

RAS 7134

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## NUCLEAR REGULATORY COMMISSION

Title: Duke Energy Corp: Catawba Nuclear Station  
Units 1 & 2: Oral Arguments

Docket Number: 50-413-OLA and 50-414-OLA

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UNITED STATES OF AMERICA  
 NUCLEAR REGULATORY COMMISSION

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BEFORE THE ATOMIC SAFETY AND LICENSING BOARD PANEL

-----X  
 IN THE MATTER OF: :  
 :  
 DUKE ENERGY CORP., : Docket Nos.  
 : 50-413-OLA  
 (Catawba Nuclear Station : 50-414-OLA  
 1 & 2) : ASLBP 03-815-03-OLA  
 :  
 -----X

Wednesday, December 3rd, 2003

U.S. Federal Courthouse  
 Courtroom # 2  
 401 W. Trade St.  
 Charlotte, NC

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

BEFORE:

THE HONORABLE ANN MARSHALL YOUNG, CHAIR  
 THE HONORABLE ANTHONY BARATTA  
 THE HONORABLE THOMAS ELLEMAN

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

9:00 a.m.

CHAIR YOUNG: On the record. I'm Ann Marshall Young, the Chair of this Atomic Safety and Licensing Board. Judge Elleman, and Judge Baratta, if you would introduce yourselves?

ADMINISTRATIVE JUDGE ELLEMAN: My name is Thomas Elleman, I'm a former professor at North Carolina State University, and also worked in the utility industry.

ADMINISTRATIVE JUDGE BARATTA: I'm Anthony Baratta, a former professor at Penn State, and worked for the nuclear Navy for a number of years.

CHAIR YOUNG: And just starting over here at the right, could we have each party counsel introduce yourselves, and the people that you have with you?

MR. REPKA: Yes, Judge. I'm David Repka, of the law firm Winston & Strawn, representing Duke Energy. To my immediate left is Mr. Steve Nesbit, who is the Duke Energy MOX fuel project manager.

And then I wanted to introduce a few of the people behind me today. Perhaps you can raise a hand as I introduce their name. But first there is Ms. Lisa Vaughn, who is associate General Counsel at

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1 Duke Energy.

2 Then directly behind me is my colleague,  
3 Ms. Anne Cottingham. Then in the row behind that we  
4 have Mr. Skip Copp, who is the MOX fuel project senior  
5 scientist. Mr. Mike Cash, who is the Duke Energy  
6 manager of regulatory affairs, and Mr. Duncan Brewer,  
7 who is a PRA, probable risk assessment supervisor with  
8 Duke Energy.

9 CHAIR YOUNG: Mr. Fernandez?

10 MS. UTTAL: Good morning, Your Honor.  
11 Susan Uttal, representing the NRC staff. To my  
12 immediate left is Antonio Fernandez, also representing  
13 the Staff.

14 Right behind us is Kathleen Kannler,  
15 representing the Staff. We have several staff members  
16 here, but they will not be entering an appearance in  
17 the case. So unless the Board wants to know who they  
18 are, I will not introduce them at this time.

19 CHAIR YOUNG: Okay. Ms. Curran?

20 MS. CURRAN: Good morning, I'm Diane  
21 Curran, representing the Blue Ridge Environmental  
22 Defense League. With me this morning is Dr. Edwin  
23 Lyman, of the Union of Concerned Scientists.

24 And I would like to introduce Janet  
25 Zeller, who is a director of BREDL, who is sitting

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1 right behind me. And Lou Zeller should be coming in  
2 at any moment.

3 CHAIR YOUNG: And, Ms. Olson?

4 MS. OLSON: Good morning, my name is Mary  
5 Olson, I'm the Director of the Southeast Office of  
6 Nuclear Information and Resource Service, and I would  
7 like to introduce two of our members, who are in  
8 attendance this morning, Sherry Lorenz, and Gregg  
9 Jacoy.

10 CHAIR YOUNG: Did you get their names? I  
11 didn't understand the first name.

12 MS. OLSON: Sherry Larence, and Greg  
13 Ducay.

14 CHAIR YOUNG: Thank you. All right, I  
15 would like to make a few opening remarks. I know that  
16 is not Lou Zeller.

17 In a few minutes I want to go over a few  
18 preliminary issues, and then just move into argument  
19 -- there is Mr. Zeller -- on the 14 Contentions  
20 submitted by the Petitioners.

21 We want to try to move things along as  
22 quickly as possible, so that we can finish by tomorrow  
23 afternoon. We do have to leave by 5:30 each day, so  
24 we cannot stay late. So we are going to try to close  
25 each day at 5 o'clock so that everyone can get their

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1 materials together.

2 We are going to try to find out whether we  
3 can leave things overnight. As soon as we know we  
4 will let you know.

5 I assume everyone got our December 1  
6 Order. In that you will notice that we did not set  
7 exact time lines. What we are going to do is try to  
8 asses our progress as we go, and adjust as need be.  
9 We want to make sure that every participant has an  
10 adequate opportunity to make your arguments, and also  
11 to answer any questions that we may have.

12 We would like to average approximately one  
13 hour, or less, on each contention, which should get us  
14 here, get us out of here in time. If we can cut that  
15 back, a little bit, on some of the contentions, we  
16 should be able to take up the Staff's Motion for  
17 Protective Order.

18 Incidentally, we had discussed having  
19 someone, a security person here. You didn't introduce  
20 all the Staff people, but do we have someone from  
21 security clearance?

22 MR. REPKA: Yes, we do, Bernard Stapleton.

23 CHAIR YOUNG: Thank you, Mr. Stapleton.  
24 And so, as we go, if we do stray into any security  
25 areas that we need to be careful about, Mr. Stapleton,

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1 if you could let us know, or mention it to your  
2 counsel so that we can be on the alert for that.

3 With regard to the time for each  
4 contention, we would like for you to aim for ten  
5 minutes, or less, on your arguments. And we will not  
6 cut into that part of your argument with our  
7 questions.

8 We may interrupt, as we go, just to  
9 clarify things. But we will probably have questions  
10 at the end of each party's argument on each  
11 contention. On some we should be able to handle those  
12 much more quickly. On others they might take a little  
13 bit more time.

14 But, again, we would like to average an  
15 hour or less, total, on each one of those. And I've  
16 learned, in my experience, that you have to always  
17 underestimate because -- well, you learn that lawyers,  
18 anyway, tend to underestimate the time they are going  
19 to take. So we are trying to take that into account.

20 Finally, we, as a Board, recognize our  
21 responsibility to be fair in our conduct to this  
22 proceeding, and in our rulings, based upon our best  
23 reading of the law, and relevant rules; primarily the  
24 Contention Admissibility Provisions of 10CFR Section  
25 2.714.

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1           We owe you our impartial attention, and  
2           the duty to act in a fair and balanced manner,  
3           according to the law. We ask that you help us fulfill  
4           these obligations by making your arguments as  
5           concisely and straightforwardly as possible, by  
6           responding in the same manner to arguments made by  
7           opponents, and by answering in like fashion, any  
8           questions that we may have for you, to assist us in  
9           better understanding the issues, and your positions on  
10          them, as we spend these two days together.

11           In a moment, after we've taken care of  
12          another couple of matters, I want to ask the parties,  
13          I assume everyone has looked at the grouping of  
14          issues, or grouping of contentions?

15           It did strike me that possibly, NIRS 2 is  
16          more of an omission contention. But with that  
17          proviso, are all the parties comfortable with the  
18          groupings that we have made? Do any of you feel any  
19          burning sense that others should be taken together,  
20          that we have not put together?

21           MS. CURRAN: We are comfortable with the  
22          way they are.

23           CHAIR YOUNG: Okay. Then if we go  
24          according to schedule we should be able to get through  
25          the first of the environmental omission contentions,

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1 that would get us through half of them today. So at  
2 lunch we will see where we are, and see whether we  
3 need to adjust accordingly.

4 Ms. Uttal had sent a letter about one of  
5 the Staff being a former student of Judge Baratta, the  
6 general law on any issues relating to conflict or  
7 related issues are that the -- in the province of the  
8 individual judge to speak to. So I'm going to turn it  
9 over to Judge Baratta at this point.

10 ADMINISTRATIVE JUDGE BARATTA: Okay, thank  
11 you, Judge Young. Yes, those of you who haven't seen  
12 this, I have extra copies, and may wish to enter one  
13 in the record as well.

14 I want to point out that one of the NRC  
15 Staff reviewers, this was thanks to Ms. Uttal who  
16 pointed this out, was a student at Penn State from  
17 1989 to 1996. And also I'm aware that there are a  
18 number of other former students who work at Duke, as  
19 well as at Framatome, and at a number of other places  
20 in the industry.

21 I don't feel that that would, in any way,  
22 influence my decision, or evaluation of the  
23 contentions.

24 CHAIR YOUNG: Does any party have anything  
25 that you would like to say with regard to this issue?

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1 (No response.)

2 CHAIR YOUNG: Okay. One thing, on the  
3 omission contentions, I do want to remind everyone  
4 that the Commission has, itself, spoken on the issue  
5 of omission contentions, and I don't have the correct  
6 cites right before me, but I have an idea that all the  
7 lawyers know those.

8 If any document is filed by Duke, or  
9 issued by the Staff, or otherwise produced, that would  
10 render moot, or arguably render moot, or change the  
11 situation with regard to any omission contention, the  
12 Petitioner should be aware that at that point you  
13 would need to file an amended contention, or a new  
14 contention, if you want to withstand any possible  
15 Motion to Dismiss for Mootness, or Motion for Summary  
16 Disposition.

17 In other cases a sort of 30 day rule of  
18 thumb has been set for that. I will be glad, we will  
19 be glad to hear from the parties on an appropriate  
20 time line for that. I think it is best that we  
21 address this upfront, so that everyone understands,  
22 and we don't get down the line and find out that time  
23 has gone by and we have to take time arguing over  
24 timeliness, when we can address it on the front end,  
25 and foreclose any such problems.

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1 Does 30 days sound like a reasonable time  
2 to all the parties? Within 30 days of receipt, or  
3 when you should have known, when something is  
4 published, for example, the deadline would be 30 days  
5 after that date to file an amended contention.

6 As well, I think, there is case law  
7 suggesting that any party would have the  
8 responsibility to provide information to the other  
9 parties, any information of a sort that would be  
10 relevant to this proceeding.

11 MS. CURRAN: Judge Young, shall I address  
12 that?

13 CHAIR YOUNG: Yes.

14 MS. CURRAN: I think it is usually the  
15 Intervenor that is using that rule. We have come to  
16 look upon the 30 day rule as an across the board  
17 standard, because it has been applied in so many cases  
18 in which I have been involved in.

19 So to me it seems like a reasonable amount  
20 of time. It is definitely not too long, given the  
21 amount of work that goes into reviewing these  
22 documents, and getting expert help with them, and  
23 juggling other demands.

24 It is a reasonable period of time. And,  
25 again, we have come to look upon it as an informal NRC

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1 standard.

2 CHAIR YOUNG: Mr. Repka?

3 MR. REPKA: From our perspective we have  
4 no objection to the 30 day guideline with respect to  
5 filing on new information. Subject, really, only to  
6 a showing case by case, that there truly is new  
7 information.

8 And that the contention, the proposed  
9 contention, is based on new information, is not  
10 something that could reasonably have been raised  
11 earlier.

12 I would point out, the Board may not be  
13 aware, but BREDL and Ms. Curran did file some  
14 supplemental contentions late in the day yesterday.

15 CHAIR YOUNG: We are not aware, thank you.

16 MS. CURRAN: And I was going to ask for  
17 leave to distribute those in a moment.

18 CHAIR YOUNG: Okay.

19 MR. REPKA: And it just -- I don't think  
20 we need to discuss those. At some point, from our  
21 perspective, we would like to discuss a response  
22 schedule to those proposed contentions.

23 CHAIR YOUNG: Okay, definitely let's do  
24 that before we leave tomorrow.

25 So, all right, we will set the 30 day

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1 deadline from the time information becomes available,  
2 and encourage all parties to be free in sharing  
3 information, informally as much as possible, so that  
4 everyone knows what is going on.

5 We don't need to spend an undue amount of  
6 time dealing with whether things are timely, and so  
7 forth.

8 On the Protective Order, if we have time,  
9 as we indicated in our Order of Monday, I believe it  
10 was, if we have time we will take that up. Some of  
11 the issues that we would like to ask the parties to be  
12 thinking about, in the interim, are the completeness  
13 of the Proposed Order, and attached document, non-  
14 disclosure affidavit, I think it is called; whether  
15 all parties are in agreement to the terms; whether the  
16 security personnel are in agreement; any practical  
17 questions that we need to address regarding equipment.

18 Mr. Fernandez did provide everyone with a  
19 packet of materials related to such issues. But if  
20 there are any questions, those are some things that we  
21 might want to talk about, as well as to let everyone  
22 know the names of any people to whom they can go for  
23 consultation on security issues.

24 Then another issue related to that would  
25 be the question of the timing of obtaining material

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1       versus the timing of filing contentions and responses  
2       on security related issues. We would like to hear  
3       from you on that, when we get to that point.

4               And then, of course, practicalities of  
5       scheduling. Any hearings or oral argument on security  
6       issues would need to be conducted in our hearing room  
7       in Rockville, or in some other that has sufficient  
8       security protections in place.

9               Our hearing room is undergoing some  
10       renovation, so we may need to work around that, or  
11       find another location at the office in Rockville.

12              Were there any other issues on that, that  
13       we would like to have the parties talk about?

14              (No response.)

15              CHAIR YOUNG: I think that is about all on  
16       my list. Do the parties, or do the participants have  
17       any preliminary issues before we go into the oral  
18       argument on the contentions?

19              MS. CURRAN: Yes, I do, Judge Young. Two  
20       things, first I would like to introduce Lou Zeller,  
21       who just got here, who is Director of BREDL's Southern  
22       Anti-Plutonium Campaign.

23              And also BREDL did file some late filed  
24       contentions yesterday, late in the day, around four or  
25       five o'clock. And I have made copies that I would

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1 like to distribute to everyone right now.

2 CHAIR YOUNG: So we will really have  
3 several scheduling issues to take up, either at the  
4 end of tomorrow, or in a telephone conference that we  
5 set, at the end of tomorrow, once we all get back to  
6 our offices.

7 One would be on these, one would be on the  
8 Motion for Protective Order, and one would be on the  
9 filing in responses to any security related  
10 contentions. If anyone else can think of anything  
11 else, let us know.

12 Go ahead. Did you have anything more you  
13 would like to say about these, at this point?

14 MS. CURRAN: Just that we would ask that  
15 these contentions be considered in conjunction with  
16 the other contentions that we have filed. They relate  
17 in many senses.

18 Also this contention, this set of  
19 contentions proposes to withdraw existing Contention  
20 8, and substitute it with a new contention which, I  
21 believe, is numbered 12 or 13. When I get to  
22 Contention 8 I will discuss it.

23 Just to clarify a little bit, the  
24 contentions that we filed in October, the safety  
25 related contentions, and the NEPA contentions, there

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1 is a set of them that relate largely to consequences  
2 of accidents involving plutonium LPAs.

3 And these new set of contentions addresses  
4 some causation issues, and we think they need to be  
5 looked at together.

6 CHAIR YOUNG: You are not asking to do  
7 oral argument on them in this session, or are you?

8 MS. CURRAN: No.

9 CHAIR YOUNG: Okay.

10 MS. CURRAN: But I would like to explain  
11 that they are related, and to ask that they be  
12 considered together when you go about making your  
13 ruling on admissibility.

14 CHAIR YOUNG: We will take that under  
15 advisement. And if the parties, in breaks, can  
16 discuss with each other a proposed schedule for  
17 responses, and all the scheduling matters that we  
18 talked about, then when we get together we can sort of  
19 know a little bit better where we are.

20 Any other preliminary matters?

21 (No response.)

22 CHAIR YOUNG: Then we will move into  
23 argument on BREDL Contention 2.

24 We've asked the Court Reporter to feel  
25 free to interrupt any of us if we use acronyms and

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1 don't explain them, or talk over each other, or can't  
2 be heard. But it is still helpful to try to explain  
3 any acronyms as we go, especially if they are ones  
4 that are not obvious.

5 And I assume you know BREDL and NIRS, what  
6 they are? Okay. The order, on the order of argument,  
7 I think we would go first with the Petitioner, who is  
8 making argument on it, then to Duke, and then to the  
9 Staff.

10 I don't know whether the other Petitioner  
11 will want to make any argument, unless there is  
12 something in particular that would cause that to be a  
13 matter of concern. Probably we would move along more  
14 quickly if we start with the Petitioner who has filed  
15 the contention, then Duke, then the Staff, and then  
16 any rebuttal by the Petitioner.

17 MS. CURRAN: Shall we begin?

18 CHAIR YOUNG: Go ahead.

19 MS. CURRAN: In Contention 2 BREDL argues  
20 that Duke failed to support its claim that the  
21 increase in severe accident consequences associated  
22 with plutonium LTA loading will not be significant, in  
23 particular Duke relies on data from the SPD EIS, which  
24 is the surplus plutonium disposition EIS prepared by  
25 DOE in 1999.

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1 CHAIR YOUNG: I'm sorry, I said we weren't  
2 going to interrupt very much. But I did want to say  
3 one more preliminary thing. Let's try to go pretty  
4 directly to focusing on, for the Petitioners, on the  
5 arguments that Duke and the Staff have made, and then  
6 for Duke and the Staff, to the arguments that the  
7 Petitioners make today, rather than repeat what the  
8 contentions say.

9 Now, with that said, I know that the Staff  
10 and Duke have summarized some of the, if not all of  
11 the contentions, so if you have any dispute with how  
12 those summaries are, and I don't want to cut you off,  
13 but let's try to move, sort of, quickly through the  
14 statement of what the contention is, and focus on the  
15 issues that are in dispute.

16 MS. CURRAN: Judge Young, let me just  
17 explain what I was doing there.

18 CHAIR YOUNG: Okay.

19 MS. CURRAN: There are a lot of people  
20 sitting in the audience who don't have a playbook  
21 here.

22 CHAIR YOUNG: Right.

23 MS. CURRAN: And I just want to spend just  
24 a brief amount of time --

25 CHAIR YOUNG: That is fine.

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1 MS. CURRAN: -- at the beginning of each  
2 contention summarizing what it is about, so that they  
3 can understand the discussion. It is hard enough --

4 CHAIR YOUNG: That is fine, that is fine.  
5 And I didn't mean to cut you off, but I thought it  
6 would be better to say that at the beginning, rather  
7 than later.

8 MS. CURRAN: Yes, okay.

9 CHAIR YOUNG: Go ahead.

10 MS. CURRAN: Duke and the NRC make a  
11 primary argument here, which is that this contention  
12 is based on Section 3.8 of the license amendment  
13 request, which is a discussion of risk impacts.

14 And that, in fact, this is not a risk-  
15 based license amendment application, it is a  
16 deterministic license application. There is no  
17 requirement to submit a risk based discussion in the  
18 application.

19 And, therefore, our argument is entirely  
20 irrelevant. And we would disagree, strongly, with  
21 that, for a couple of reasons. First of all, Duke put  
22 this discussion into the license amendment request.  
23 It wasn't, doesn't consider itself to have been  
24 required to put it in, but it put it in, so there it  
25 is.

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1 A statement to the NRC, and to the public,  
2 that the risk of using plutonium lead test assemblies  
3 in this plant are insignificant. Having done that, it  
4 seems to us, that Duke must submit to criticism of the  
5 job that it has done.

6 In addition the NRC, in its response,  
7 admits that it doesn't consider the submission to be  
8 completely irrelevant. On page 7 the Staff says, the  
9 information maybe looked at during the Staff's review,  
10 although it doesn't play a large role, and is not a  
11 key component in the decision making process.

12 Of course the words large and key are  
13 relative terms that you could give varying amounts of  
14 weight to, depending on your subjective judgement.  
15 Also important is the NRC's guidance on this issue.

16 And I would like to refer you to, first,  
17 to the standard review plan, which the Staff cites in  
18 its response to this, that is NUREG0800, chapter 19,  
19 which deals with the use of probabilistic risk  
20 assessment in plant specific risk informed decision  
21 making. This is a general guidance document.

22 If you look at pages 19-4, through 19-5 of  
23 the standard review plan, there is a section entitled  
24 Acceptance Criteria, where the Staff discusses how it  
25 goes about reviewing license amendment applications,

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1 or license applications, and says, licensees generally  
2 would not be expected to submit risk information in  
3 support of such proposed changes.

