In some cases where no entry
6 appears it is clear from the background documents that the
7 matter was addressed and that in fact, the table should be
8 read as if a specific zero entry had been made. And then it
9 gives some examples where that does not apply.

10 Now, we did not -- if there is a challenge to what S3
11 requires, there's two things you can do. You can seek a
12 waiver in this particular proceeding, but he hasn't sought
13 it and they would have to show why this particular
14 circumstance that this case don't apply because this is a
15 generic issue about that one.

16 >>CHAIRMAN RYERSON: And there is nothing --
17 there's no -- switching just for a second to Mr. Zeller.
18 There is nothing about the Duke application that is
19 different from any other reactor application with respect to
20 carbon dioxide -- with respect to the requirement to have an
21 analysis. Would you agree with that?

22 >>MR. ZELLER: I guess my answer would be that we

1 find that this issue should be addressed in every case. It
2 would amount to perhaps a Petitioner's generic contention.

3 >>CHAIRMAN RYERSON: I understand your position on
4 that.

5 >>MR. BESSETTE: My only final point, Your Honor.
6 If they think that Table S3 should be revised to require
7 CO2, as Mr. Zeller mentioned in his opening remarks, they
8 should seek a petition for rulemaking on Table S3. As it
9 stands, we believe a challenge to what is required is
10 precluded in this proceeding.

11 >>CHAIRMAN RYERSON: Does the Staff have a
12 position on two issues? First, as currently written, does
13 Table S3 preclude a requirement that there be a carbon
14 dioxide analysis that would go beyond Table 3?

15 And secondly, what is the Staff's position in light of
16 the Massachusetts EPA case as to whether in effect Table S3
17 is now broken and needs to be fixed? Is Table S3 still
18 perfectly viable as far as the staff is concerned?

19 >>MS. BROCK: I'll answer those questions in the
20 order you presented them. The staff does not believe that
21 Table S3 precludes consideration of carbon dioxide. The
22 staff does not read it in the same way the Applicant does.

1 >>CHAIRMAN RYERSON: Okay. And I think the
2 Applicant, Mr. Bessette, did not fully read perhaps -- well,
3 he didn't fully read the rather lengthy footnote, but there
4 is a specific reference to certain issues at least, maybe
5 the subject of litigation and individual licensing
6 proceeding. Is that what you're referring to?

7 >>MS. BROCK: Actually, what we're referring to on
8 footnote one is the statement that when it cleared from the
9 background document, that other -- that this has been
10 considered that it would then be concluded. And we think
11 specifically if you're discussing carbon dioxide, then that
12 is not discussed in the background documents.

13 There are ways that we can use Table S3 to calculate
14 carbon dioxide and we don't believe that was raised by
15 Petitioners in the context of this contention. But in terms
16 of the generic way the staff is looking at this issue, we do
17 not think that Table S3 precludes consideration of carbon
18 dioxide.

19 >>CHAIRMAN RYERSON: Okay. So, it's sort of two
20 key issues here. One is whether S3 precludes -- the staff
21 says it does not preclude. The Applicant says it precludes.
22 It was only Mr. Zeller says does not preclude.

1 And then the other issue is is it required and what's
2 the staff's position on whether it's required?

3 >>MS. BROCK: In term of, specifically
4 Massachusetts versus EPA, that has not - the Staff does not
5 believe that has driven the Staff to any action. That
6 Staff -- that case was a direction to the EPA as the
7 Applicant stated of what they needed to regulate, not adding
8 a NEPA obligation, which is what Table S3 is essentially
9 addressing.

10 >>CHAIRMAN RYERSON: Doesn't the same statute, the
11 Clean Air Act, have some play in Commission proceedings?

12 >>MS. BROCK: Well, the Clean Air Act would be
13 regulating the emissions not from -- especially since this
14 is a permit. That's not coming from the nuclear power
15 plant, so the regulation on that wouldn't be coming from the
16 NRC. That would be another possibly, generally, EPA would
17 be regulating that in the context.

18 >>CHAIRMAN RYERSON: Isn't the Clean Air Act
19 referenced somewhere in connection with what the Standard
20 Review Plan for an application. Doesn't it require a Clean
21 Air Act type consideration?

22 >>MS. BROCK: Ms. Brock: May I have a moment to

1 consult?

2 >>CHAIRMAN RYERSON: Sure.

3 >>MS. BROCK: There is a few things that the Clean
4 Air Act would impact for generators if they come on for the
5 few hours that they are up. And we looked at a lot of those
6 issues under transportation in our NEPA document, but NRC
7 staff is not the enforcer of the Clean Air Act.

8 >>CHAIRMAN RYERSON: I understand. Thank you.

9 >>JUDGE TRIKOUROS: Mr. Zeller?

10 >>MR. ZELLER: Yes?

11 >>JUDGE TRIKOUROS: What exactly would we
12 litigate? Would we do a calculation that's specific to the
13 Duke site? Obviously, that wouldn't be feasible. How would
14 one do a calculation of the carbon dioxide emissions from
15 the fuel cycle?

16 Would they assume nuclear power plants would be
17 utilized for the energy source or would they assume coal
18 without carbon sequestration was used? How -- what would be
19 litigated, I guess, is the question?