4 However, circumstances may arise in which  
5 new information reveals an unforeseen hazard, or a  
6 substantially greater potential for a known hazard to  
7 occur, even when all regulatory requirements are met.

8 In such situations the NRC has the  
9 statutory authority to require licensee action above  
10 and beyond existing regulations to maintain the level  
11 of protection necessary to avoid undue risk to public  
12 health and safety.

13 And then it refers to appendix D. And if  
14 you flip back to appendix D, there is quite a lengthy  
15 discussion of circumstances in which the NRC would  
16 consider it appropriate to look at risk assessments in  
17 connection with a licensing request that relies solely  
18 on deterministic analysis.

19 And there is, let's see, it says, the  
20 licensee may decline to submit such information, but  
21 it would risk having the amendment request denied, if  
22 NRC cannot find that the requested amendment provides  
23 adequate protection of public health and safety.

24 And then the NRC goes through some  
25 factors, some criteria that would be used to decide

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1 when it was appropriate to look at risk analysis,  
2 including significant changes in the probability of  
3 the initiating event, or if the license request would  
4 create special circumstances under which compliance  
5 with existing regulations may not produce the  
6 intended, or expected, level of safety and plant  
7 operation may pose an undue risk to public health and  
8 safety.

9 Now, here we have a situation where Duke  
10 has admitted that the consequences of an accident,  
11 involving the use of these LTA test assemblies would  
12 be more severe than using LEU fuel, low enriched  
13 uranium fuel.

14 Now, of course, we have a dispute as to  
15 the significance of that increase. But they have  
16 admitted there is an increase. We also are concerned  
17 that there is not very much known about the behavior  
18 of plutonium fuel on nuclear plants. For many years  
19 it has never been used.

20 So it seems to us that these are the  
21 circumstances in which it would be reasonable to look  
22 into a risk assessment to enlighten the adequate  
23 protection determination that is made under the  
24 regulations.

25 And that is what we think is going on

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1 here. We don't think that Duke probably submitted  
2 this section of the license amendment request for no  
3 reason at all.

4 That is the principal argument that they  
5 make. We also had an argument that Duke improperly  
6 scaled the SPD EIS results to apply to the use of the  
7 LTA assemblies.

8 And Duke, essentially, concedes that that  
9 is right, and that the consequences should be higher  
10 than the consequences that they came up with. But  
11 Duke says this doesn't matter for two reasons.

12 First of all, the change in consequences,  
13 and the revised range isn't significant in the context  
14 of the PRA. Well, I think significance is a value, is  
15 something that is freighted with subjective judgement.

16 The NRC does not define what significant  
17 means. And in the case of, if you had a severe  
18 accident, which say by rule of thumb you might get 5  
19 to 10,000 fatalities, you are looking at another 35 to  
20 70 people who would die. That, to us, is not  
21 insignificant.

22 CHAIR YOUNG: So your argument on  
23 significance is you took the percentage figures, and  
24 your argument is that that would be the result and --

25 MS. CURRAN: Right.

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1 CHAIR YOUNG: -- that is your basis for  
2 saying that it is significant?

3 MS. CURRAN: Right. Duke also claims that  
4 the two percent difference between the corrected and  
5 the uncorrected result is insignificant because it is  
6 smaller than the general uncertainty that you find in  
7 a PRA. They make that argument in a footnote.

8 But this is a value in the -- this is the  
9 value that Duke presents in its risk analysis. And,  
10 of course, uncertainty would apply to any of the  
11 values they present. And there is a difference  
12 between the figure that they presented, initially, and  
13 the figure, if it is properly scaled. So we don't  
14 think that is a valid argument.

15 CHAIR YOUNG: If the Staff puts the  
16 correct figures into their analysis, is it still an  
17 argument you want to raise?

18 MS. CURRAN: I'm sorry, what?

19 CHAIR YOUNG: If the Staff incorporates  
20 the correct figures into their analysis, is this still  
21 an argument you want to continue with?

22 MS. CURRAN: Well, we still have  
23 criticisms of what -- this particular element of the  
24 contention would be resolved. There is other elements  
25 that are not resolved by that correction.

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1           BREDL also asserts that Duke should not  
2 have relied on the SPD EIS because it is outdated.  
3 Duke says that this argument lacks regulatory basis,  
4 because there is no requirement that Duke submit a  
5 PRA.

6           Well, again, this goes back to the  
7 question of what is the relevance of PRA here. And  
8 if, indeed, it is relevant, which we think it is, then  
9 under a rule of reason Duke has an obligation to use  
10 current, up to date data, the best data that is  
11 available, including its current PRA, and any other  
12 information that would come to bear on this, that  
13 would reasonably come to bear on it.

14           So it is clear that the SPD EIS relied on  
15 the IPE for the Catawba and McGuire reactors, which  
16 was done in 1991. And since that time the PRA has  
17 been revised three times.

18           It is appropriate, if this information is  
19 available, to use the up to date information.

20           CHAIR YOUNG: Let me clarify something at  
21 this point. I'm not sure if it is in regard to this  
22 contention, but in regard to one of the contentions  
23 relating to PRAs. I think the statement was made by  
24 either the Staff or Duke that they should -- that Duke  
25 should not be required to produce a PRA with regard to

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1 a given subject.

2 Are you asking that new updates, or new  
3 PRAs be done, or are you asking solely that existing  
4 PRAs be provided in support of the amendment  
5 application.

6 MS. CURRAN: We are asking for use of the  
7 existing PRA, and also other available information  
8 that might update it, because studies are being done  
9 constantly that update this information.

10 We are not asking for a new PRA.

11 CHAIR YOUNG: Thank you.

12 MS. CURRAN: I'd like to make a correction  
13 to something I said earlier. I think I implied that  
14 the two percent difference was between the uncorrected  
15 and the corrected result, but it is the difference  
16 between LEU, using LEU assemblies, and using the  
17 plutonium LTAs.

18 BREDL made another argument regarding the  
19 inadequacy of this section 3.8, that Duke did not take  
20 into account published research showing flaws in the  
21 SPD EIS, namely that increased consequences associated  
22 with using plutonium fuel depend strongly on assumed  
23 values of the actinide release fractions, which are  
24 parameters with large uncertainties.

25 And that the DOE calculation uses

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1 uniformly low values for actinide release fractions.  
2 And in support of this we cited two reports, one was  
3 a report by Dr. Lyman, the other was the report by  
4 ERI/NRC. The ERI was an expert panel on source terms.

5 The first argument they make is that we  
6 didn't provide page numbers to these studies which is  
7 true, we didn't. Both of these studies discussed this  
8 issue throughout.

9 And in the ERI study it is easy to go to  
10 the table and see what the release fractions are, that  
11 are estimated there. So we do have a technical  
12 statement in the contention that the actinide release  
13 fractions are too low.

14 This is not a general or vague statement  
15 in the contention that says please look at a document  
16 that supports our general challenge to this license  
17 application. We give a technical statement of the  
18 reason for the deficiency in the application, and  
19 refer to these two documents, neither of which is  
20 hundreds of pages long, like the documents in at least  
21 one of the cases cited by Duke.

22 So it seems to us there is a rule of  
23 reason here, in terms of whether this information is  
24 easily found in the report, and we think it is.

25 Duke also argues that even if you took

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1 these studies into account, by doing a linear scaling  
2 the difference would be insignificant, say, 1.6  
3 percent, and that they don't think that rises to the  
4 level of an admissible contention.

5 But, once again, we have a debate here  
6 about what is the significance of this difference. If  
7 you assume that fatalities in a severe accident would  
8 be between 5 and 10,000 people, then you are talking  
9 about an extra 80 to 160 deaths.

10 This is significant to us, these are  
11 people who live in the area of this plant. So we  
12 think this is an important issue that needs to be  
13 looked at, not to mention the fact that linear scaling  
14 is not necessarily the appropriate way to do this,  
15 there has to be a calculation, you can't just simply  
16 scale it, as Duke has done.

17 Finally, BREDL argues that because REG  
18 Guide 1.174 is still incomplete with respect to its  
19 discussion of the use of plutonium fuel, that this  
20 issue, the guidance needs to be completed before this  
21 issue can be resolved.

22 It seems to us that this raises a  
23 fundamental problem with this application, which is  
24 that, the application is ahead of the Staff's ability  
25 to deal with it. The Staff is still struggling with

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1       how to evaluate the safety impacts of using plutonium  
2       fuel, even in small quantities, at nuclear plants.

3               And that we are entitled, as members of  
4       the public, to sufficient development of regulatory  
5       guidance for evaluating these impacts, before the  
6       license amendment goes forward.

7               ADMINISTRATIVE JUDGE BARATTA:     It is  
8       yourself contention, then, that REG Guide 1.174 is  
9       applicable?

10              MS. CURRAN:   Yes.   Yes, because of the  
11       statements, the guidance, that I discussed earlier  
12       that says, even where the analysis that is submitted  
13       is deterministic, there are circumstances where it is  
14       appropriate to use risk analysis.

15              And it seems to us that this is exactly  
16       the type of situation to which the NRC intended to  
17       apply the REG Guide.  It seems to us, in closing, that  
18       Duke is really trying to have the sweet without the  
19       bitter here.

20              To include a discussion of a risk  
21       assessment as a way of telling the NRC, and the  
22       public, not to worry about the risk effects of using  
23       plutonium fuel in the Catawba reactor.  At the same  
24       time both Duke and the Staff deny any responsibility  
25       for using that kind of risk analysis to really take a

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1 hard look at how using MOX fuel could affect the  
2 safety of this plant, in a serious way.

3 And that is something that we would ask to  
4 be addressed by this licensing board during the  
5 hearing.

6 CHAIR YOUNG: I have just a couple of  
7 questions before we move on. The issue of the relief  
8 has been raised, possible relief, has been raised by  
9 Duke. Would you speak to that?

10 MS. CURRAN: The relief that we seek is a  
11 risk analysis that is really sufficient to address the  
12 question that Duke purports to address in section 3.8.

13 And it seems to us that that analysis may  
14 lead to some measures that may be taken to reduce the  
15 risk of using the plutonium fuel. That is the  
16 intention of it, I believe.

17 CHAIR YOUNG: And then just a couple more.  
18 In footnote 43 of Duke's response it says that the  
19 outdated SPD EIS are actually on the same order of  
20 magnitude as those cited by BREDL's witness. And I  
21 presume that that refers to Dr. Lyman's paper?

22 MR. REPKA: Yes, it does.

23 CHAIR YOUNG: Could you address that?

24 MS. CURRAN: To say that it is the same  
25 order of magnitude is meaningless to us. We would

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1       like to see it documented.

2               CHAIR YOUNG: And then, finally, the Staff  
3       says that you have failed to specify any accident  
4       sequences that have not previously been analyzed by  
5       the Applicant. Could you address that argument with  
6       Staff?

7               MS. CURRAN: Well, I think what the Staff  
8       is referring to is the accident sequences in section  
9       3.7 of the application. And that is part of the  
10      deterministic analysis of design basis accidents.

11              And what the probabilistic risk assessment  
12      would do, would be to go beyond that, and look at more  
13      severe accidents, which may behave differently. For  
14      instance, in a severe accident, a prolonged severe  
15      accident, at the beginning of the accident the decay  
16      heat of the plutonium fuel is lower than the decay  
17      heat of the low enriched uranium fuel.

18              But as the accident progresses, the rate  
19      at which the decay heat declines changes, or the  
20      comparison between them, the difference between them  
21      increases. The LEU decay heat reduces at a faster  
22      rate than the plutonium fuel decay heat. And that may  
23      have an impact on how the accident progresses.

24              You don't see that when you do a design  
25      basis analysis.

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1 (Pause.)

2 MS. CURRAN: There is a table, attachment  
3 3, to Duke's RAI response of February 27th, 2003, that  
4 shows -- this is figure 3-12, which is entitled ratio  
5 of short term MOX fuel/LEU fuel decay heat, that after  
6 72 hours --

7 CHAIR YOUNG: What date was that?

8 MS. CURRAN: I'm sorry, what figure?

9 CHAIR YOUNG: What date, which RAI was --

10 MS. CURRAN: The date of the RAI response  
11 is --

12 MR. REPKA: It is the license --

13 MS. CURRAN: -- the original application,  
14 excuse me, February 27th, 2003.

15 CHAIR YOUNG: What page?

16 MS. CURRAN: It is 3-56.

17 CHAIR YOUNG: Start over again.

18 MS. CURRAN: This table shows that after  
19 72 hours the MOX decay heat will exceed the LEU decay  
20 heat. The result is that if you are looking at a  
21 severe situation requiring prolonged cooling, the  
22 higher heat level of the plutonium fuel is an issue in  
23 accident mitigation.

24 ADMINISTRATIVE JUDGE BARATTA: A question.  
25 You said that the -- would not impact the design basis

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1 analysis. But isn't it a requirement, in appendix K,  
2 long-term coolability post-LOCA, wouldn't it impact  
3 that?

4 MS. CURRAN: I don't know if we said that  
5 it would have no effect on the deterministic analysis.  
6 I think what I was telling you, when the Staff said we  
7 already have an analysis of this, I was explaining  
8 that that was not sufficient.

9 But as I said earlier, we think that if  
10 the PRA were applied to this problem, then there might  
11 be some resulting changes in the deterministic  
12 analysis, or in the deterministic requirements for  
13 using the fuel, the plutonium fuel.

14 That seems to be what REG guide 1.174 is  
15 getting at, with respect to situations where, on its  
16 face, there is compliance with the regulations, if you  
17 look at only the deterministic analysis, that is the  
18 situation that we are presented with here.

19 Duke has presented a deterministic  
20 analysis, everything looks fine. But the NRC has  
21 criteria for looking further, and we think those  
22 criteria are met here.

23 CHAIR YOUNG: Mr. Repka? You were  
24 finished, I assume?

25 MS. CURRAN: Yes, I am.

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1 CHAIR YOUNG: Go ahead.

2 MR. REPKA: Thank you, Judge Young. Let  
3 me start by addressing the overall point. As we said,  
4 in our response to this proposed contention, there  
5 really are four specific subparts to the contention,  
6 but there is an overriding, or primary issue, as Ms.  
7 Curran characterized it.

8 Our point is that the contention is based  
9 upon a faulty presumption that the risk assessment is  
10 required and it is material to the NRC's finding on  
11 this particular license application.

12 Our position is, and remains, that a  
13 required findings of the NRC on the license amendment  
14 are based upon the deterministic analysis of the  
15 design basis accidents that is addressed in section  
16 3.7 of the application, not the risk analysis in 3.8,  
17 the risk assessment in 3.8.

18 The analysis of accident consequences, in  
19 3.7, shows that for all design basis accidents the  
20 resulting consequences, changing consequences, are all  
21 within the relevant regulatory criteria. And there is  
22 absolutely no challenge, in this contention, to that  
23 particular analysis.

24 Now, with respect to the argument that  
25 because the 3.8 risk assessment is there it must be

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1 subject to criticism. I think that, really, fails to  
2 address the key point that with respect to the relief  
3 that can be granted, in this proceeding, the relevant  
4 question is whether or not the argument is material to  
5 the findings that the NRC must make.

6 And just because something is included  
7 doesn't make that so, doesn't make it material.  
8 Beyond that, Ms. Curran cites to the standard review  
9 plan on probabilistic risk assessment and how the  
10 Staff can require that in certain applications.

11 I think that may be so. I think the  
12 burden would then be upon the Petitioner, in a  
13 proposed contention, to show that somehow there is  
14 particular risk significance with respect to the  
15 application.

16 I think throughout that there is a  
17 tendency to overstate the risk impacts by assuming,  
18 essentially, a full batch or 40 MOX fuel core, not  
19 focusing on what was really before the NRC today, and  
20 in this application, which is the lead assemblies,  
21 which would involve only four assemblies in the core.

22 Now, with respect to the particular basis  
23 offered, we did go on to address those, because I  
24 think those are important to understand that there is  
25 no genuine dispute there with respect to the risk

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1 assessment that would lead to any relief in this  
2 proceeding.

3 And this is not a matter of dispute, this  
4 is a matter of taking a critical look at what is truly  
5 offered in making a determination, whether there is a  
6 genuine dispute with respect to the risk assessment  
7 that would establish that the NRC would need to look  
8 beyond the normal deterministic analysis of the design  
9 basis accidents.

10 I'll address those, briefly, one by one.  
11 The first argument is the argument that Duke used an  
12 incorrect scaling in the application. We have  
13 acknowledged that a linear scaling would be better,  
14 based upon a factor of 476, rather than 4 over 193.

15 As a result in public health risk  
16 consequences from severe accidents, postulates severe  
17 accidents, and this is to be distinguished from dose  
18 consequences, which are addressed in the deterministic  
19 evaluation.

20 The change in public health risk, from the  
21 severe accidents, beyond design basis accidents, would  
22 range from minus 0.2 percent, to plus 0.7 percent.  
23 Those are theoretical, beyond design basis,  
24 hypothetical.

25 It is not our position that that means

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1 that those risk consequences will result, that any  
2 deaths will occur, as Ms. Curran asserts. It is  
3 simply an analytical point with respect to these  
4 beyond design basis scenarios.

5 So the question becomes, with respect to  
6 that particular portion of the question, is there any  
7 basis to argue that 0.7 percent increase in public  
8 health risk consequences suggests a need for further  
9 probabilistic risk analysis that would exceed the  
10 NRC's normal deterministic regulatory requirements.

11 And our point is that there is no basis,  
12 based upon any kind of reasonable critical review of  
13 that proposition, that there is no relief that can be  
14 granted based upon a maximum, in some scenarios, of a  
15 0.7 percent increase.

16 And part of, I think the key reason is  
17 something we addressed, we cited in footnote 40, which  
18 is just looking at the NRC's own NUREG 1150, which  
19 acknowledges the uncertainties inherent in risk  
20 analysis techniques.

21 It says, essentially, that the uncertainty  
22 is on the order of two orders of magnitude. That is,  
23 essentially, a plus or minus 1,000 percent  
24 uncertainty.

25 So with respect to a postulated 0.7

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1 percent increase in consequences, I think that there  
2 is absolutely no basis to say, against a plus or minus  
3 1,000 percent uncertainty, that there is a basis here  
4 for any particular relief, beyond perhaps making a  
5 correction on the record with respect to the improper  
6 scaling, which has essentially already been done.

7 The second point in the contention is, it  
8 essentially argues that the risk assessment, based  
9 upon the DOE SPD EIS numbers must be redone, based  
10 upon site specific probabilistic risk assessment.

11 I think we heard argument that a rule of  
12 reason would somehow require, or creates an obligation  
13 to use the best PRA data available. Our response to  
14 that is there is absolutely no regulatory basis for  
15 that position and, therefore, no regulatory basis for  
16 relief in this proceeding.

17 The idea of a rule of reason is an  
18 environmental NEPA concept that seems to be being  
19 imported here into what is a safety contention, so  
20 really has no applicability here.

21 But the real issue is, what does the NRC  
22 require in its safety review? And there is no basis  
23 to require a site specific PRA updated to address the  
24 MOX fuel issue. There is no requirement, at all, for  
25 a PRA, and it is only logical to assume that there is

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1 no basis to require that here.

2 Again, we are looking, even if you said  
3 section 3.8 is subject to criticism, is subject to  
4 challenge in this proceeding, again, it is at most a  
5 voluntary submittal of Duke for certain risk  
6 perspective on the application, and I think that there  
7 is no basis presented to say that something beyond  
8 what Duke has presented must be required, and  
9 particularly a PRA, given that -- and I think it has  
10 been acknowledged by the Commission elsewhere, that  
11 there is no requirement for a PRA.

12 MS. CURRAN: Let me just interrupt you at  
13 this point, because this is an argument that I see you  
14 repeating in several places, when you refer to there  
15 being no regulatory basis, or no requirement.

16 The standard that we need to look at, in  
17 making our rulings here, is that are those found in  
18 the contention admissibility requirements. And so we  
19 get down, often, to whether there is a genuine dispute  
20 on a material issue of law or fact.

21 References to assurance of public health  
22 and safety are found throughout the various sections  
23 of the Atomic Energy Act. Are you -- is it your  
24 argument that risk assessment is not relevant, or  
25 material, to issues of public health and safety?

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1 MR. REPKA: Our argument is not that risk  
2 assessment is not relevant to public health and  
3 safety, our argument is that risk assessment is not  
4 required with respect to this particular application,  
5 which is based upon a deterministic analysis.

6 And the NRC's regulations that address the  
7 required findings for that type of license amendment  
8 application are, presumptively, sufficient to protect  
9 public health and safety.

10 CHAIR YOUNG: What about the --

11 ADMINISTRATIVE JUDGE BARATTA: Are you  
12 familiar with 10CFR50.59?

13 MR. REPKA: Yes, I am.

14 ADMINISTRATIVE JUDGE BARATTA: Does Duke  
15 propose that any changes that they've implemented,  
16 under that, for these plants would continue to be used  
17 during the operation with the LTAs in place?

18 MR. REPKA: Certainly 50.59 would continue  
19 to apply, and would be the basis to evaluate proposed  
20 changes to the plant, at any time, before or after  
21 this amendment were granted.

22 ADMINISTRATIVE JUDGE BARATTA: And in  
23 50.59, I can't quote it exactly, but I know that there  
24 are two paragraphs, section C, it is roman numeral I,  
25 and roman numeral III.

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1           It says something to the effect that the  
2 result, you don't have to do a license amendment  
3 unless it results in more than a minimal increase in  
4 frequency of occurrence of an accident, previously  
5 evaluated in a FSAR.

6           And roman numeral III says you don't have  
7 to do a license amendment unless it results in more  
8 than a minimal, the change results in more than a  
9 minimal increase in the consequence of an accident  
10 previously evaluated in the FSAR as updated.

11           I guess how is one going to infer that the  
12 changes that have already been implemented, under  
13 50.59, that the 50.59 process is appropriate?

14           MR. REPKA: Well, first let me draw the  
15 distinction between consequences that are relevant to  
16 50.59, and the kind of consequences being discussed in  
17 this contention.

18           50.59 refers to an increase in postulated  
19 consequences of design basis accidents. Those  
20 consequences would be evaluated, as they are now, in  
21 terms of dose. And the consequences would meet, and  
22 the relevance of that evaluation under 50.59, would be  
23 to determine whether or not prior NRC approval is  
24 required for the change.

25           Ultimately, then, if NRC approval were

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1 required the dose consequences that would result, any  
2 change in dose consequences would need to be within  
3 the NRC's relevant dose criteria of either 10CFR100,  
4 or for example, 10CFR50.67, the alternative source  
5 terminal.

6 But those are traditional deterministic  
7 dose consequences analysis. What we are talking  
8 about, in section 3.8, in the risk assessment, and in  
9 this contention, are consequences looked at in terms  
10 of public health consequences, and immediate injuries,  
11 latent cancers, those kinds of things, that are based  
12 upon a three level PRA assessment of off-site dose  
13 consequences, and beyond design basis.

14 Those are not the kind of consequences  
15 that would be looked at in terms of 50.59, in the  
16 future. Either presently or in the future.

17 ADMINISTRATIVE JUDGE BARATTA: What about  
18 the frequency aspect, though?

19 MR. REPKA: The frequency of the design  
20 basis accidents would also continue to be addressed,  
21 just as it is now. There is really no change to that  
22 process, no change to making those evaluations.

23 Nothing in 50.59, per se, requires that  
24 either the frequency or consequences assessments be  
25 based upon a PRA. Those have been done, for years,

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1 based upon deterministic analyses.

2 CHAIR YOUNG: Just one more on the use of  
3 risk analysis. The reference is to NUREG 0800 and  
4 pages of the standard review plan cited by Ms. Curran.

5 You are saying that there is no dispute  
6 between you and them, or that the Petitioner somehow  
7 need to make some showing, at this point, that the --  
8 that those criteria have been met, the criteria that  
9 would lead to using risk analysis in the evaluation of  
10 the proposed amendment?

11 THE APPLICANT: I have no dispute with the  
12 words in NUREG 0800. Certainly the words suggest that  
13 the Staff could ask for risk information beyond the  
14 deterministic evaluation.

15 The question before us here is whether  
16 this contention asserts a basis for further analysis,  
17 and further relief in this proceeding. And I think  
18 the relevant question is not whether those criteria  
19 have been met, whether the Staff's criteria for asking  
20 for more risk information have been met.

21 The question is whether there is a basis  
22 relative to the required findings of the NRC, and this  
23 Board, for further relief in this proceeding. And I  
24 think with that understanding we can look at the  
25 specific three or four subparts of the contention.

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1           And our position is, there really is no  
2 basis to conclude that either further risk information  
3 is required, or that are there any other relief is  
4 available.

5           Again, in this contention --

6           CHAIR YOUNG: But before you move on, your  
7 arguments to the effect that there is no requirement  
8 for the risk analysis analysis, that this is a  
9 deterministic analysis, and risk analysis is  
10 irrelevant, essentially, I'm paraphrasing there.

11           But in response to that argument the  
12 Petitioners pointed us to provisions in NRC guidance  
13 documents that talk about circumstances in which risk  
14 analysis is appropriate, and relevant.

15           And there seems to be a dispute, between  
16 the parties, on that. And on the face of it --

17           MR. REPKA: Well, I don't think that there  
18 is a dispute that the document says the Staff can ask  
19 for risk information. The issue is whether there is  
20 any basis to ask for risk information, or any basis to  
21 request relief in this proceeding.

22           CHAIR YOUNG: The dispute that I would  
23 like for you to address is the dispute on whether it  
24 should be done, and there does seem to be a dispute  
25 there, right?

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1 MR. REPKA: Whether what should be done,  
2 whether the NRC should ask for more risk information?

3 CHAIR YOUNG: Whether additional risk  
4 analysis should be done.

5 MR. REPKA: I think, number one, the Staff  
6 would have to speak to the issue of whether they feel  
7 the need to require, or request additional risk  
8 information. There is certainly no showing at this  
9 point that the Staff has taken the position that  
10 further risk information is required.

11 Number two is --

12 CHAIR YOUNG: Hold on, before you move on  
13 from that, you are not saying that the Petitioner  
14 cannot raise an issue that the Board could find to be  
15 a material issue in our responsibility to determine  
16 whether there is a genuine dispute on a material issue  
17 of law or fact.

18 You are not saying that we can't make that  
19 determination in this proceeding without first  
20 determining what the Staff is going to do in their  
21 analysis, are you?

22 MR. REPKA: I think that it is a Staff  
23 standard review plan, and the Staff's view on whether  
24 further risk information is required is very germane  
25 to that question, as to whether the Board should.

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1 I think that --

2 CHAIR YOUNG: I agree. What I'm asking  
3 you is, you are not saying that that is determinative,  
4 though, on the issue of whether there is a genuine  
5 dispute on a material issue of law or fact, and on the  
6 issue of the relevance and materiality of risk  
7 analysis being applied in the evaluation of this  
8 application?

9 MR. REPKA: No, I don't think that is  
10 determinative. But what I think is determinative is  
11 whether or not there is any, and the burden is not  
12 ours at this point, the burden is the Petitioner's to  
13 show, in this contention, that there is any real basis  
14 for the Board to do that, particularly given, number  
15 one, that it is a deterministic application, not a  
16 risk informed application, and number two, given the  
17 Staff's position.

18 But I think that the --

19 CHAIR YOUNG: Let me make sure that I  
20 understood. You said for the Board to do that, the  
21 burden of the Petitioner's would be to demonstrate  
22 that there is a genuine dispute on a material issue of  
23 law or fact, right?

24 MR. REPKA: On a material issue of law or  
25 fact, and that there is a basis in which to conclude

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1 that even if the contention were proven, that relief  
2 could be granted in the proceeding, which suggests the  
3 need for a regulatory basis for any contention.

4 CHAIR YOUNG: And I'm going to let you  
5 talk now, but there is one more thing. And I know you  
6 cited the summary of the contention admissibility  
7 requirements from an order that I signed.

8 MR. REPKA: I hope you appreciated that.

9 CHAIR YOUNG: But I will have to tell you  
10 that I was informed, by other people in my office,  
11 that the statement that the burden with regard to  
12 relief being on the Petitioners is not necessarily  
13 correct.

14 That that might be a burden that is more  
15 in the nature of assuming the Petitioners have met all  
16 the other parts of the burden, has any opponent of a  
17 contention shown that there is no relief that could be  
18 granted. I just want to make you aware of that.

19 MR. REPKA: But we believe, certainly, in  
20 our response that regardless of who had the burden, on  
21 this particular contention, that there is no basis, we  
22 have shown there is no basis for further relief.

23 I think that the scaling issue is just one  
24 example here. Ms. Curran, this morning, is talking  
25 about two percent increases in consequences, that is

1 not really what this particular aspect of the  
2 contention says.

3 This aspect of the contention says that  
4 applying this correct scaling factor consequences,  
5 again, in terms of public health risk, not dose  
6 consequences, and deterministic terms, would be 0.7  
7 percent.

8 Our argument on that aspect of the  
9 contention, again, is on its face there is no basis  
10 there for additional relief, either asking for further  
11 risk assessment, or for any other particular relief  
12 that might exceed that.

13 With respect to the issue of whether there  
14 must be a PRA instead of the SPD EIS I think that the  
15 burden here would be to show that SPD EIS is, in some  
16 way, particularly inadequate which we will address as  
17 the third subpart.

18 But apart from that there is no regulatory  
19 basis for a PRA. I think there was some discussion,  
20 earlier with Ms. Curran, whether or not they were  
21 asking for new work. And I think, by definition, it  
22 would require to be new work.

23 The PRAs exist, they don't presently model  
24 MOX fuel, as just a, more a qualitative than a  
25 quantitative cut at risk assessment. Duke chose to

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1 use the SPD EIS, they believe that that is perfectly  
2 appropriate, and for the purpose that the risk  
3 assessment is being given.

4 And there is no basis to require anything  
5 further. This aspect, the second aspect of the  
6 proposed contention really is just, it is a request  
7 for a PRA just because, just because, you know that  
8 the Intervenors, the Petitioners would like a PRA.

9 But I think the real question is, there is  
10 no basis in either the regulation, or facts, for that.  
11 The third aspect of this contention relates to what is  
12 asserted to be some specific flaws in the SPD EIS, and  
13 those -- that contention, that aspect of the  
14 contention is based, principally, on Dr. Lyman's  
15 study.

16 Ms. Curran maintains that the key  
17 information from that can be easily found. I think  
18 with respect to the other reference, that is less  
19 true. With respect to Dr. Lyman's study we, in fact,  
20 did look at that, and if you scale the results, as we  
21 discussed in our response, that is where you get a  
22 maximum increase of 1.6 percent.

23 That is not a matter of debate, that is  
24 taking exactly what Dr. Lyman has presented. And the  
25 question is, is a 1.6 percent increase in consequences

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1 based upon that study, in any sense, significant?

2 Is that, in any sense, a basis for relief?

3 And, again, that has to be compared to the fact that  
4 the normal uncertainty in a risk assessment might be  
5 on the order of plus or minus 1,000 percent.

6 So this is literally not a basis for  
7 requiring further PRA. And I think the last basis  
8 offered is really just REG guide 1.174, and in the  
9 proposed contention doesn't stand for any more than  
10 the proposition that the Staff, in that document,  
11 doesn't reflect that it is taking any position on MOX  
12 fuel.

13 Well, number one, the Staff has taken a  
14 position on MOX fuel in the past. They have granted,  
15 at least in the case of Ginna applications to use  
16 demonstration MOX fuel assemblies in the past. So  
17 that fact does exist.

18 But apart from that, the fact that the  
19 Staff may have not yet taken a position that, in and  
20 of itself, is not a basis for a contention. That  
21 simply acknowledges the fact that with respect to this  
22 license application the Staff is still reviewing the  
23 application. And that is not, in and of itself, a  
24 contention.

25 Finally, there is some discussion this

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1 morning of, really for the first time, of decay heat.  
2 And in connection with this contention, some  
3 postulation that decay heat would somehow increase the  
4 consequences of accidents.

5 Well, that theory is not developed in the  
6 proposed contention as written. In fact, we searched  
7 Dr. Lyman's materials and came up with the postulated  
8 1.6 percent increase in accident consequences.

9 But I would just point out, with respect  
10 to decay heat, that the figure that is referenced is  
11 a ratio of the decay heat from a MOX fuel assembly,  
12 versus an LEU fuel assembly.

13 It is not an absolute decay heat curve, it  
14 is a ratio showing that a normal MOX fuel assembly  
15 decay heat is slightly greater than a corresponding  
16 LEU assembly. That does not mean that for the first  
17 72 hours MOX is lower, and then it is greater after  
18 that.

19 My point is that the decay heat, though,  
20 as an absolute objective number is declining, and so  
21 regardless of that ratio the decay heat is still  
22 declining over time. And the fact of the matter is  
23 that there is no basis, in the contention, drawing a  
24 connection between this particular decay heat ratio  
25 and four assemblies, and any off-site consequences

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1 that would result from them.

2 So what we have, there, is a case of  
3 throwing out a piece of information without really  
4 anything more to suggest that the standard for an  
5 admissible contention is met.

6 And, more particularly, in the context of  
7 our discussion here this morning, to show that any  
8 further risk assessment is required.

9 CHAIR YOUNG: Staff?

10 MR. FERNANDEZ: Good morning, Your Honors.  
11 First the Staff would like to address something that  
12 the Applicant briefly mentioned, that Petitioners and  
13 BREDL have mentioned the rule of reason, and the hard  
14 look doctrine in addressing the Board this morning,  
15 with regard to this contention.

16 CHAIR YOUNG: The hard look on this one?

17 MR. FERNANDEZ: Yes. And we would like to  
18 remind the Board that, as submitted, the contention  
19 seems to be a contention challenging compliance with  
20 the Atomic Energy Act. And the rule of reason, the  
21 hard look doctrine, are more applicable to NEPA  
22 jurisprudence, which we would ask the Board to not  
23 analyze.

24 CHAIR YOUNG: I'm not sure that NEPA is  
25 coming into play in this contention.

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1 MR. FERNANDEZ: Well, the Petitioners have  
2 mentioned the hard look doctrine, and the rule of  
3 reason referenced to this contention. So if they made  
4 a mistake, I don't know, but that is what we heard  
5 them say. It will be in the transcript, I'm sure.

6 CHAIR YOUNG: Sure.

7 MR. FERNANDEZ: As far as the specific  
8 substantive arguments of the Petitioners, as we made  
9 clear in our response to their contention, information  
10 with regards to risk is not required in requesting a  
11 license amendment to an operating license for any  
12 reactor.

13 And in this case the licensee, although  
14 they submitted that information, the Staff is not  
15 relying on that information to make a deterministic  
16 assessment of the propriety, or the appropriateness of  
17 issuing a license amendment to Duke.

18 The Staff did not request such  
19 information. And, as of yet, the Staff has not  
20 identified any special circumstances that could be  
21 associated with this license amendment request.

22 So as we state in our response, this  
23 information is not relevant to this proceeding. And  
24 any challenges to the information contained therein  
25 should be considered as beyond the scope of this

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1 proceeding, given that the Staff is not going to rely  
2 on that information in coming to its ultimate  
3 conclusion regarding the license amendment request.

4 CHAIR YOUNG: So your argument is that  
5 notwithstanding the references that Ms. Curran gave us  
6 to NUREG 0800, that there is not even any dispute on  
7 the --

8 MR. FERNANDEZ: Your Honor --

9 CHAIR YOUNG: -- material issue there?

10 MR. FERNANDEZ: In NUREG 0800, I believe  
11 Ms. Curran referred us to appendix D, which talks  
12 about special circumstances where the Staff may  
13 request risk informed information. And if -- you  
14 don't mind if I read from Appendix D?

15 It reads as follows: In such situations  
16 the NRC has the statutory authority to require  
17 licensee action above and beyond existing regulations  
18 to maintain the level of protection necessary to avoid  
19 undue risk to the public health and safety.

20 Section 182A of the Atomic Energy Act  
21 gives the NRC the authority to require the submittal  
22 of information in connection with a license amendment  
23 request, if the NRC has reason to question adequate  
24 protection of public health and safety.

25 The licensee may decline to submit

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1 information, but it would risk having the amendment  
2 request denied if the NRC cannot find that the  
3 requested amendment provides adequate protection of  
4 public health and safety.

5 CHAIR YOUNG: Is that from the same pages  
6 that Ms. Curran read?

7 MR. FERNANDEZ: This is from the NUREG  
8 0800 SRP page 19-D1, from Appendix D of the SRP.

9 In essence, Your Honor, the Staff has not  
10 determined that there are special circumstances in  
11 this situation. That so far the deterministic  
12 information provided has not revealed to us any  
13 situation where we would feel that the requested  
14 amendment does not provide adequate protection of the  
15 public health and safety.

16 That review is ongoing, and the ultimate  
17 decision of the Staff has not been done, and a  
18 complete review of the application has not been done  
19 yet. But, as of yet, the Staff does not feel that the  
20 provisions in Appendix D are triggered in this case.

21 And that the risk implications of the  
22 amendment are better addressed through the  
23 deterministic review that the Staff traditionally  
24 does, rather than the risk informed license amendment  
25 review that is considered in regulatory guide 1.174.

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1 CHAIR YOUNG: Let me just ask you a  
2 question. Apart from whether there is a genuine  
3 dispute on this issue, of whether there should be the  
4 additional, going the additional mile, if you will.

5 You say the Staff has not yet completed  
6 its analysis. Suppose we were to deny the contention,  
7 deny admitting the contention, based on the arguments  
8 that you are making now. And then down the road the  
9 Staff determined that, indeed, there was a need to go  
10 further and look, and do some risk analysis.

11 I guess you would say that at that point  
12 a new contention could be filed. But, surely, the  
13 issue of relevance or materiality doesn't change from  
14 one moment to the next? Well, if it were material six  
15 months down the road, isn't it material now, isn't it  
16 relevant now?

17 MR. FERNANDEZ: Well, given that the Staff  
18 has not -- the Staff's preliminary determination is  
19 that it is not relevant to a license amendment  
20 request.

21 CHAIR YOUNG: But you are leaving open the  
22 possibility that it might become relevant later, but  
23 we are called upon to make a determination whether  
24 there is a genuine dispute on a material issue of law  
25 or fact now.

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1 MR. FERNANDEZ: And --

2 CHAIR YOUNG: So that is something that we  
3 need to determine, correct?

4 (Pause.)

5 MR. FERNANDEZ: Pardon me, Your Honor. In  
6 short you are correct, the determination must be made  
7 now, and what we need to look at is if Petitioner has  
8 presented to the Board, and the parties so far.

9 And in looking at that, the Staff's  
10 position is that there has been no assertion regarding  
11 that the licensee is going to exceed, for example, the  
12 limits in part 100, and fail then to protect, to  
13 adequately protect the public health and safety by  
14 exceeding the dose limits.

15 There has been no showing, by the  
16 Petitioner, that this license amendment request would,  
17 in a way, particularly exceed any Staff guidance, or  
18 any limits imposed on the operation of the facility.

19 So although preliminarily the only thing  
20 I can tell you is that the Staff is not looking at  
21 this as a risk informed license amendment request.  
22 And that no special circumstances have been  
23 identified.

24 It would be up to the Petitioner, in this  
25 case, to identify if such circumstances exist, and we

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1 really don't believe that they have done so.

2 CHAIR YOUNG: Does that complete your  
3 argument?

4 MR. FERNANDEZ: One last thing, and I'm  
5 going to make it very short, because Mr. Repka also  
6 addressed it.

7 Ms. Curran was talking about regulatory  
8 guide 1.174. And in referring to it there is a  
9 statement in there with regards to the source term,  
10 and whether the 1.174 accounts for MOX, and whether  
11 the staff has sufficient information to conduct their  
12 review.

13 As Mr. Repka stated, that that mere  
14 allegation that the Staff doesn't have enough  
15 information to complete its review, is not a basis for  
16 a contention, it is just a statement of fact, if it is  
17 true.

18 In fact it is not true, the Staff is  
19 currently, the Office of Research, and the Office of  
20 Nuclear Reactor Regulation are reviewing this request,  
21 and before any license amendment would be issued, any  
22 unresolved technical issues, if there are any, would  
23 be resolved prior to issuance, and those would be  
24 documented in the Staff's evaluation report done in  
25 association with this license amendment request.

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1 Thank you.

2 CHAIR YOUNG: And just a brief rebuttal,  
3 I would like you to address two questions. One, the  
4 issue of the 1 to 2 percent, or 1.6 percent increase  
5 in consequences in the context of uncertainty.