20 >>MR. ZELLER: Well, there are experts in this
21 area and I think we have mentioned them in our petition and
22 later on that could actually crunch the numbers to help

1 determine what the carbon dioxide impacts would be. So, I
2 think that could be done. That could be done at this site
3 --

4 >>CHAIRMAN RYERSON: But it is a generic --

5 >>MR. ZELLER: -- based on the amount of uranium
6 fuel. I mean, certainly, the amount of uranium that the
7 plant intends to use over a period of time could be assessed
8 based on the tonnage then you can --

9 >>CHAIRMAN RYERSON: What I'm asking, though, is
10 why would we do it in conjunction with this application
11 where it is clearly not necessarily the plant specific
12 issue? Why wouldn't a rulemaking be the more appropriate
13 way to do such a thing?

14 >>MR. ZELLER: Well, as I mentioned in opening
15 statement, maybe a rulemaking -- in fact, I said we will
16 petition for a rulemaking on S3 because of that -- because
17 of those deficiencies, but how do we preserve our rights to
18 intervene in this matter if -- unless there's a pathway
19 provided that that change will have an impact on this
20 application and the license?

21 See what I'm saying? In other words, if you go to
22 rulemaking, fine. Does that mean that it will never have an

1 impact on the Williams States Lee? That doesn't sound
2 right.

3 >>JUDGE TRIKOUROS: This contention has been filed
4 in other applications as well, correct?

5 >>MR. ZELLER: This contention?

6 >>JUDGE TRIKOUROS: This same contention has been
7 filed in other applications?

8 >>MR. ZELLER: Yes, sir. Absolutely.

9 >>CHAIRMAN RYERSON: And Mr. Zeller, just so I'm
10 clear, you did not seek a waiver; you didn't comply with the
11 Commission requirements for a waiver application with
12 respect to Table S3?

13 Is that because your view is that the current Table S3
14 at least does not preclude consideration of carbon dioxide?

15 >>MR. ZELLER: That's right, Your Honor. We see
16 that there is an attempt to deal with the carbon dioxide
17 emissions from this plant and the uranium fuel impacts and
18 submissions. That simply did not include everything that it
19 should have included.

20 >>CHAIRMAN RYERSON: Now, I believe the Staff in
21 responding to Contention 8 in both 2.309(f)(1)(iv)(5), which
22 is the provision that deals with the Applicants not having

1 interviews and adequate factual support. I'm a little
2 confused by that because if this is essentially, as I
3 understand it, a contention of omission.

4 That is, BREDL is saying this is something the
5 Applicant did not do and should have done. And I'm not sure
6 what factual support -- I think he needs to come up with
7 legal support for the notion that what is not there should
8 have been there, but I'm not sure what -- if it's a
9 contention of omission what that factual support he needs.
10 Am I missing something on that? Mr. Spencer?

11 >>MR. SPENCER: Michael Spencer. I would say that
12 a contention of omission -- in a classic case the contention
13 of omission arises when you have some requirement that says
14 a plan -- a certain type of plan must be provided with the
15 application and the plan is defined. It says it is a purely
16 legal issue. We say I must provide it or nothing even
17 amounting to it was provided; therefore, there is no need to
18 provide any technical basis.

19 But if there is a contention let's say in NEPA space,
20 well, why should we do an analysis of a certain thing? Is
21 this significant or not? And so -- would this be material
22 to our decision? And so in that case, there is a burden

1 upon -- unless there is some specific requirement to do a
2 particular type of analysis, there is a burden on the
3 Petitioner to provide some sort of technical basis to show
4 that an analysis should be done.

5 >>CHAIRMAN RYERSON: All right, any questions? I
6 think we're doing well time wise. I think that really
7 concludes what we've intended to cover today.

8 The job of this Board now is to go back and take all
9 the information we received and your 200 plus pages of
10 briefs and today's argument and make a decision.

11 And as I said early on, we would be addressing the
12 admissibility of each of the 11 contentions, not just the
13 ones that we discussed today, a substantial briefing on all
14 the contentions.

15 Under the Commission's rules, we are supposed to decide
16 that within 45 days of -- I guess it would be Mr. Zeller's
17 reply, which I think takes us to something like September
18 22. So, you will either see a decision by us by September
19 22 or consistent with practice, if we don't have a decision
20 by then, we will issue a notice predicting when we will have
21 a decision. I certainly would hope we would be able to have
22 a decision in September.

1 On behalf of all of us, I really would like to thank
2 everybody that participated today. We found your
3 presentations were very helpful. We talked about them at
4 the break. We appreciate your being here and your helping
5 us to clarify some of these things.

6 And again, I want to thank again the staff of the
7 Cherokee County Courthouse and Brandy McBee, the Clerk of
8 the Court; Sheriff Blanton for providing security.

9 And thank you very much, particularly with the web
10 streaming. It was a little difficult setting up, but people
11 were more than gracious in allowing us to do that.

12 One last time, too, as I've been requested, I would
13 like to let everyone who's on the Internet observing this
14 know that there is an e-mail address where they can send
15 some comments if they have any. The NRC would very much
16 like to hear comments about the web streaming process, which
17 is a pilot program.

18 Again, the address for that is WebStreamMaster --
19 again, one word -- dot Resource at nrc.gov. And one more
20 time, WebStreamMaster -- one word -- .resource@ nrc.gov. Do
21 we have any comments from the other judges?

22 >>JUDGE MURPHY: I'd simply like to reiterate

1 Judge Ryerson's thanks to the community for hosting us and
2 to the participants for forthright responses and dialogue on
3 the subjects and to all the support we've gotten here.

4 Thank you.

5 >>CHAIRMAN RYERSON: Judge Trikouros?

6 >>JUDGE TRIKOUROS: I second that. Thank you.

7 >>CHAIRMAN RYERSON: All right, we stand
8 adjourned. Thank you very much.

9

10 (Whereupon, the foregoing matter was concluded at
11 12:10 p.m.)