6 And then, second, the Staff and Duke's  
7 reference to the part 100 dose limits and whether you  
8 made any showing that there is a possibility that  
9 those would be violated.

10 ADMINISTRATIVE JUDGE BARATTA: I would  
11 also like you to address Mr. Repka's statement with  
12 respect to 50.59.

13 MS. CURRAN: Okay. I might need a  
14 reminder of the question. Hold on.

15 (Pause.)

16 CHAIR YOUNG: Judge Baratta just suggested  
17 now might be a good time to take a brief recess. We  
18 expect that further future argument on the rest of the  
19 contentions may go a little bit more quickly than this  
20 one, or at least on most of them.

21 But since it looks like you need a little  
22 time to confer, would now be a good time to take a ten  
23 minute break?

24 MS. CURRAN: Yes, that makes sense to us,  
25 thank you.

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1 CHAIR YOUNG: Let's be back in ten  
2 minutes, then.

3 (Whereupon, the above-entitled matter  
4 went off the record at 10:28 a.m. and  
5 went back on the record at 10:40 a.m.)

6 CHAIR YOUNG: Back on the record. If you  
7 want to ask your question before they get started?

8 ADMINISTRATIVE JUDGE BARATTA: Is the  
9 Staff finished at this point?

10 CHAIR YOUNG: Okay, go ahead, Ms. Curran.

11 MS. CURRAN: I think your first question  
12 related to footnote 40 and Duke's response, in which  
13 Duke argued that the uncertainties were so great in  
14 the PRA, maybe 100 to 1,000 times, that this amount of  
15 difference we are talking about is insignificant.

16 But it seems like if you adopted that  
17 reasoning it would make the whole exercise of  
18 probabilistic risk assessment absurd, because it would  
19 say that anything, any impact less than 100 or 1,000  
20 times would be inconsequential. And that is not how  
21 the NRC and the nuclear industry use probabilistic  
22 risk assessment, impacts much less than 100 or 1,000  
23 times are considered significant changes in the risk  
24 that a proposed operation may have.

25 So it seems to us it is kind of a -- it is

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1 an exercise in mixing apples and oranges, that the  
2 differences in the basic values that are presented in  
3 the PRA are important, at much lower levels, than Duke  
4 suggests.

5 So, in effect, Duke is proposing a  
6 definition of significant as 100 to 1,000 times, not  
7 1,000, just 100. But that, to us, seems extreme, and  
8 is not consistent with NRC practice in using PRA.

9 The other question, I think, or the second  
10 question was, if Duke has said that it complies with  
11 the Part 100 dose limits in its analysis, and we  
12 haven't shown that those limits are exceeded, the  
13 contention fails right there, because we needed to  
14 show an exceedance.

15 And I would simply refer you back to the  
16 standard review plan, in Appendix D page 2, which as  
17 one of the criteria for using a risk analysis where  
18 only a deterministic analysis has been presented, they  
19 look at situations that could create special  
20 circumstances under which compliance with existing  
21 regulations, which we have asserted here, may not  
22 produce the intended or expected level of safety and  
23 plant operation may pose an undue risk to public  
24 health and safety.

25 In other words, the whole purpose of the

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1 standard review plan is to get at situations where  
2 there is facial compliance with all of the NRC's  
3 safety requirements, but there is some kind of new  
4 information, and new circumstances, that raises  
5 questions about it.

6 Whether or not you, that now the  
7 deterministic analysis you've done shows that the  
8 regulations will be complied with, you've got some  
9 other information that raises questions that need to  
10 be pursued further.

11 And we believe this is what the Commission  
12 intended with its policy statement regarding use of  
13 PRA, that one of the uses of PRAs is to identify  
14 problems, is to provide some assurance that the  
15 analysis that is being used in licensing decisions is  
16 adequate.

17 So to us this situation falls within that  
18 guidance, regardless of whether there is facial  
19 compliance with the regulations. And then I think  
20 there was a third question.

21 And, Judge Baratta, I would like to ask  
22 you to clarify it. This was a question about 50.59?

23 ADMINISTRATIVE JUDGE BARATTA: Yes. Mr.  
24 Repka made the statement that the deterministic  
25 analysis was sufficient to identify any changes in

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1 frequency, or consequences of accidents analyzed in  
2 the FSAR.

3 And I wanted to see what your opinions  
4 were on that.

5 MS. CURRAN: I think this question, our  
6 response really goes back to the question that I just  
7 answered, which is what is the role of risk analysis  
8 in a situation where you have a deterministic  
9 analysis, it appears that the application complies  
10 with the regulations and, yet there are factors that  
11 are not adequately quantified, or not adequately  
12 analyzed because of lack of experience with them,  
13 special circumstances that require further analysis.

14 For instance, there is a no significant  
15 hazard analysis in this license amendment application.  
16 But it is largely qualitative. And it doesn't have  
17 the degree of rigor that we think the regulatory guide  
18 calls for.

19 ADMINISTRATIVE JUDGE BARATTA: Thank you.

20 MS. CURRAN: Could I have a moment to just  
21 respond to a couple of points?

22 I just want to address a few arguments  
23 that were made. I believe Mr. Repka said that we have  
24 a tendency to overstate the risk impacts of this  
25 license amendment by focusing on the full core of

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1 plutonium fuel.

2 We have not done that. Our entire, our  
3 contentions, our entire argument today, is based on  
4 the supposition that we are talking about the LTA test  
5 assemblies, and not a full core of plutonium.

6 Mr. Repka also characterized what, I  
7 guess, risk analysis and what we are looking for as  
8 theoretical beyond design basis hypotheticals. I  
9 think those were some of the words he used.

10 And we don't look upon probabilistic risk  
11 assessment as an academic exercise. We certainly  
12 think it is problematic, we are aware there is a lot  
13 of problems with it, but there is ways to use it  
14 properly, it is not merely theoretical, it is not pie  
15 in the sky kind of thing.

16 And, obviously, the NRC considers it a  
17 valuable tool. So we would dispute that  
18 characterization of the value of the analysis that we  
19 are seeking here.

20 Both Mr. Repka and Mr. Fernandez  
21 criticized me for using terminology that is common to  
22 NEPA cases. And I did use the term rule of reason,  
23 and Dr. Lyman says I used the phrase hard look. I  
24 don't remember doing that, but he said I did.

25 And all I would say about that is that

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1 those phrases come to mind when you are -- what you  
2 are asking for is reasonable decision making. That is  
3 what it is.

4 And I don't think anybody here would argue  
5 that when the Atomic Energy Act is the statute that  
6 applies, that one checks one's reason at the door. It  
7 just goes with any kind of a dispute, or analysis like  
8 this.

9 The regulations don't prescribe, like a  
10 doctor's prescription, exactly what you do. You have  
11 to apply some reason to it, and that is what we are  
12 asking for here.

13 An argument was made that the decay heat  
14 theory is not in contention here. And I just want to  
15 clarify that that is an example that we provided in  
16 response to a question about the NRC Staff's argument,  
17 which was that Duke has already provided the requisite  
18 analysis, and there is nothing more that is needed.

19 And we were just trying to give an example  
20 of issues that could come up in a severe accident  
21 analysis that you might not necessarily see in a  
22 design basis analysis.

23 And that is, I think, we are entitled to  
24 respond to those arguments, and explain why what the  
25 other party said does not somehow resolve our

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1 contention.

2 I heard Mr. Fernandez say that the Staff  
3 is not going to rely on the risk information presented  
4 in section 3.8 of the license amendment application.  
5 That is different from what the Staff says in its  
6 written pleading.

7 The Staff says it may look at that  
8 information, and it may play some kind of a role,  
9 perhaps minor, but some kind of a role in the decision  
10 making process.

11 I also heard Mr. Fernandez say, in effect,  
12 that the Staff really doesn't know yet what its  
13 position is on the applicability of REG guide 1.174 to  
14 this license amendment application. The Staff is  
15 still in the process of evaluating that.

16 So it seems to me to be premature for the  
17 Staff to say, A, that it is not going to look at the  
18 information. And, B, that it is only going to play a  
19 minor role. It seems to me, from what he said, that  
20 the Staff has not reached a point yet of being able to  
21 draw such a conclusion.

22 Those are my points.

23 ADMINISTRATIVE JUDGE ELLEMAN: Ms. Curran,  
24 Good morning.

25 MS. CURRAN: Good morning.

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1 ADMINISTRATIVE JUDGE ELLEMAN: I think I  
2 heard you say that there are experimental data out  
3 there that support a much higher release of actinides  
4 from MOX fuel, than from low enrichment uranium fuels.

5 And, Mr. Repka, I think I heard you say  
6 that even if those numbers are employed, that you come  
7 up with a change in consequence that is only 1.6  
8 percent higher. Did I correctly understand that  
9 discussion, is that what Duke did, in coming up with  
10 that 1.6 percent?

11 MR. REPKA: What we did to come up with  
12 the 1.6 percent was to take Dr. Lyman's paper, which  
13 is the paper referenced in the contention, take his  
14 worst case scenario from table 5, which would  
15 inherently assume his assumptions regarding actinides.

16 Those results are for a 40 percent MOX  
17 fuel core. We scaled those results to four  
18 assemblies, and came up with the 1.6 percent.

19 ADMINISTRATIVE JUDGE ELLEMAN: And, Ms.  
20 Curran, does that encompass what you were alluding to  
21 in your comment about higher actinide release data  
22 that are out there?

23 MS. CURRAN: One moment, please.

24 (Pause.)

25 MS. CURRAN: There are three points to

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1 this answer. First, scaling is not the appropriate  
2 method of determining this result, because you need to  
3 know where the fuel is going into the core, and  
4 various other factors.

5 And so a calculation needs to be done  
6 using all of the relevant information. So this number  
7 that Duke came up with is very rough number.

8 Second, we need better documentation of  
9 the actinide releases. We would like to see what, in  
10 fact, the situation is. That is largely what we are  
11 asking for here, a more thorough discussion of what is  
12 going on.

13 What we have here is kind of rough stuff,  
14 and not the degree of care that we would expect to see  
15 in this type of license amendment application, which  
16 is seeking permission to use plutonium fuel in this  
17 reactor.

18 And, finally, as I think we said earlier,  
19 the question of whether a 1.6 percent increase is  
20 significant, is a matter of dispute here. And in our  
21 judgement even that number is significant. It  
22 represents fatalities, a significant number of  
23 fatalities, should there be a severe accident.

24 And it is, I believe I heard Mr. Repka  
25 say, well there is no accident that is going to happen

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1 here, that we are just speculating about it. Well,  
2 since the Three Mile Island accident, since the  
3 Chernobyl accident, the NRC has come very far from  
4 talking about severe accidents as mere speculative  
5 possibilities.

6 These are real risks that the NRC, long  
7 ago, decided were worthy of consideration, and very  
8 wisely so. So we think that the potential  
9 consequences of these events, these severe accidents,  
10 are extremely important.

11 And, therefore, it is very important to  
12 have a good idea of what they are. A good idea that  
13 is based on up to date relevant data.

14 ADMINISTRATIVE JUDGE ELLEMAN: My  
15 understanding of the situation, and please correct me  
16 if I'm wrong here, is that there are very limited data  
17 on release of actinides in fishing products, from  
18 plutonium based fuels.

19 There is a lot more data on uranium based  
20 fuels, and the NRC has used those to come up with an  
21 adequate, what they believe to be an adequate source  
22 term.

23 But if I'm correct that the data base is  
24 very limited, what would you have the licensee do to  
25 deal with that circumstance?

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1 (Pause.)

2 MS. CURRAN: Two suggestions. And I'd be  
3 glad to let Dr. Lyman speak instead of -- I feel a  
4 little bit like his parrot.

5 CHAIR YOUNG: That is fine.

6 MS. UTTAL: Your Honor, I would object,  
7 BREDL is represented by counsel, and at this point in  
8 the proceeding counsel should be making all the  
9 representations.

10 Dr. Lyman could expand the scope of the  
11 contention and I don't think that is permissible at  
12 this point, not under oath, not subject to cross  
13 examination. Therefore the Staff would object to him  
14 speaking.

15 CHAIR YOUNG: From time to time I believe  
16 in the past various persons who are not counsel for,  
17 I think in another case a licensee, Duke maybe even,  
18 if it makes things quicker, to move things along,  
19 there would not seem to be a problem.

20 Obviously we wouldn't take it as  
21 testimony. What is your position?

22 MR. REPKA: I have no objection to it, per  
23 se. I think I do have a concern that the scope of the  
24 contention may mutate and, ultimately, the burden is  
25 that the contention is what has been written and

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1 submitted, that is the contention that we responded  
2 to.

3 And I think there is a tendency, when we  
4 get into these technical debates, in this prehearing  
5 context, that the nature of the contention may change,  
6 and we don't really have an opportunity to respond to  
7 that.

8 So I do have that concern. And so I think  
9 if the Board were to allow it, it would have to do so  
10 very carefully.

11 CHAIR YOUNG: And, obviously, you would  
12 have the right to raise any objections or questions.

13 MS. CURRAN: I would just like to --

14 CHAIR YOUNG: If you want to go ahead?

15 MS. CURRAN: -- make a suggestion that I  
16 thought it would be helpful, for some of these  
17 technical questions that are coming from the Board, if  
18 Dr. Lyman answered them directly, because not being a  
19 scientist I may garble it, and that it would be more  
20 useful to have a really precise, succinct answer, and  
21 faster for all of us.

22 CHAIR YOUNG: Just to err on the side of  
23 caution, we will require all parties to have their  
24 counsel speak for them, and hope that that does not  
25 add any length or confusion.

1 MS. CURRAN: Actually Dana Powers, who I  
2 believe is the chair of the ACRS, he was the chair of  
3 the ACRS, wrote a letter to the NRC dated February  
4 27th, 2002, that is attached to the ERI NRC report 02-  
5 202, on the accident source terms for light water  
6 nuclear power plants, using high burnup and mixed  
7 oxide fuels.

8 He makes a number of recommendations for  
9 further testing that should be done in order to  
10 achieve better understanding of behavior of plutonium  
11 fuel, and we would simply suggest that those, his  
12 recommendations provide guidance on what should be  
13 done to improve the data base.

14 Of course, the testing would have to be  
15 done in Europe.

16 CHAIR YOUNG: What page is that on?

17 MS. CURRAN: It is page 71, actually.  
18 Now, in addition, in the attachment to the late filed  
19 contentions that we filed yesterday, and gave you hard  
20 copy of today, this is a -- there is a set of slides  
21 from a presentation by IRSN, which is the French  
22 regulatory agency, where they also make suggestions  
23 for further testing of plutonium fuel.

24 And they ask the NRC to engage in this  
25 testing.

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1 ADMINISTRATIVE JUDGE ELLEMAN: So these  
2 actions would be beyond the capabilities of the  
3 licensee, they would have to be issues that the NRC  
4 would address in conjunction with their review of  
5 their license amendment request.

6 MS. CURRAN: I would think so. Although  
7 I think it is important to take a step back here and  
8 bear in mind that Duke's license application is part  
9 of a larger federal government project to dispose of  
10 weapons grade plutonium.

11 So that, this is a little bit different  
12 from some other licensing applications, where it is  
13 purely a creature of the licensee's desire, interest  
14 in doing this. This is, partly, to carry out a  
15 federal program, where certainly the federal  
16 government has many roles to play in this, in  
17 supporting what Duke is doing.

18 ADMINISTRATIVE JUDGE ELLEMAN: You have  
19 indicated your belief that a new PRA should be carried  
20 out by Duke that reflects the introduction of the four  
21 plutonium subassemblies.

22 From my knowledge of PRAs, most of the  
23 methodology would stay the same. What would change  
24 are some things about the source term, and some of the  
25 numbers that would propagate through the report.

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1 Can you and Dr. Lyman identify for me any  
2 physical processes that you can cite that would cause  
3 a significant change in the end result? And by  
4 significant I mean more than just several percent, by  
5 the introduction of these four plutonium  
6 subassemblies.

7 MS. CURRAN: Okay. Well, in the first  
8 place I'm glad you asked this question because I  
9 certainly never meant to give the impression that  
10 BREDL is seeking a new PRA.

11 We are seeking consideration of data  
12 regarding the plutonium fuel and its behavior within  
13 the existing PRA, that one would redo some of the  
14 calculations, but we are not talking about a whole new  
15 PRA here.

16 ADMINISTRATIVE JUDGE ELLEMAN: So it is a  
17 revised PRA?

18 MS. CURRAN: Yes.

19 ADMINISTRATIVE JUDGE ELLEMAN: Okay.

20 MS. CURRAN: And hold on for the answer to  
21 the second part of your question.

22 (Pause.)

23 MS. CURRAN: At the time that we filed  
24 these contentions, in October, we had available to us  
25 some information about the differences in the behavior

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1 of plutonium fuel with respect to consequences.

2 We now have information suggesting that in  
3 addition, because of its different characteristics,  
4 even the four plutonium fuel assemblies that we are  
5 talking about could have an impact on the causation of  
6 an accident.

7 And so I'm getting into something that I  
8 feel would be unfair to get much further into that.  
9 But just to answer your question I think that in  
10 considering our contentions you are going to need to  
11 look at all of them together, as that question comes  
12 up in your mind.

13 ADMINISTRATIVE JUDGE ELLEMAN: Is this new  
14 information reflected in the new contentions that you  
15 gave us this morning, and that we haven't had a chance  
16 to look at?

17 MS. CURRAN: Yes, it is.

18 ADMINISTRATIVE JUDGE ELLEMAN: It is,  
19 okay.

20 MS. CURRAN: And, again, this is a product  
21 of information that is becoming available, as the NRC  
22 reviews this application, as it gets into the,  
23 investigates the questions about using plutonium fuel  
24 more thoroughly, it is coming up with more  
25 information.

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1 In this case it received a presentation  
2 from the French Nuclear Safety Agency, which of course  
3 we looked to for its expertise in plutonium fuel. So  
4 as this information comes along we will present it to  
5 the Board.

6 ADMINISTRATIVE JUDGE ELLEMAN: One last  
7 question, if I may. Mr. Repka has cautioned us  
8 against getting too far afield from the particular  
9 contention, and I agree with that.

10 And a few minutes ago, Ms. Curran, you  
11 said we need to apply reason to these discussions in  
12 our proceedings. And I would ask you to help me with  
13 a problem I have in trying to deal with this issue.

14 And the problem is, if I look at the  
15 information from Duke, and some of the numbers in the  
16 report, I end up concluding that the amount of  
17 plutonium in the reactor core, at the time the  
18 plutonium subassemblies are to be inserted, that the  
19 uranium enriched plutonium will exceed the added  
20 plutonium in the mixed oxide fuel by something like  
21 factors of four to six.

22 And, Mr. Nesbit, I'm sure, can comment  
23 better on that. And I see him nodding his head, maybe  
24 that is affirmative.

25 As time progresses the plutonium in the

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1 MOX core goes down through burnup: The plutonium in  
2 the low enrichment uranium part of the core goes up  
3 through transmutation of U-238, so the disparity gets  
4 even bigger.

5 And my problem, then, is can you help me  
6 with any physical processes, that you are aware of,  
7 that could cause that smaller amount of added  
8 plutonium to significantly dominate the consequences  
9 of a PRA analysis, or a risk analysis that would be  
10 carried out?

11 MS. CURRAN: Personally I can't.

12 ADMINISTRATIVE JUDGE ELLEMAN: I assume  
13 that is why Dr. Lyman is sitting there by your side.

14 (Pause.)

15 MS. CURRAN: Plutonium fuel has a  
16 different microstructure than low enriched uranium  
17 fuel.

18 ADMINISTRATIVE JUDGE ELLEMAN: Yes.

19 MS. CURRAN: This may lead to different or  
20 disproportionate releases. We do not know, at this  
21 point, to what degree those differences may be. It is  
22 really unexplained.

23 And I think we are a bit handicapped here  
24 by the fact that the information has not been  
25 obtained. It is not as though we could all sit here

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1 and look at the same body of data, and come up with  
2 different answers, and then someone could decide who  
3 had given the proper interpretation.

4 Part of it is that insufficient  
5 information has been gathered about this. Certainly  
6 insufficient information has been put into the public  
7 record about this. And that is one of the  
8 difficulties, we think, with this license amendment  
9 application.

10 ADMINISTRATIVE JUDGE ELLEMAN: So it's  
11 effects related to the microstructure that would be  
12 the issue that could cause a risk change as a result  
13 of the plutonium oxide fuel?

14 MS. CURRAN: That is one example, there  
15 may be others.

16 ADMINISTRATIVE JUDGE ELLEMAN: Does Dr.  
17 Lyman know of any others that he would offer?

18 (Pause.)

19 MS. CURRAN: As far as consequences go, we  
20 don't have any more information at this time. As far  
21 as probability goes, we have put some new information  
22 into the amended contentions, or supplemental  
23 contentions that were filed yesterday.

24 ADMINISTRATIVE JUDGE ELLEMAN: Thank you.

25 CHAIR YOUNG: All right, we've obviously

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1 taken quite a bit longer on this first discussed  
2 contention.

3 MR. FERNANDEZ: Your Honor?

4 CHAIR YOUNG: Yes?

5 MR. FERNANDEZ: If the Board will allow me  
6 just 30 seconds to respond to something that Ms.  
7 Curran said about my --

8 CHAIR YOUNG: Go ahead.

9 MR. FERNANDEZ: -- presentation?

10 Ms. Curran stated that I may have  
11 misspoken, I guess, on the applicability of regulatory  
12 guide 1.174 to this proceeding. The Staff has made  
13 the determination that 1.174 does not apply, and has  
14 submitted that license amendment request is not a  
15 risk-informed license amendment request.

16 And it is being reviewed in the  
17 traditional deterministic review that the Staff does  
18 for most, if not, of the large amount of license  
19 amendment requests that it processes.

20 CHAIR YOUNG: So let me just make sure I  
21 understand what you are saying. What you are saying  
22 is that the Staff has made a determination that the  
23 criteria in the Appendix D to NUREG 800 do not warrant  
24 additional risk analysis; you are saying that that  
25 determination has been made?

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1 MR. FERNANDEZ: Yes. At this point in  
2 time there is nothing in there that would cause us to  
3 trigger all the special circumstances.

4 CHAIR YOUNG: So by saying at this point  
5 in time you are saying it could change later?

6 MR. FERNANDEZ: Well, it is very unlikely  
7 that it would, but it is not -- you've got to  
8 understand, as well, that the Staff is very cautious  
9 when they make statements like this, like the one that  
10 I'm making right now, because those statements have to  
11 be supported in the Safety Evaluation Report that the  
12 Staff produces.

13 So I don't want to sound like I'm pre-  
14 judging any part of the adequacy of the application  
15 itself. The Staff, the limited, the limited opinion  
16 that I'm giving you right now is that given the  
17 standards in 1.174, the Staff does not consider the  
18 application to meet those standards, and it is not a  
19 risk informed license amendment request.

20 But as to the adequacy of the request, or  
21 the ultimate resolution of whether the amendment will  
22 be granted or not, that has not been reached. So I  
23 don't want you to take my statement as Staff decision  
24 on the ultimate resolution of the license amendment  
25 request. Is that clear?

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1 CHAIR YOUNG: We take it for what it is.  
2 Anything further?

3 (No response.)

4 CHAIR YOUNG: All right, then, let's move  
5 on to BREDL Contention 7. It, along with the  
6 responses to it are much shorter. Since we spent so  
7 much time on the first contention, BREDL 2, let's try  
8 to keep our arguments very much shorter on this one,  
9 so we can get through it more quickly.

10 MS. CURRAN: I will say I think we have  
11 covered a lot of ground.

12 CHAIR YOUNG: Right, I think that a lot of  
13 the arguments that we heard on BREDL 2 can carry over  
14 to some of the other contentions. So it was time well  
15 spent, but we do need to move along on some of the  
16 next ones.

17 MS. CURRAN: I would just like an  
18 opportunity to reply to Mr. Fernandez, because that  
19 issue affects so many of the contentions that are  
20 before you.

21 And maybe what you are going to have to do  
22 is look at what is in the transcript, but this morning  
23 it seems that the Staff has made several different  
24 representations about the status of its review of  
25 whether the criteria in 1.174 are either relevant, or

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1 will be applied.

2 And I don't, even from his most recent  
3 statement, I felt there was some equivocation there.  
4 And it seems very important to me. Because if in fact  
5 the Staff hasn't made up its mind yet, that undermines  
6 the argument that is being made by the Staff's  
7 counsel, that REG guide 1.174 is completely irrelevant  
8 here. I just wanted to make that point.

9 It seems to me that Contention 7 raises  
10 many of the factual issues that we just discussed, but  
11 in a different legal context. This contention is  
12 submitted under NEPA.

13 And even, assuming for purposes of  
14 argument that Duke isn't required to do any kind of  
15 risk analysis under the Atomic Energy Act, that  
16 doesn't answer the question of what is required under  
17 NEPA.

18 And we rely, in these contentions, on  
19 10CFR51.45(c), which states that the environmental  
20 report is to be based on quantitative information to  
21 the extent possible. And we also rely on the NEPA  
22 rule of reason that would require that the analysis  
23 use reasonably up to date and accurate information.

24 CHAIR YOUNG: Let me just -- we are on  
25 Contention 7, right?

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1 MS. CURRAN: Right.

2 CHAIR YOUNG: And I know you mentioned the  
3 regulation in one of the contentions, but I don't --

4 MS. CURRAN: I think it may have been 6.

5 CHAIR YOUNG: -- is it this one? Oh,  
6 okay.

7 MS. CURRAN: Yes.

8 CHAIR YOUNG: And the number is 51.45,  
9 right?

10 MS. CURRAN: Yes. I'm afraid that is a  
11 typo on page 14, it is 51.45(c).

12 CHAIR YOUNG: Right, okay. I just wanted  
13 to clarify because I didn't see it in there. But you  
14 are referring back to 6. Are you saying that you  
15 think we should hear argument on 6 before 7, would  
16 that make more sense, or you just want to refer back  
17 to that, and then move on to 7?

18 MS. CURRAN: I will just refer back to it.

19 CHAIR YOUNG: Okay.

20 MS. CURRAN: I believe Duke also argues  
21 that we are asking for a new PRA here. And I think  
22 I've already addressed that question, we are not  
23 asking for a whole new PRA, we are asking for use of  
24 the PRA that exists to analyze this new problem, the  
25 problem of making an adequate evaluation of the risks

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1 of using plutonium fuel.

2 Duke has spent a lot of money on this  
3 tool. And it is a valuable tool, and we think it is  
4 reasonable to use that tool to analyze the risk of  
5 this proposal.

6 I don't think I have anything more to add  
7 on that.

8 CHAIR YOUNG: All right. Mr. Repka?

9 MR. REPKA: Okay, this is a severe  
10 accident contention in NEPA terms. We would  
11 acknowledge that environmental review can, and in fact  
12 the environmental review in this case does address  
13 beyond design basis, rather than risks.

14 I think the contention itself is termed,  
15 is stated in terms of Duke has failed to support its  
16 claim that the increase in severe accident  
17 consequences associated with fuel loading will not be  
18 significant.

19 It is a bit ambiguous as to whether that  
20 is a contention of omission, by use of the words  
21 failed to support, or whether it is an affirmative  
22 challenge to the conclusions that are, indeed,  
23 included in the license application and the  
24 environmental review.

25 But I think we can look at the contention

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1 as perhaps addressing three things. The first is an  
2 assertion that Duke must use its own up to date PRA,  
3 and I'm quoting there from the contention, to  
4 calculate the severe accident consequences.

5 And Ms. Curran says, this morning, that  
6 BREDL is not asking Duke to perform a new PRA. But  
7 the fact is that BREDL is asking for the PRA, a PRA  
8 assessment of the application. And as we discussed  
9 earlier, there is simply no requirement for that,  
10 either in safety, in a safety review, or in an  
11 environmental review.

12 The reference is to --

13 CHAIR YOUNG: Let me interrupt right here,  
14 because I think this may just sort of cut to the chase  
15 to some degree or other. I really would appreciate it  
16 if you would address the provision in 51.45, that  
17 environmental review shall, to the fullest extent  
18 practicable, quantify the various factors considered.

19 Because that is, as the word practicable  
20 suggests, that is a fairly practical issue. And  
21 throughout several of these contentions, on the issue  
22 of the use of PRA, if there is information available  
23 then it would be helpful, to me, to hear your  
24 arguments on why it would not be practicable to  
25 provide it.

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1 MR. REPKA: Okay. First the citation to  
2 51.45(c) is addressed in a response to BREDL  
3 Contention 6. But the same response applies here.  
4 The fact of the matter is our position is that  
5 51.45(c) does not require, in an environmental review,  
6 a probabilistic risk assessment of the specific  
7 license amendment request.

8 In fact there is a case, before a  
9 licensing board, a licensing board decision related to  
10 the Duke Cogema, Stone & Webster fuel fabrication  
11 facility on very much the same kind of request for a  
12 PRA --

13 CHAIR YOUNG: Right, but --

14 MR. REPKA: -- in the environmental review  
15 that determines that.

16 CHAIR YOUNG: But, Mr. Repka --

17 MR. REPKA: Now, with respect --

18 CHAIR YOUNG: -- I'm sorry to interrupt  
19 you, but before we go off on that, you say it doesn't  
20 require that. But just looking at the words of the  
21 Rule, what I would really appreciate hearing, whenever  
22 these PRA issues come up, when I hear you say it  
23 doesn't require that, and I look at the Rule, and the  
24 Rule says, shall to the fullest extent practicable,  
25 what I would like to hear from you is the reason why

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1 it would not be practicable.

2 MR. REPKA: Okay. My point, though, is  
3 that the Rule says quantitative data, it does not say  
4 PRA, but it requires quantitative information to the  
5 extent practical.

6 A PRA, there is no PRA addressing MOX fuel  
7 impacts at this point. The PRAs have not been updated  
8 to address that particular scenario, so it does not  
9 exist. It would be a new PRA analysis.

10 So that addressed, beyond the fact that  
11 the Rule doesn't require a PRA, it would not be  
12 practical because it simply hasn't been done, it is  
13 something that doesn't need to be done.

14 And, again, I think that is the point that  
15 is inherently addressed in the DCS decision by a  
16 comparable licensing board. I think, with respect to  
17 the rule requirement that there be quantitative  
18 information, there is quantitative information  
19 included in the license application, and the  
20 environmental review.

21 It is drawn from the DOE SPD EIS which is  
22 a very comprehensive evaluation of the risks,  
23 including the beyond design basis risks of use of MOX  
24 fuel.

25 So there is information, and it is

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1 satisfied, so number one, to the extent that the  
2 contention is seeking a PRA, our position is there is  
3 no regulatory basis for that. And that is the  
4 position, I believe, that the Staff agrees with in  
5 their response.

6 So then the second question becomes, is  
7 this contention really about the SPD EIS, and the  
8 quantitative conclusion there, that if the correct  
9 scaling is used, or if Dr. Lyman's results are used,  
10 instead of the SPD EIS, we are back to the issue of  
11 the 1.6 percent, and is that assessment in any way  
12 inadequate?

13 And for the same reasons we've already  
14 discussed this morning, we think that the 1.6 percent,  
15 which is based on Dr. Lyman's own analysis, is not  
16 significant, it doesn't raise a significant issue, it  
17 is worse case.

18 In any event, those types of issues are  
19 addressed in the environmental review, so there is no  
20 omission, they are addressed based upon the SPD EIS.  
21 Now, if you updated the SPD EIS conclusions, and  
22 instead were to use Dr. Lyman's conclusions, we get  
23 back to the maximum increase of 1.6 percent.

24 We heard this morning, for the first time,  
25 that Dr. Lyman believes that scaling would not be an

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1 appropriate use of his report. We find that curious  
2 because on page 32 of that same report, under a  
3 section called Extrapolation to PaRtial MOX Cores, the  
4 very first sentence states, and I will quote it.

5 The radionuclide inventories from partial  
6 MOX cores can be estimated from the full core  
7 inventories by linearly scaling the results with  
8 respect to the MOX core fraction. End of quote.

9 CHAIR YOUNG: My copy of this starts with  
10 page 34.

11 MR. REPKA: We had the same problem.  
12 There is -- what I will do is I think we have a copy  
13 that is paginated, from the global report, as well.  
14 I will get you an updated quote.

15 CHAIR YOUNG: Thanks.

16 MR. REPKA: But the 32 is based upon a  
17 copy that begins on page 1, so approximately 32 pages  
18 in, under a heading Extrapolation to Partial MOX  
19 Cores.

20 CHAIR YOUNG: Thank you.

21 MR. REPKA: So, again, in this context our  
22 basic point is, if this contention is really about the  
23 .7 percent that is included, the information included  
24 in the environmental review, and it is about the  
25 difference between .7 percent and 1.6 percent, it is

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1 simply not a significant issue.

2 The requirement at 51.45(c) for some  
3 quantitative assessment, to the extent practical, has  
4 been fulfilled.

5 Now, the third thing that comes up in this  
6 contention, and I think we will get to it in the  
7 context of other contentions, is the question of core  
8 damage frequency. And if core damage frequency were  
9 100 times higher, then that would have to be  
10 addressed.

11 Well, that is really an issue that is, at  
12 some points in BREDL's contention, it talks about core  
13 damage frequencies at 50 times higher. Here it talks  
14 about core damage frequencies 100 times higher. We  
15 are not sure which is being asserted.

16 But in either case there is no showing  
17 that there is any change to core damage frequency  
18 based upon the use of for MOX fuel assemblies. And so  
19 there is simply no basis for that assertion, no basis  
20 for the idea that that needs to be addressed in the  
21 environmental review.

22 If this is a reference to the generic  
23 safety issue 191, on containment sump clogging, I  
24 think that is an issue we will address when we get to  
25 a contention where that is more specifically raised.

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1 But that particular issue is outside the  
2 scope of the proceeding, and does not need to be  
3 addressed under 51.45(c) in an environmental  
4 review related to four MOX fuel assemblies.

5 I think that is really all I have to say  
6 about this.

7 CHAIR YOUNG: I have two questions. To get  
8 back to my first one, earlier Judge Elleman asked Ms.  
9 Curran a question about what BREDL was asking for in  
10 terms of the PRAs, and I believe Ms. Curran answered  
11 to the effect of taking the existing PRA and inserting  
12 some different numbers at various points.

13 And I may not be paraphrasing that very  
14 well. But my question to you is, you heard the  
15 discussion between Judge Elleman and Ms. Curran. Could  
16 you explain, to me, how doing that would or would not  
17 be a practicable thing to do, just from a practical  
18 standpoint.

19 That is the first question.

20 MR. REPKA: Okay. Judge Young, I only  
21 stop you on the first question, if you could give me  
22 a minute to huddle up?

23 CHAIR YOUNG: Of course, sure.

24 (Pause.)

25 MR. REPKA: Okay, I think I have an

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1 answer. First, if it were a matter of simply updating  
2 the PRA to address the revised source term, that is  
3 not necessarily difficult to do, in and of itself.

4 The real question, with respect to making  
5 a meaningful PRA, is related to the changes in the  
6 accident progressions, and the release fractions, and  
7 developing that throughout the PRA model in a way that  
8 is appropriate, not unduly conservative, but a best  
9 estimate PRA, which would need to be to have some  
10 value.

11 And the way I understand it is there is  
12 simply insufficient data, or an insufficient modeling  
13 to really do that in a meaningful way. And that would  
14 be a fairly difficult task.

15 And what Dr. Lyman, we believe, has done  
16 is come up with some fairly gross sensitivity studies  
17 based upon worse case assumptions. And that really is  
18 not appropriate for what would be a best case PRA  
19 based upon Duke's detailed PRA model.

20 You would need to, for lack of a better  
21 way to put it, more precision in the modeling with  
22 respect to the accident progressions. And, again,  
23 that is not something that is on the shelf, and that  
24 is not something easy to do based upon the data  
25 available presently.

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1                   So we think, in that context, that the --  
2                   to give some qualitative and quantitative assessment  
3                   of these, based upon the work done by DOE, and the SPD  
4                   EIS is sufficient, and is appropriate.

5                   And we would underscore that by the fact  
6                   that even the sensitivity studies that Dr. Lyman has  
7                   prepared don't suggest that there would be a great  
8                   change.

9                   CHAIR YOUNG: We understood that. When  
10                  you say it is not on the shelf, am I correct in  
11                  understanding you to say that Duke has no plans to do  
12                  that kind of analysis? Just for your own knowledge?

13                  MR. REPKA: Yes, Duke's position right now  
14                  is they are not planning to do that, particularly in  
15                  connection with this lead assembly application.

16                  CHAIR YOUNG: Okay, two more -- well, one  
17                  more question. There is another question I'm going to  
18                  save for later, and that is when we get to, it may be  
19                  Contention 6, the one in which you mentioned in your  
20                  response, specifically, the --

21                  MR. REPKA: The GSI-191?

22                  CHAIR YOUNG: No, the fabrication facility  
23                  case, and the ruling of that board. Which we would  
24                  obviously take into consideration, but which wouldn't  
25                  be controlling. I will ask you that later, though, I

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1 don't want to take the time on that now.

2 But I do have one more question. On the  
3 sump clogging issue, and other similar types of  
4 issues, totally apart from the admissibility of the  
5 contention in this case, about that, is there -- when  
6 you analyze the, well assuming you do, analyze the  
7 risk of core damage frequency, and you know about  
8 various things that could affect it, would you take  
9 the effect of things like the sump clogging issue into  
10 account in doing a general risk assessment?

11 So that you would have answers for various  
12 circumstances.

13 MR. REPKA: The answer with respect to  
14 that particular issue, the GSI-191 contention sump  
15 clogging, is that that is not an issue presently  
16 modeled in the Duke plant-specific PRAs.

17 It is an issue that is being tracked in  
18 conjunction with the generic issue. And as  
19 information is developed in that context it could be  
20 considered and incorporated into the PRA as the  
21 information develops.

22 But presently that particular scenario is  
23 not modeled in the PRA.

24 CHAIR YOUNG: And, again, totally apart  
25 from the contention about that, but just in the

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1 context of this discussion, were that to come along  
2 this week, next week, is it possible that that could  
3 sort of act as a magnifier of any effect of the use of  
4 the MOX fuel, even in the lead test assembly context?

5 MR. REPKA: In terms of the percentage  
6 change in consequences attributable to the MOX fuel  
7 assemblies, there would be no change. As an absolute  
8 matter, obviously, there is a potential that -- I  
9 don't know if magnify is the right word.

10 But certainly if the model were developed,  
11 and there was an increase in core damage frequency  
12 related to that issue that was not, otherwise,  
13 addressed by plant changes, procedure changes or  
14 whatever, then in absolute terms there could be an  
15 effect of the two.

16 The key point is, in terms of percentage  
17 change attributable to MOX fuel, there is no change  
18 whatsoever.

19 CHAIR YOUNG: Thank you. Any more  
20 questions for Duke?

21 ADMINISTRATIVE JUDGE ELLEMAN: I'm not  
22 quite sure if this fits exactly with what we are  
23 discussing, but perhaps it does.

24 In the license application it appears to  
25 me that authorization as a request to irradiate

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1 plutonium fuel for three cycles. And I think I saw,  
2 somewhere, that this produces a burnup of 65 gigawatt  
3 days per ton at the end of three cycles.

4 Mr. Nesbit, is that --

5 MR. REPKA: Mr. Nesbit thinks close to 60.

6 ADMINISTRATIVE JUDGE ELLEMAN: I'm in the  
7 right ballpark, then.

8 MR. REPKA: Correct.

9 ADMINISTRATIVE JUDGE ELLEMAN: Dr. Lyman  
10 had, in his report, data that showed failure of  
11 plutonium based fuels at 45 gigawatt days per ton.  
12 Does Duke have evidence that these data are not  
13 relevant, or should not be considered in whether a  
14 safety analysis is appropriate?

15 MR. REPKA: Yes. We are a little bit  
16 puzzled as to the reference to Dr. Lyman's 45. We are  
17 not familiar, off the top of our heads, with exactly  
18 where that information is.

19 But beyond that, it is Duke's possible,  
20 and the application is based upon the information,  
21 there is a very large experience base in Europe with  
22 respect to MOX fuel.

23 And that experience base suggests that the  
24 fuel performance is comparable to LEU fuel. And so  
25 that is the information that the application is based

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1 upon, and the fuel design is based upon.

2 CHAIR YOUNG: Judge Elleman, Dr. Lyman  
3 just pointed out to me it is 55, not 45.

4 ADMINISTRATIVE JUDGE ELLEMAN: Not 45.  
5 Okay, I'm sorry, 55. But in either case it is below  
6 the anticipated burnup that could occur with the MOX  
7 fuel.

8 CHAIR YOUNG: What page was that on, also?

9 MS. CURRAN: It is on page 42 of the copy  
10 that we have.

11 MR. FERNANDEZ: Your Honor, page 42 of  
12 which document?

13 CHAIR YOUNG: In the one that starts on  
14 page 34, about two-thirds of the way down the page.

15 MS. CURRAN: Yes, it does.

16 CHAIR YOUNG: Did you say what document?

17 MR. FERNANDEZ: Yes.

18 CHAIR YOUNG: It is Dr. Lyman's article on  
19 the Public Health Risks of Substituting MOX for  
20 Uranium Fuel in Pressurized Water Reactors.

21 MR. REPKA: Okay. I don't know if it is  
22 my turn, but we focused on that a bit. What Mr.  
23 Nesbit is telling me, that this is a particular  
24 experiment that is referenced here, it is on page 10  
25 of our copy of Dr. Lyman's study.

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1           For a particular accident sequence, and  
2       what Duke has done is take particular measures to  
3       address the peak enthalpy, which this refers to the  
4       fact that there was a peak enthalpy of 120 calories  
5       per gram, to limit the peak enthalpy well below those  
6       values.

7           ADMINISTRATIVE JUDGE BARATTA: How is that  
8       being done, and is that in the license amendment?

9           MR. REPKA: There is a response to an RAI,  
10       which is part of the application, that provides an  
11       acceptance criteria that limits the peak enthalpy to  
12       100 calories per gram.

13          CHAIR YOUNG: Which response?

14          MR. REPKA: We need to look that one up.

15          MS. CURRAN: Page 11.

16          CHAIR YOUNG: Pardon?

17          MS. CURRAN: October 3rd.

18          CHAIR YOUNG: Page 11?

19          MS. CURRAN: Yes.

20          MR. REPKA: That is correct, that  
21       citation.

22          CHAIR YOUNG: Staff?

23          MR. FERNANDEZ: Your Honor, we don't have  
24       anything to add to what is on our pleading, but we  
25       wanted to respond, briefly, to Judge Elleman's

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1 question to Duke.

2 And what we wanted to say was that in Dr.  
3 Lyman's report they rely on the French number of 41  
4 gigawatt days per ton, and that the French, in coming  
5 up with that number, used an average of the core, an  
6 assembly average.

7 Which leads to a much higher number than  
8 we used because -- much lower number, because we used  
9 a peak rod average in coming up with our numbers. So  
10 our numbers would be more conservative than the French  
11 numbers, and not necessarily with irradiating at the  
12 burnup necessarily cause the results that Dr. Lyman is  
13 talking about in his study.

14 Because that is a very important  
15 difference of the two numbers.

16 ADMINISTRATIVE JUDGE ELLEMAN: Do you  
17 recall what burnup you converted to in using peak flux  
18 numbers for the core?

19 MR. FERNANDEZ: We haven't converted the  
20 numbers yet, Your Honor. And that is it for the Staff,  
21 unless the Board has some questions?

22 CHAIR YOUNG: Do you have any quick  
23 rebuttal?

24 MS. CURRAN: Yes. Mr. Repka made an  
25 argument that the regulations don't require the

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1 submission of a PRA in the environmental report, or in  
2 the environmental context.

3 I think it is important to look at the  
4 environmental report and see what it says. It makes  
5 representations to the NRC and, of course, to the  
6 members of the public, and state and local government  
7 officials who rely on the environmental report, and on  
8 the environmental impact statement that may result  
9 from this, to understand what the effects of this  
10 operation will be.

11 And in the environmental report Duke says,  
12 in section 5.6.3.2, at page 5-8, Duke uses  
13 probabilistic risk assessment analysis to evaluate the  
14 risks to public health and safety due to operation of  
15 its nuclear plants.

16 PRA analyses quantify the probABility and  
17 consequences of a severe accident that involve  
18 postulated core melt and containment failure event.  
19 That is the introductory sentence to the environmental  
20 report discussion of severe accidents.

21 So that the presentation here is we are  
22 using PRA to evaluate these impacts. There is not  
23 qualification there, there is no statement, well we  
24 don't really have enough information to do it right,  
25 or it is more convenient for us to rely on the DOE's

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1 PRA.

2 It says, Duke uses PRA. And then there is  
3 a variety of statements that follow, afterwards, in  
4 which Duke characterizes the risks of accidents based  
5 on its PRA.

6 So I don't think Duke can have it both  
7 ways here. To make these representations to the  
8 public, we have a study we are using to tell you  
9 everything is all right, and then in this hearing room  
10 to say, well we really don't have enough information  
11 to do a thorough probabilistic risk assessment here,  
12 so we are going to rely on one that is years old, that  
13 goes back to the IPE that was done in 1991, and we are  
14 not going to use our more current study.

15 I'm afraid I don't have my regulations  
16 with me, but there are regulations, by the CEQ, that  
17 say, if there are unknowns in the environmental  
18 analysis they should be addressed.

19 If there is things that can't be done,  
20 that are reasonable to expect, it ought to be  
21 addressed. And that is not done here. It seems  
22 especially important to us that Duke has said, there  
23 are parts of applying its PRA to the use of plutonium  
24 fuel that can be done easily.

25 But then there is other parts that require

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1 some data that is not available. I think Mr. Repka  
2 said it is not on the shelf. Well, I'm not sure that  
3 it is on the loading dock, either.

4 From what we are learning there is data  
5 that are just not available. So that needs to be  
6 addressed. It is not sufficient to present us with a  
7 purported PRA that is looking at these risks, without  
8 explaining, we really couldn't do the job the way we  
9 would expect to be able to do it, because there is  
10 data missing.

11 Reference was made to GSI 191, the sump  
12 clogging issue. This reminds me a little bit of the  
13 GSI-189 issue that came up in the license renewal case  
14 for Catawba and McGuire. And I think it is important  
15 to bear in mind that NEPA applies somewhat differently  
16 to this issue than the Atomic Energy Act might.

17 There has been an argument made that  
18 issues related to sump clogging can't be raised here,  
19 they are outside of the scope of the proceeding  
20 because it is a generic safety issue.

21 But it is our position, very similar to  
22 the issue that came up in GSI-189, that the issue has  
23 to be dealt with in the NEPA review. However the NRC  
24 chooses to deal with it, it has many choices how it  
25 does it, but it has to be addressed.

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1                   So we would expect to see this somehow  
2                   dealt with in the PRA, because it has potentially  
3                   significant impacts on the analyses. I think  
4                   reference was made to Dr. Lyman's study, saying that  
5                   Dr. Lyman approves of scaling as shown by discussion  
6                   in his paper.

7                   But this is a comparison of apples and  
8                   oranges. What Dr. Lyman --

9                   CHAIR YOUNG: Before you go on, do you  
10                  know what page it is, in this version?

11                  MS. CURRAN: Yes, hold on a moment, I will  
12                  get it for you. It is page 64.

13                  CHAIR YOUNG: Thank you.

14                  MS. CURRAN: Of the copy that starts on  
15                  page 33.

16                  CHAIR YOUNG: Thank you.

17                  MS. CURRAN: This had to do with, his  
18                  report had to do with estimating a radionuclide  
19                  inventories for partial MOX cores. So that is a  
20                  different exercise than scaling the impacts of a, or  
21                  the size of a radiological release.

22                  There are different factors that go into  
23                  this analysis, so it is an invalid comparison. I  
24                  don't have anything more.

25                  CHAIR YOUNG: My next question is, would

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1 it be a good use of our time to try to get through  
2 NIRS' Contention 2 at this point, which also looks as  
3 though it is relatively short, compared to the others,  
4 or would now be a good time to break for lunch?

5 MS. OLSON: Whichever you prefer, Your  
6 Honor.

7 CHAIR YOUNG: Anybody else?

8 MR. REPKA: I think as a general  
9 proposition we would favor pressing on.

10 CHAIR YOUNG: Do you think you can cover  
11 this fairly quickly given the length of it, compared  
12 to the earlier ones?

13 MS. OLSON: Your Honor, I would think so.  
14 But I have been surprised by this entire proceeding.

15 CHAIR YOUNG: Well, then why don't we  
16 press on and we will see.

17 MS. OLSON: Your Honor, there was mention  
18 in the Order, which defined the process for today,  
19 that we could bring documents that had not been  
20 delivered previously.

21 CHAIR YOUNG: Yes, there was some  
22 confusion about that. We set a deadline on the  
23 application and I think maybe the SPD EIS, I can't  
24 remember the other two, in a separate sentence,  
25 referring to other documents.

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1                   We didn't set any deadline and the reason  
2                   for that was because they were not as urgent in terms  
3                   of our own discussion prior to coming here. So if  
4                   there are any other documents, that any of the parties  
5                   have, that you haven't provided to us, and taking,  
6                   keeping in mind that we have gotten a lot of them off  
7                   ADAMS ourselves.

8                   And we've already referred to them, you  
9                   can provide those.

10                  MS. OLSON: Two documents right now.

11                  CHAIR YOUNG: Yes, go ahead. First tell  
12                  me what they are, and let me make sure we don't have  
13                  them already.

14                  MS. OLSON: The pages that I referenced  
15                  from NAS that, unfortunately, I had a typo and did not  
16                  give the page numbers, so I'm providing them, just the  
17                  pages.

18                  CHAIR YOUNG: Okay.

19                  MS. OLSON: I want to say, on the record,  
20                  but the grey areas do not lead to the point that I was  
21                  making.

22                  CHAIR YOUNG: While you are finishing up  
23                  you just told us that the part that is in grey is not  
24                  relevant so we don't need to strain our eyes to try to  
25                  read that?

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1 MS. OLSON: That is correct. And, again,  
2 I apologize for the typo which omitted the page  
3 numbers to the National Academy of Science report on  
4 Plutonium Disposition and Reactor Related Options of  
5 1995.

6 And I just distributed pages 288 and page  
7 289, which are fairly general in their statements, but  
8 they do support my statements in this contention. And  
9 I want to just briefly recognize that some of my  
10 pleading today is limited by resources, and I very  
11 much appreciate the Blue Ridge Environmental Defense  
12 League is bringing a separate case.

13 We are not here to argue each other's  
14 contentions but I want to appreciate that they are  
15 here, and the fight that they are putting up.

16 CHAIR YOUNG: Just one thing before you  
17 start.

18 MS. OLSON: Sure.

19 CHAIR YOUNG: This is the one where I  
20 mentioned, earlier, that it possibly has been included  
21 in the omission contentions?

22 MS. OLSON: Indeed.

23 CHAIR YOUNG: And I didn't catch that  
24 earlier. So why don't you tell us your position on  
25 that?

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1 MS. OLSON: Indeed. I believe that this  
2 is a contention of omission, nearly slipped and said  
3 sin of omission. But it is only because I view the  
4 product of this activity, being the irradiated MOX  
5 fuel, as an absolutely determined outcome of the  
6 license amendment, if it is granted.

7 The irradiation of MOX fuel assemblies  
8 will result in irradiated MOX fuel assemblies, if we  
9 are all lucky, and nothing terrible else happens, that  
10 will be a result.

11 At some point someone can instruct me on  
12 how I can interact with the NRC over the scope of  
13 their notices of hearing, because that was brought up  
14 at various points in response. I believe this is  
15 totally within scope.

16 Because, again, if this license amendment  
17 is granted we will have irradiated MOX fuel  
18 assemblies. Duke seems to assume that I am talking  
19 only about the fuel pool.

20 The contention states that I am concerned  
21 about, Nuclear Information Resource Service is  
22 concerned about these irradiated assemblies for the  
23 entire time that they are in Duke's possession.

24 And we make no assumption about whether  
25 that is a fuel pool, whether it is dry containment,

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1       whether it is some other circumstance. And, again,  
2       excuse my point of view, but I tend to view high level  
3       waste as a baby which requires exquisite care.

4               And MOX irradiated fuel assemblies at the  
5       Catawba reactor site will be special children. And I  
6       don't see any provision in the materials that Duke has  
7       submitted for how they are going to account for the  
8       need to at least monitor these special children.

9               And, you know, it is an earlier contention  
10      of mine that is going to be argued later that brings  
11      up issues that are referenced in this contention about  
12      the irregularities that may be associated with weapons  
13      grade plutonium, as is compared to any other type of  
14      plutonium fuel in the world.

15              Most notably the fact that other non-  
16      reactor fuel component materials are part of the  
17      weapons grade plutonium, at least some of the streams  
18      of weapons grade plutonium that may or may not be used  
19      in this program.

20              If those other materials are present they  
21      may pose, if not immediate threat to the fuel  
22      cladding, then perhaps long term instability. The  
23      other two issues that are referenced by the NAS pages  
24      are higher thermal power, and also a higher percentage  
25      of plutonium in that irradiated fuel.

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1           We have been talking about the fact that  
2 while plutonium is destroyed, additional plutonium is  
3 created. And, in fact, when we end up with irradiated  
4 MOX waste, it is likely that there will be two to  
5 three percent plutonium as compared to one percent  
6 plutonium for fuel from low enriched uranium  
7 irradiation.

8           I understand that Duke has submitted a  
9 criticality analysis for their fuel pool. I do not  
10 understand that this covers the entire term that this  
11 material may be at their reactor site.

12           Dry cask storage and/or dedication to  
13 casks, which may be movable, even though that may be  
14 a Department of Energy obligation, Duke may be  
15 involved in those decisions.

16           So what I don't see in this whole proposal  
17 is how to account for the very special nature of this  
18 waste that will be generated.

19           CHAIR YOUNG: Could you address Duke's  
20 footnote 89?

21           MS. OLSON: Well, I think it is a  
22 categorical assumption that the material will meet the  
23 specifications for such additions like gallium to be  
24 removed, and that is a different contention that we  
25 are going to argue.

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1 But for sake of argument here, I think we  
2 don't have a lot of data about the ability to remove  
3 that gallium on an absolutely picture perfect basis.  
4 I suspect for the lead test assemblies it will be.

5 But we don't have data, over time, for the  
6 aging and other factors associated with potential  
7 failure in storage.

8 CHAIR YOUNG: The contention admissibility  
9 standards, under 10CFR2.714, says that if a Petitioner  
10 believes that the application fails to contain  
11 information on a relevant matter, as required by law,  
12 you are to identify each omission from the  
13 application, and the supporting reasons for your  
14 belief.

15 As I understand the Staff, and Duke, they  
16 are saying that -- well, first let me back up. You  
17 are saying that the omission is a plan for ongoing  
18 assessment of the waste, and then also a plan for the  
19 need to provide for lower density packaging for  
20 transport in the event a repository becomes available.

21 And the reasons that you give are those  
22 stated at the beginning of your contention, primarily  
23 the uncertainties about the impact of burnup on fuel  
24 rods, greater thermal power of the waste, as well as  
25 any complications from inhomogeneities, and possible

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1 residues from other nuclear bomb ingredients.

2 And the concern that the cladding may or  
3 may not be durable. Duke and the Staff have argued  
4 that this is not specific enough, and that you don't  
5 have any expert opinions or specific facts or  
6 assertions as opposed to concerns about whether the  
7 cladding may or may not be durable.

8 Could you respond to those arguments made  
9 by Duke and the Staff?

10 MS. OLSON: Well, I tend to think that  
11 giving the report without the page numbers hindered  
12 their ability to see the general statements that are  
13 made. I'm not going to claim that the two pages from  
14 the NAS study are a full scale research program. I  
15 don't have that.

16 But their report is referencing further  
17 research that was done in Germany, and suggests that  
18 the long term stewardship of this material will be  
19 different than the long term stewardship of waste  
20 resulting from LEU irradiation.

21 And all I'm asking for is some recognition  
22 of that fact, and the recognition, on the part of  
23 Duke, that they are going to track this material  
24 throughout the entire time that they have it in its  
25 possession.

1                   Clearly things like acceptance of the  
2 repository are not part of this. But they are signing  
3 on to having this material as a direct result of this  
4 activity.

5                   CHAIR YOUNG: Just let me ask a question,  
6 and I have no idea what Duke is planning to do. But  
7 were they to say, we are planning to track and monitor  
8 this, would that make this contention, would that  
9 cause you to withdraw this contention?

10                  MS. OLSON: I would want to review what  
11 their proposal is. But if they can produce a proposal  
12 that does what this contention says, which is that  
13 they need to have a program to monitor it, for as long  
14 as they have it, then I would consider that the relief  
15 has been granted.

16                  CHAIR YOUNG: Anything else on this?

17                  MS. OLSON: No.

18                  CHAIR YOUNG: Mr. Repka?

19                  MR. REPKA: A couple of points. I think  
20 the Board characterized this as a contention of  
21 omission, and then referred to the fact that the  
22 contention is asserting the need for a plan for an  
23 ongoing assessment of the irradiated spent MOX  
24 assemblies.

25                  I think the plan that is being requested

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1 here, I would characterize more as a request for  
2 relief, than it is an omission from the application.  
3 And, as such, there would need to be some basis for  
4 that relief.

5 But stated another way, even if it were  
6 viewed as a contention of omission, that there was  
7 something that needed to be addressed in the  
8 application that is not, even a contention of omission  
9 would need to have some specificity and some basis.

10 And our point is, I think the Board  
11 acknowledged, or at least Judge Young you acknowledged  
12 this, that this contention really lacks that. The  
13 reference this morning to the particular pages from  
14 the NAS study on the MOX fuel plutonium disposition  
15 program, really refers to some general characteristics  
16 of MOX fuel, such as higher thermal power, more slow  
17 decay time.

18 Those are really just characteristics that  
19 are a given. In fact, there is a range of LEU fuel  
20 characteristics related to thermal power, or decay  
21 heat time. And this document doesn't stand for  
22 anything more than the fact that there are  
23 characteristics that must be addressed.

24 And it certainly doesn't provide any basis  
25 to assert that, Ms. Olson keeps referring to these

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1 assemblies as special children. It doesn't provide  
2 any basis as to why are they special, what is it that  
3 is not being done that needs to be done?

4 In fact, the application does include a  
5 criticality analysis related to the MOX fuel  
6 assemblies. There is a suggestion, this morning, that  
7 that doesn't go for the entire lifetime of the fuel.

8 Well, the criticality analysis doesn't  
9 change over time. If the contention is really directed  
10 to thermal issues, cooling issues in the spent fuel  
11 pool, or in dry cask storage, the application does  
12 include the decay heat curve that we talked about  
13 earlier this morning, which shows the ratio where over  
14 time the decay heat is slightly higher for MOX fuel  
15 than LEU fuel.

16 But the contention doesn't establish that  
17 there is some deficiency with respect to the cooling  
18 capability of the spent fuel pool to address this  
19 slight difference in terms of, with respect to four  
20 assemblies.

21 In fact, the spent fuel pool really stores  
22 a range of different assemblies with different  
23 burnups, and different decay heats. This is no  
24 different, there is no showing that there is any issue  
25 with respect to the cooling capability of the spent

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1 fuel pool.

2 And in fact, in that respect, and in all  
3 other respects, these assemblies really are no  
4 different, they are tracked and monitored just like  
5 any other, they will be tracked and monitored just  
6 like any other spent fuel assembly.

7 If they go to dry cask storage it would be  
8 because they meet the specifications that relate to  
9 the dry cask storage facility. That is not Duke's  
10 present plan to do that, but these are things that  
11 there are provisions, and requirements, and acceptance  
12 criteria that do exist.

13 And there is no showing, whatsoever, in  
14 any way as to how the application is deficient in any  
15 of these particular areas.

16 CHAIR YOUNG: Let me see if I understand  
17 you. You are saying that the criticality analysis  
18 does continue on through the period when it is in the  
19 spent fuel pool?

20 MR. REPKA: Yes, the criticality analysis  
21 doesn't change over time.

22 CHAIR YOUNG: And the monitoring of the  
23 spent fuel pool it would included monitoring of  
24 whatever heat is produced by decay heat?

25 MR. REPKA: Well, it would include a

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1 number of things. Certainly spent fuel pool  
2 temperature is something that would be tracked. And  
3 in addition if there were any releases because of  
4 deficiencies in cladding, say there were radionuclide  
5 releases, that is something that would be monitored,  
6 routinely, for any fuel assembly.

7 So in that regard there -- these  
8 assemblies, really, are no different.

9 CHAIR YOUNG: Part of the reason I'm  
10 asking you this is it might be helpful if in a break  
11 you speak with each other and just make sure that you  
12 understand what is going on, and whether that does  
13 make a difference with regard to this contention.

14 MR. REPKA: Right.

15 CHAIR YOUNG: It might be something that  
16 could be settled.

17 MR. REPKA: Sure, I appreciate that. And  
18 the other thing I will say, two other things. One is  
19 the reference to irregularity, such as gallium.  
20 Again, that doesn't change over time, that is  
21 something that is addressed by the fuel specification  
22 that we will talk about in the context of a different  
23 contention.

24 And, finally, I think one of the papers  
25 handed out this morning, the New York Times article

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1 that relates to Yucca Mountain, but I guess the  
2 argument, or the issue is, storage of the MOX fuel  
3 assemblies at Yucca Mountain.

4 And I just want to point out that the  
5 Yucca Mountain environmental impact statement that was  
6 issued last year, by the Department of Energy,  
7 specifically addresses storage of MOX fuel assemblies.  
8 And it is referenced in the environmental report.

9 MS. UTTAL: Just briefly, Your Honors.  
10 I think that Mr. Repka has addressed most of the  
11 factors.

12 The Staff's position was there was no  
13 basis, no nexxus in this contention, connecting the  
14 facts in the front, and the conclusions in the back.  
15 I don't think that anything that Ms. Olson has  
16 produced, today, changes that.

17 The document she handed us are not  
18 particularly relevant, as Mr. Repka stated. And the  
19 New York Times article is not proper evidence in this  
20 regard.

21 I believe there is case law on that,  
22 regarding using newspaper articles. And that is about  
23 it, I don't think that anything has changed from when  
24 the Staff answered the contention to begin with.

25 CHAIR YOUNG: That reminds me, one of the

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1 questions I wanted to ask you, Ms. Olson, is does the  
2 Staff's reference to the evaluation of the cladding  
3 and approval of that, could you speak to that?

4 MS. OLSON: Yes, and I would like to make  
5 a couple of replies.

6 CHAIR YOUNG: Sure.

7 MS. OLSON: The issue, in my mind, is the  
8 potential for chemical interactions because of the  
9 presence, even in trace amounts, of unique and new  
10 materials, besides the plutonium and uranium, in this  
11 weapons-derived MOX fuel.

12 I made an unsuccessful attempt to get  
13 expert advice, and help from metallurgical chemists.  
14 They bailed out at the final hour. So I'm leaving  
15 this contention in because I believe in building a  
16 record, and I believe in bringing our concerns, even  
17 when our resources are not sufficient to back them up.

18 Because I believe there are thinking, and  
19 smart people in this room, whose job it is to do this  
20 stuff right. And it is quite painful to try and help  
21 you, but that is what we are trying to do.

22 So there has been a concern about  
23 interactions. I bring that concern to the longer term  
24 issue of the waste. And in the immediate term, in  
25 terms of cladding, I'm not talking about what is in

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1 the core, I'm talking about what is potentially going  
2 to sit at the Catawba site for a very long time,  
3 because I would like to make two points.

4 And I understand that I am probably out of  
5 line distributing the Matthew Wold study on the recent  
6 report from the Nuclear Waste Technical Review Board,  
7 which oversees the Department of Energy's repository  
8 program, which is currently sited on the Yucca  
9 Mountain site in Nevada.

10 But the fact is that that technical board  
11 is bringing concerns that that site may, in fact, not  
12 be suitable. And so the point is not that this  
13 material would be disposed of at the Yucca Mountain  
14 site.

15 The point is that there might be a  
16 considerable delay and/or it might not be. Therefore  
17 we are talking about long term disposition, as in  
18 decade, or two, or more, here in South Carolina at the  
19 Catawba site.

20 So that is why I feel that it is Duke's  
21 responsibility to look at the long term implications  
22 of irradiated MOX fuel assemblies, and to provide a  
23 specific program for that.

24 And the reason I believe there should be  
25 a specific program, over and above the monitoring,

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1 which I understand quite well is done in fuel pools,  
2 and the criteria for dry cask storage.

3 And I don't mean to impugn Duke. I really  
4 do not. But it is incumbent upon me point out that  
5 Palisades Reactor had a criteria that fuel be stored  
6 in liquid for a minimum of five years, and it was  
7 discovered, after a number of containers were loaded,  
8 that the fuel had not reached that point, in fact it  
9 was between three and four years old.

10 Additionally the whole issue of  
11 criticality, and loading these containers is something  
12 that may be in everybody's mind today. Will it be in  
13 everybody's mind 20 years from now? And that is my  
14 question, and the reason for bringing this contention.

15 CHAIR YOUNG: I just have one more  
16 question, and then just a comment. The reference, in  
17 the Staff's response to the type of cladding, M-5  
18 cladding having been used in European reactors with  
19 MOX fuel.

20 I don't know how long that has been done,  
21 and well let's see, I don't know the relation of the  
22 date of the approval when that type of cladding was  
23 first used in Europe.

24 But do you have any -- do you want to  
25 respond to that, and with regaRd to your time issue,

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1 or any other?

2 MS. OLSON: Yes, thank you. The entire  
3 experience in Europe is not -- excuse me, it is not  
4 weapons grade derived material. It is reactor waste  
5 derived material.

6 And, to me, one of the very key issues is  
7 the processing and the potential for traces of  
8 materials that have never been introduced into reactor  
9 cores before, and have not been resident in long-term  
10 storage of high level waste before.

11 And we need to look at that. And,  
12 clearly, part of what I'm pointing to is beyond the  
13 scope of this proceeding because doing four assemblies  
14 is going to be a picture perfect process, doing 20  
15 years of production may or may not be.

16 And, again, it is another contention, but  
17 I think we have to benchmark, was that material in  
18 there and they got it out, or it was never in there?  
19 And I know that at Los Alamos they had plenty of  
20 weapons grade plutonium that was never converted into  
21 a pit.

22 And it is the pit that contains these  
23 other ingredients. So are they using materials for  
24 this test that will reverse the pit back to plutonium  
25 oxide? I'm told I don't need to know. And I'm

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1 telling you, that for the purposes of this, and other  
2 contentions that I'm bringing, I think it is vital  
3 that we know.

4 CHAIR YOUNG: Just, I will make one more  
5 comment, and then Judge Baratta and Judge Elleman may  
6 also have questions.

7 With regard to, you made a reference to  
8 helping us. And I don't know whether that reference  
9 was to helping us as somehow being the NRC. We  
10 appreciate whatever help parties have to give us in  
11 making our decisions.

12 We are separate from the Staff, and the  
13 Staff doing their own evaluation. So I can't speak  
14 for the Staff. I would assume that anyone is  
15 appreciative of any help, or additional information  
16 that is provided.

17 But definitely we count on counsel and  
18 parties to help us in making our determinations  
19 through understanding your arguments as well as we  
20 can. So I just wanted to make that comment and tell  
21 you we do appreciate your assisting us in  
22 understanding your arguments better.

23 ADMINISTRATIVE JUDGE ELLEMAN: One  
24 question, please, Ms. Olson. I gather, from your  
25 commentary, your focus of concern in this issue is the

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1 fact that the cladding is a little different, the  
2 plutonium levels are different, and that this needs to  
3 be recognized in the storage.

4 That you are not, at this time, focusing  
5 on the safeguards related issue of diversion of  
6 weapons grade material, is that correct?

7 MS. OLSON: It is correct. Nuclear  
8 Information and Resource Service, at this time, does  
9 not have the organizational resources to take on the  
10 security contentions, which we fully support any other  
11 party taking on.

12 CHAIR YOUNG: Anything further on NIRS  
13 contention 2?

14 MS. UTTAL: I just wanted to add one thing  
15 regarding gallium. There is gallium present in LEU  
16 fuel. And the reference to that is in MOX fuel design  
17 report that is BAW102-38, I believe we previously  
18 cited section 3.2.2.

19 CHAIR YOUNG: Section 3.2.2?

20 MS. UTTAL: Regarding the gallium content  
21 for the current LEU fuels and components.

22 MS. OLSON: I couldn't hear you, but I  
23 will get that afterwards.

24 MS. UTTAL: MOX fuel design report,  
25 BAW102-38, section 3.2.2.

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1 MS. OLSON: Okay, thank you. That is all  
2 I have.

3 CHAIR YOUNG: All right. So we will come  
4 back after lunch and start with the safety related  
5 omission contentions, and try to make it through at  
6 least BREDL 6, if possible. We can go off the  
7 record.

8 (Whereupon, at 12:25 p.m., the above-  
9 entitled matter was recessed for lunch.)

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

1:30 p.m.

CHAIR YOUNG: Let's go on the record. We are on BREDL Contention 1.

MS. CURRAN: Okay. This argument may be pretty short because I think that we have already been over most of the arguments that have been made by Duke and the Staff, and I don't see any point in repeating them here unless, of course, the Board has more questions.

But there is one argument that Duke makes with respect to Contention 1 that I don't think has been addressed earlier. And that is on page 17, Duke says that the factual premise for the contention is flawed.

This, by the way, is a contention that says Duke's risk impact analysis is inadequate because it presents the results in qualitative terms only. According to Duke the proposed changes in the core will not significantly change the decay heat produced, and will not increase the likelihood of design basis events, or change the ability of the plant to mitigate the consequences of design basis events.

And for this proposition Duke references section 3.7.2 of the license amendment application.

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1 This gets back to the issue that we discussed earlier,  
2 which is the adequacy of the deterministic analysis in  
3 section 3.7 to address the concerns that are raised in  
4 the contention.

5 The section 3.7 is purely a deterministic  
6 analysis of design basis accidents. It does not look  
7 at the behavior of plutonium fuel under severe  
8 accident conditions. And that is, of course, what  
9 regulatory guide 1.174 gets at, the criteria for  
10 looking at special circumstances that warrant further  
11 inquiry.

12 So section 3.7.2 does not resolve, or  
13 satisfy, the concern raised in the contention. I  
14 don't have anything more to add at this point.

15 CHAIR YOUNG: Duke says that your proposed  
16 contention fails to show additional quantitative  
17 assessment of risk is required for the NRC to make the  
18 reasonable assurance of safety findings necessary in  
19 connection with the license amendment or 10CFR  
20 sections 50.92(a), and 50.57(a).

21 And that you haven't provided a basis that  
22 an assessment is required to assure adequate  
23 protection of public health and safety.

24 Apart from what you have said already, do  
25 you want to speak to that, specifically?

1 MS. CURRAN: Well, let me just back up for  
2 a minute and point out that it was Duke's idea to put  
3 section 3.8 in the license amendment application, and  
4 we were responding to information that Duke itself had  
5 provided.

6 There wasn't a disclaimer in the license  
7 amendment application that this information is purely  
8 gratuitous, and should be disregarded in making the  
9 safety finding. So we responded to it, and pointed  
10 out its inadequacy.

11 CHAIR YOUNG: So I guess your arguments on  
12 that would be, basically, the same ones you made  
13 earlier?

14 MS. CURRAN: Yes.

15 CHAIR YOUNG: and with regard to the  
16 relief on this one?

17 MS. CURRAN: The relief would be the type  
18 of analysis that is required by the REG guide that  
19 would illuminate whether the design basis for this  
20 facility adequately encompasses the use of plutonium  
21 fuel in the test assemblies.

22 That, to us, would be significant relief,  
23 to have that assurance that that enquiry had been  
24 made. Given the unknowns that accompany the use of  
25 plutonium fuel, here, and I think they've been

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1 referred to today, that there are significant  
2 uncertainties, we think that doing that analysis could  
3 lead to changes in the design.

4 And, therefore -- well, we can't identify  
5 any such changes, one would have to do the analysis  
6 first. But we would like to see that considered.

7 CHAIR YOUNG: There is one thing -- well,  
8 another thing I want to ask you about. Duke says that  
9 there is no basis presented to support the proposition  
10 that the four fuel assemblies, as opposed to other  
11 factors, will increase public health and safety risk  
12 in any significant way.

13 I'm thinking back some of your earlier  
14 arguments on the percentage changes. But with regard  
15 to that particular argument, is your assertion  
16 primarily that sufficient testing has not been done to  
17 establish safety, or that in this one that you are  
18 raising specific safety problems?

19 You went more into the differences in your  
20 other contention than this one --

21 MS. OLSON: Well --

22 CHAIR YOUNG: I wanted to try to --

23 MS. OLSON: -- Contention 1 is different  
24 from Contention 2 in the sense that it focuses on the  
25 lack of quantitative information in a discussion that

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1 .relies on probabilistic risk assessment.

2           So it doesn't, to us it is not legitimate  
3 to invoke a PRA and then address the results, in the  
4 inputs of the PRA, in purely qualitative terms. To  
5 the degree it is quantitative it is kind of very,  
6 very, end result.

7           But, of course, to understand the PRA you  
8 need to see quantitative terms, it is a quantitative  
9 analysis. So that is the difference between  
10 Contention 1 and Contention 2. They are related, but  
11 this one focuses on the lack of a quantitative  
12 discussion.

13           And, of course, we would expect it to be  
14 adequate, but there is none here.

15           CHAIR YOUNG: Mr. Repka --

16           MS. CURRAN: Sorry.

17           CHAIR YOUNG: Did you have something to  
18 add?

19           MS. CURRAN: Yes. I just would like to  
20 point out that Contention 2 focused on accident  
21 consequences, and Contention 1 is more broad, in that  
22 it addresses the entire analysis.

23           CHAIR YOUNG: But this is not, this one  
24 you are not relying on NEPA?

25           MS. CURRAN: No.

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1 CHAIR YOUNG: So, basically, what you all  
2 right relying on here are the provisions in Appendix  
3 D that talk about the criteria for when further risk  
4 analysis, or risk analysis might be necessary, even  
5 when deterministic standards might be facially met?

6 MS. CURRAN: Right.

7 CHAIR YOUNG: Just to sort of paraphrase.  
8 And so without repeating those arguments, did you want  
9 to add anything?

10 MS. CURRAN: Just to point out that when  
11 we wrote this contention it didn't occur to us that  
12 Duke thought that section 3.8 was not required. We  
13 didn't think they would put it into the license  
14 amendment application unless they thought it was  
15 relevant, or required both. Either or both.

16 And in response to their argument that  
17 this isn't required at all, we looked to see what are  
18 the criteria for requiring such a thing, and saw, in  
19 our view, they are met.

20 CHAIR YOUNG: Okay. So, basically, we are  
21 looking at the criteria for a risk analysis over and  
22 above the deterministic evaluation, and Duke and the  
23 Staff both make statements to the effect that there is  
24 no requirement for the PRA, and we are sort of back to  
25 the issue of the criteria in appendix D.

1                   And the only reason I'm saying all this is  
2                   to let you know that we may not need to go through all  
3                   those arguments again, other than just to address what  
4                   has been said here.

5                   MR. REPKA: I won't go through all those  
6                   arguments again.

7                   CHAIR YOUNG: Okay.

8                   MR. REPKA: I agree that in many respects  
9                   this is similar to Contention 2. However, this  
10                  contention is even less specific, and less supported.

11                  So if you accept the proposition that it  
12                  is based on Appendix D, and that in some sense an  
13                  analysis beyond be analysis in section 3.7 of the  
14                  design basis events is required, if you can show that  
15                  those criteria are met, there is no showing at all, in  
16                  this contention, as to how those criteria are met,  
17                  there is no basis.

18                  It is simply a statement that the 3.8,  
19                  risk assessment, is purely qualitative and not  
20                  quantitative. That argument suggests that anything  
21                  that Duke, or any other Applicant, were to put in on  
22                  a risk perspective that is not required, if you put  
23                  something in, it must be quantitative, and there is  
24                  certainly no basis for that.

25                  Beyond that the basic assertion that it is

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1 not, that it must -- if you even accept that there  
2 must be a quantitative risk assessment, which now you  
3 are two or three things beyond what we think is the  
4 basic requirement, there is no requirement that it  
5 must be a site-specific PRA, versus a quantitative  
6 analysis, based upon the DOE SPD EIS and the  
7 comprehensive evaluation that they did in terms of  
8 risk.

9 Which is what the section 3.8 is based  
10 upon. So there is no basis to suggest that something  
11 more, or something different than what has been  
12 provided must be done.

13 Then, thirdly, I would say that this  
14 contention, if you read what it actually says, the  
15 only thing it says with some specificity is that that  
16 discussion doesn't attempt to calculate a change in  
17 core damage frequency, CDF, or a change in large early  
18 release frequency, LERF.

19 I think what we pointed out, in our  
20 response, is that there is no basis, at all in the  
21 contention to indicate, or support, the proposition  
22 that either CDF or LERF would change.

23 And that is where we reference the fact  
24 that in section 3.7 of the application we do point out  
25 that there is no change with respect to the frequency

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1 of design basis accidents, and some of the other  
2 factors that Ms. Curran is alluding to.

3 CHAIR YOUNG: Could I just ask you,  
4 section 3.8, I'm interested in why it is there. And  
5 I would presume that to some extent it is because you  
6 want what you say there to be considered favorably in  
7 evaluating the license amendment request.

8 And --

9 MR. REPKA: Can I respond to that and then  
10 you can ask the second --

11 CHAIR YOUNG: Sure.

12 MR. REPKA: I think that is not  
13 necessarily true. I think that in many respects the  
14 section is gratuitous. It is not something, strictly  
15 speaking, that is required and we don't believe that  
16 it is required for the NRC to reach their finding. I  
17 think we have said that.

18 I think that this was included because  
19 Duke is aware that risk is an issue that has been  
20 raised in other fora about the use of MOX fuel  
21 assemblies. And we also recognize that this  
22 documentation is something that -- it has different  
23 audiences.

24 And the NRC Staff, and the NRC, for the  
25 purpose of making their safety finding on the

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1 application, that is not the only audience. And I  
2 think that Duke felt that risk perspectives would be  
3 something that would be required, that would be  
4 inquired about by the public and others and,  
5 therefore, that it would be something that would be of  
6 value to put into this license amendment request.

7 In doing that it is certainly not a  
8 concession that we think it is necessary for the  
9 finding. And, in fact, we don't believe it is  
10 necessary for the NRC's finding.

11 I think, I hope that answers your  
12 question.

13 CHAIR YOUNG: The next part of the  
14 question is, given that it is there, it presents sort  
15 of a summary of your conclusions that the PRA that  
16 you've done is sufficient, and that the use of MOX  
17 fuel would not change that in any way.

18 And there is not, really, any way to  
19 ascertain that from the face of just reading the  
20 section itself. So, in a sense, you are sort of  
21 seeking, or are you using it to your benefit but not  
22 necessarily providing information such that the things  
23 that you are saying are subject to being tested?

24 MR. REPKA: I think what we are saying  
25 here is that Duke does use PRA to asses the risk of

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1 its operating plants, and has fairly sophisticated  
2 site-specific PRAs.

3 But what the section does is it lists a  
4 number of factors related to this particular license  
5 amendment application. And qualitative states that t  
6 hose factors, and why, would not be expected to  
7 significantly change the results of the PRA.

8 So that is, admittedly, a qualitative  
9 assessment of the impact of the risk impact of this  
10 particular license application. Can that be  
11 challenged, can somebody disagree with that? Yes, I  
12 suppose they could.

13 They would have to have a basis to  
14 disagree with that. I think the reality is, though,  
15 that this particular contention says that it must be  
16 a quantitative assessment of risk, and our position is  
17 that that is not required, either by the regulations  
18 or even by any other good sense reasonable judgement,  
19 or whatever, technical judgement.

20 These qualitative factors and  
21 considerations, I think, are fairly clearly stated.  
22 And the only thing this contention does to challenge  
23 that is say there is no quantitative assessment of the  
24 impact on CDF and LERF.

25 But those, that is in our view simply a

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1 non-sequitur, those are factors that are not going to  
2 change. And that doesn't create a genuine dispute,  
3 and it doesn't create a basis to require further  
4 quantitative probabilistic risk assessment.

5 CHAIR YOUNG: Let me see if I understand  
6 something. And I don't know the answer to this, I'm  
7 asking.

8 You are saying that someone could disagree  
9 with what you are saying, but that they would have to  
10 give some basis for their disagreement. It would seem  
11 that, to some extent, a basis for disagreement could  
12 be provided by reference to non-PRA documents and  
13 research, and so forth.

14 But to the degree that the PRA is not  
15 there, I don't, I can't tell the extent to which the  
16 amount and significance of the effect of these various  
17 factors would be on the PRA without knowing what the  
18 PRA itself says.

19 So we get into one of these chicken and  
20 egg kind of things that come up, from time to time, in  
21 these cases where there is a -- a contention is  
22 proposed, and the response is, there is not enough of  
23 a basis, and the rejoinder to that is, well we don't  
24 have the information to be able to provide that.

25 Do you follow me, can you speak to that?

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1 MR. REPKA: I do. And I disagree with the  
2 proposition because I think that the -- if you look at  
3 3.8, what it says --

4 CHAIR YOUNG: Well, actually I'm asking a  
5 question.

6 MR. REPKA: Okay. And my response is that  
7 the things listed in this risk assessment in 3.8, the  
8 bulleted considerations that qualitative talk about  
9 why we would not expect the PRA results to change,  
10 those things are independent of the PRA itself.

11 The PRA is, in a sense, a black box. When  
12 you look at the first item, plant configuration, you  
13 don't need the PRA to know that the four MOX fuel  
14 assemblies are not going to change the plant  
15 configuration.

16 CHAIR YOUNG: And I'm asking again, would  
17 possible different weighting of the different factors  
18 in the PRA make a difference in the effect that any of  
19 these factors might have? Or different individual  
20 frequency, or probability numbers?

21 MR. REPKA: Well, again, if you go back to  
22 what it says in section 3.7.2 of the application,  
23 which we cited in our response, is the introduction of  
24 four assemblies into the core doesn't significantly  
25 change the decay heat, it doesn't increase the

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1       likelihood of design basis events; it doesn't change  
2       the ability of the plant to mitigate the consequences  
3       of the design basis events.

4               So those are things that are addressed in  
5       the safety analysis, they are very similar to the  
6       kinds of considerations we are talking about here.  
7       Those things are conclusions independent of the PRA.  
8       They don't depend upon the PRA to make those, to reach  
9       that conclusion.

10              If the Petitioner had any basis to say  
11       that the analysis in 3.7 was wrong, that there is some  
12       change in the core damage frequency, or some other  
13       factor, we haven't seen it, and they wouldn't need the  
14       PRA in order to come up with that.

15              In fact that burden is entirely upon the  
16       Petitioner at this point. So this contention really  
17       boils down to you filed something gratuitous, it is  
18       largely qualitative, it needs to be quantitative.

19              And, again, it gets back to why.

20              ADMINISTRATIVE JUDGE ELLEMAN: We seem to  
21       be focused on section 3.8 here today. Mr. Repka, in  
22       providing reassurance that the introduction of  
23       plutonium is not going to have a major effect, in your  
24       calculations it looked like you were using linear  
25       extrapolations to show that the changes were going to

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1 be small, or near linear extrapolations.

2 MR. REPKA: In terms of the changes of  
3 consequences, and we talked about that earlier, those  
4 are linear extrapolations based upon the results of  
5 the DOE SPD EIS.

6 ADMINISTRATIVE JUDGE ELLEMAN: Okay. Now,  
7 before lunch, when you were speaking to the point of  
8 why Duke has not prepared an amended PRA, I thought I  
9 heard you say it was because you would have to  
10 consider different interactions in different stages in  
11 an event.

12 And that it would be a complex undertaking  
13 for you to do this. And you were, in other words,  
14 implying that it was going to be a non-linear  
15 calculation that you had to make.

16 And I guess what I'm asking is why is it  
17 okay to be linear in one place, but you can't do it  
18 because it isn't linear?

19 MR. REPKA: I think the difference is that  
20 if we were to do that kind of modeling, on a plant-  
21 specific basis, using the Duke PRA, that is a fairly  
22 complex undertaking, as compared to taking a linear  
23 extrapolation from the DOE documents.

24 It is a more difficult undertaking.  
25 However, having said that, it is our position that we

1 don't expect the results would change significantly at  
2 all.

3 And, in fact, even looking, accepting Dr.  
4 Lyman's results, linearly scaled to four MOX  
5 assemblies, you see results in terms of consequences  
6 that are not radically or substantially different from  
7 what Duke obtained from the DOE SPD EIS.

8 So you could do much more complex modeling  
9 using the PRA, that is true, and that would be a  
10 significant undertaking. However, the results would  
11 not necessarily be much different. And I think that  
12 is, really, our point.

13 ADMINISTRATIVE JUDGE ELLEMAN: This  
14 question deviates just a little bit from 3.8., and it  
15 is my last question.

16 But since we are on section 3 there is a  
17 sentence that shows up in section 3.4.2.1 on page 3-  
18 10, that has a peripheral relationship to what we are  
19 talking about.

20 And I'm referring to the paragraph that  
21 says, as noted earlier, Duke currently plans to begin  
22 irradiation of four test assemblies at either McGuire  
23 unit 2, or Catawba unit 1 in spring 2005.

24 However, the lead assembly manufacturing  
25 schedule could be revised to change the number of lead

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1 assemblies, the irradiation schedule, or the target  
2 reactor.

3 Is that saying that if you decide to  
4 purchase eight assemblies, even though you are only  
5 going to be authorized to irradiate four, that you  
6 could do this under the license amendment?

7 And does it say that if you wanted to not  
8 put in four, but just put in two in one cycle, and two  
9 more in another cycle, that you are requesting an  
10 envelope to do all of these things?

11 MR. REPKA: I think that the sense, the  
12 expectation would be, in terms of the number, could be  
13 fewer not more. And the -- I mean, the ultimate  
14 outside limit of the number of fuel assemblies at four  
15 is specified by the license amendment and the proposed  
16 tech specs, the amendment itself would be limited to  
17 fuel assemblies. So the number could not increase.

18 ADMINISTRATIVE JUDGE ELLEMAN: To even  
19 posses as opposed to irradiate?

20 MR. REPKA: One second.

21 (Pause.)

22 MR. REPKA: Yes, I think, certainly with  
23 respect to use the outside limit is four. The  
24 reference of course here to other plants with being  
25 McGuire is no longer on the table.

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1                   With respect to your question, Judge  
2 Elleman, in terms of possession, I don't know off the  
3 top of my head, whether or not there is a specific  
4 tech spec, or aspect that would allow possession but  
5 not use.

6                   As a practical matter I don't believe Duke  
7 is asking, or requesting to do that. And as a  
8 practical matter ultimately all of this is limited by  
9 the number of fuel assemblies that are manufactured by  
10 the Department of Energy, and delivered to Catawba.

11                   So I think anything beyond four is  
12 entirely speculation, and certainly not something we  
13 are seeking authorization for.

14                   ADMINISTRATIVE JUDGE ELLEMAN: The answer  
15 to that question certainly relates to the concerns  
16 that have been expressed earlier by other people. And  
17 I would hope that is a limit that is a correct one.

18                   MR. REPKA: Yes, and I have no doubt, as  
19 to in terms of use, that the technical specifications  
20 that are proposed would do that. And that as we've  
21 said, all along, if we were to ever go forward with an  
22 application for batch use, the 40 percent MOX fuel  
23 core, that is a whole separate license application to  
24 the NRC, seeking the approval to do that.

25                   ADMINISTRATIVE JUDGE ELLEMAN: Okay. But

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1 looking, then, at the other part of this statement,  
2 does this statement authorize you receiving the four,  
3 and not putting all four in, keeping three of them in  
4 unradiated form, stored under safeguards conditions,  
5 and only putting in one, or putting in two?

6 MR. REPKA: Yes. I think, number one,  
7 this statement doesn't authorize anything. What would  
8 authorize or prohibit the proposed technical  
9 specifications associated with the application.

10 But beyond that, as a practical matter,  
11 the question you asked is, could we take possession of  
12 the four and only use one of the assemblies? That is  
13 certainly, theoretically, possible. That is not  
14 something Duke is contemplating doing, or could see a  
15 good reason to do that. But it is at least  
16 theoretically possible.

17 ADMINISTRATIVE JUDGE BARATTA: The  
18 statement where it says that the premise, or proposed  
19 contentions is flawed, and it goes on to say, would  
20 not significantly change, or would not increase the  
21 likelihood of design basis events.

22 It seems to me there was some mention  
23 about some French tests that dealt with rod ejection  
24 experiments on MOX fuel that was brought up earlier.

25 MR. REPKA: Is that a reference to the

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1 slide material referenced in the new contentions, the  
2 supplementál --

3 ADMINISTRATIVE JUDGE BARATTA: I thought  
4 it was in the, one of the earlier --

5 CHAIR YOUNG: Was it in Dr. Lyman's  
6 article?

7 ADMINISTRATIVE JUDGE BARATTA: Yes, I  
8 think it was in Dr. Lyman's article. There was a  
9 report that was not provided in the package, and was  
10 a reference to MOX assemblies, I think it was part of  
11 the burnup.

12 MR. REPKA: We did have a discussion of  
13 the 60 versus 55 burnup, or whatever it was.

14 ADMINISTRATIVE JUDGE BARATTA: Well, I  
15 think there was also, those tests -- there were at one  
16 time a series of tests being done for rod ejection.  
17 Is that the ones that are referenced there?

18 MR. REPKA: Okay, yes.

19 ADMINISTRATIVE JUDGE BARATTA: And I  
20 believe that those, the article --

21 CHAIR YOUNG: Is that it?

22 ADMINISTRATIVE JUDGE BARATTA: -- the  
23 article suggested that the resulting in peak enthalpy,  
24 which is a measure of the acceptability of damage in  
25 that type of experiment was much higher.

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1                   And there was mention about placement,  
2                   earlier today, about placement of the assemblies in  
3                   the core. And are there any limits on where those  
4                   assemblies are to be placed?

5                   Because it would seem that this all bears  
6                   around one of the chapter 15 transients with ejection,  
7                   or severity, and also with frequency?

8                   CHAIR YOUNG: Peak enthalpy.

9                   MR. REPKA: There is not a specific  
10                  technical specification that addresses the core  
11                  design, but the application does talk about the fact  
12                  that for the first two cycles of operation the MOX  
13                  fuel assemblies won't be placed under a control rod.

14                  And the purpose of that being to address  
15                  this kind of issue. Again, that is something that is  
16                  addressed in the application.

17                  ADMINISTRATIVE JUDGE BARATTA: Thank you.

18                  CHAIR YOUNG: I have one more question for  
19                  you, Mr. Repka. And I say this from the standpoint of  
20                  being a lawyer, not a physicist. But I did take the  
21                  NRC course on PRA for non-scientists.

22                  In any event, your statement that you are  
23                  fairly certain that the figures, or the results would  
24                  not be significantly different, and correct me if I'm  
25                  not paraphrasing you correctly, even though the

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1 complexity of actually doing the revisions to the PRA,  
2 well even though that process would be a fairly  
3 complex one.

4 How certain are you that the results would  
5 not be significantly different? And what is the basis  
6 of that certainty? And I'm asking that because if it  
7 is a complex process it would seem there would be some  
8 uncertainty as to what the results would be.

9 And I'm trying to get a handle on the  
10 level of that, and why you feel so sure that there  
11 would not be any significant differences.

12 MR. REPKA: It is hard to quantify  
13 certainty, and I don't think I can really do that.  
14 But what I can say is that this is an engineering  
15 conclusion based upon these qualitative factors that  
16 are reflected in the write-up in section 3.8.

17 And, really, I think the certainty that  
18 the results won't change stems from those factors,  
19 plus the recognition that, number one, there really is  
20 only four assemblies. So with fuel assemblies, as a  
21 matter of engineering and technical judgement, we have  
22 confidence that they can't significantly change the  
23 results of the consequences.

24 And I think the second factor is the fact  
25 that the only thing that really changes, in these

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1 assemblies versus LEU assemblies, is the inventory of  
2 radionuclides, and that is something that is addressed  
3 in the discussion, it is addressed in the dose  
4 consequences, and I think the changes just based on  
5 the level of those changes that gives some certainty  
6 that the results will not significantly change.

7 CHAIR YOUNG: How often, or are you ever,  
8 you your client, surprised; or anyone who does this,  
9 surprised by results when you anticipate a certain  
10 result, or are there ever occasions like that, where  
11 you anticipate a certain result?

12 MR. REPKA: I would like to say I'm never  
13 surprised, but even when I'm surprised -- I have,  
14 really, no basis to answer that. Again, I think it is  
15 really a matter of --

16 CHAIR YOUNG: Feel free to --

17 MR. REPKA: -- professional engineering  
18 and technical experts --

19 CHAIR YOUNG: -- ask your experts there.

20 (Pause.)

21 MR. REPKA: Well, Mr. Brewer tells me  
22 quite emphatically never with that part of the PRA.  
23 So I will just repeat that.

24 CHAIR YOUNG: Staff? Before you start,  
25 let me ask you my main question here came up earlier.

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1 You say, the information, while it may be looked at  
2 during the Staff's review, does not play a large role,  
3 and is not a key component in the decision making  
4 process.

5 And we are talking about section 3.8 here,  
6 I believe. If you could, I would like you to speak to  
7 that. And, also, if section 3.8 were not in the  
8 application, what would that mean to the Staff, would  
9 it mean anything at all?

10 Would it be of concern, would it prompt  
11 you to ask for more information? I'm trying to get a  
12 handle on what kind of role it does play.

13 MS. UTTAL: Well, it is hard to speculate  
14 what kind of questions the Staff might ask were  
15 something different. But the fact of the matter is  
16 that the information in 3.8 was not necessary for this  
17 application.

18 And if it wasn't in there I don't think it  
19 would raise an eyebrow. Whether it would cause other  
20 deterministic questions to go out, I don't know. But  
21 when I use the language in the brief, does not play a  
22 large role, and is not a key component I was, like a  
23 good lawyer, parroting the language in the quoted  
24 material above it, the paragraph, the definition of  
25 what risk informed submittals are.

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1 Where it says that any licensing action --

2 CHAIR YOUNG: Key component, okay.

3 MS. UTTAL: -- on the top of page 7.

4 CHAIR YOUNG: Okay.

5 MS. UTTAL: Basically the entire  
6 application is read by the Staff. But the fact is  
7 that there were no risk questions raised, there is no  
8 risk assessment on the safety side going on now. The  
9 Intervenor has not raised any issues that show that  
10 the criteria in Appendix D would come into play.

11 And that would be their burden to raise  
12 those issues. Therefore it is the Staff's position  
13 that there are no genuine issues of material fact in  
14 controversy now. The Board asked a question,  
15 previously, when we were discussing the other  
16 contention, suppose something changes in the future.

17 Things are not immutable, and they can  
18 change. But the fact is that at this point there are  
19 no facts that indicate that criteria in appendix D had  
20 been met, or would come into play, so that that would  
21 make this an application with special circumstance.

22 And at this point there are none, so that  
23 there is no admissible contention raised by BREDL. If  
24 something happens in the future then maybe there might  
25 be something that is admissible.

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1 But to admit it now, to admit a contention  
2 now saying well something might happen in the future,  
3 would be an anticipatory contention. And I believe  
4 that the Commission has ruled that such contentions  
5 should not be admitted into a proceeding.

6 I hope I answered the two questions?

7 CHAIR YOUNG: Let me ask you one more.  
8 The degree to which this falls under various  
9 precedents, I'm not altogether sure of at this point,  
10 but Ms. Curran did earlier talk about the value of PRA  
11 and I know that there is talk of, you know, moving in  
12 a direction of using more risk analysis.

13 I sort of have the impression that you are  
14 wanting to, rather than address just a straight out  
15 issue of how relevant is something, how significant is  
16 something, you are wanting to sort of say, well it is  
17 in this box, or this box, and never the twain shall  
18 meet.

19 And there are these criteria in Appendix  
20 D, but we decided that they aren't met. If -- and I  
21 guess what I'm wanting to hear is a little bit more on  
22 the value of PRA in risk analysis, and why it is not  
23 appropriate, in terms of the actual reasons in the  
24 context of this case.

25 MS.UTTAL: Well, the reason why this does

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1 not require a risk analysis is because, and the Staff  
2 can correct me if I'm wrong, the analyses done, the  
3 deterministic analyses done in the license amendment  
4 application show that all things within the bounds of  
5 Staff guidance, and of the regulations, and that there  
6 are no questions regarding adequate protection.  
7 Therefore risk analysis is not required.

8 And the risk analysis that they did  
9 provide, gratuitously, does not indicate that there is  
10 any other reason to pursue any kind of risk analysis,  
11 that any of the criteria had been met.

12 CHAIR YOUNG: Is there -- go ahead.

13 MS. UTTAL: I'm sorry, go ahead.

14 CHAIR YOUNG: Is this something that you  
15 are saying, this subject matter is, inherently, not  
16 something that needs to be risk informed, or there  
17 needs to be a PRA kind of risk analysis done?

18 Or are you saying that at this point we  
19 have not moved, right now we have not moved to the  
20 point of risk informing this subject matter in the  
21 sort of progression towards risk informing, this may  
22 well be a vast over-simplification, but in moving  
23 towards more risk informed regulation and evaluation?

24 MS. UTTAL: I believe that --

25 CHAIR YOUNG: We haven't met that point or

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1 is this something that inherently is just not  
2 susceptible, or there is not much value in doing risk  
3 analysis?

4 MS. UTTAL: As to this amendment request,  
5 regarding the four lead test assemblies, the changes  
6 that are going to be made are so small that the risk  
7 informing is not needed. I don't think it has,  
8 really, to do with the evolution of risk informing  
9 licensing actions in the agency.

10 But it has to do with the facts of this  
11 particular license amendment request, where the  
12 changes are small. And there is no question, at this  
13 point, that there is a risk issue.

14 MR. REPKA: May I say something to that  
15 issue, to that question?

16 In our view, and I'm really relying here  
17 upon my PRA expert, but our answer to your question,  
18 Judge Young, would be that we really don't see a lot  
19 of value to risk assessment for this particular type  
20 of amendment.

21 And it is not to say that risk assessments  
22 don't have value. They have value but just in other  
23 arenas. The only change involved in this particular  
24 amendment relates, again, to the radionuclide  
25 inventory, which relates to potential public health

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1 consequences.

2 And that is an area where we have done  
3 some assessment of the results and show there is not  
4 a lot of potential for change. But that is an area  
5 where the NRC doesn't really have any acceptance  
6 criteria.

7 Those areas where the NRC does look to  
8 risk informed regulation, and the value of  
9 probabilistic risk assessments, relate to those  
10 changes that affect core damage frequency, and LERF,  
11 where it has acceptance criteria, but those are not  
12 being changed by this particular license amendment.

13 So based on all of that this is not,  
14 really, the type of licensing action where the  
15 probabilistic risk assessment has a lot of value.

16 CHAIR YOUNG: Thank you.

17 ADMINISTRATIVE JUDGE BARATTA: Ms. Curran?

18 MS. CURRAN: Yes?

19 ADMINISTRATIVE JUDGE BARATTA: I wanted to  
20 ask you whether or not you agreed with the statement  
21 that was made a little bit ago, with respect to the  
22 significance of these changes that are as a result of  
23 a MOX addition. There was a discussion that was  
24 centered on judgement on about what is new and what is  
25 not new.

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1                   And that it wasn't significant, therefore,  
2                   it was not a risk, etcetera. A few minutes ago it was  
3                   said.

4                   CHAIR YOUNG: Not expected to produce  
5                   different results?

6                   ADMINISTRATIVE JUDGE BARATTA: Right, yes.

7                   MS. CURRAN: Yes, I do want to comment on  
8                   that, it is one of the, I think, most important things  
9                   that has come up here, which is I think there is some  
10                  very circular reasoning going on, and I'm trying to  
11                  figure out where you poke the stick in to stop it.

12                  Because in my mind it just keeps going  
13                  around in a circle that Duke says it is not  
14                  significant enough, based on the deterministic  
15                  analysis, it is not significant enough to warrant a  
16                  risk analysis.

17                  But that is not the standard. As a matter  
18                  of fact in REG guide 1.174 it specifically says you  
19                  can have a case where the regulations are satisfied by  
20                  your deterministic analysis, but that doesn't answer  
21                  the question of whether you need a risk analysis.

22                  And what you have here, the one thing that  
23                  you have, in section 3.8, which is setting aside other  
24                  information that has come up as a result of this  
25                  meeting with the French safety agency, that is a

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1 different matter.

2 But in section 3.8 you have Duke saying  
3 the consequences of an accident will go up. And, of  
4 course, there is a big debate about the significance  
5 of that, and their methodology for doing that, which  
6 is really unclear.

7 But they do admit that. So then the  
8 question is, have we presented a material issue of  
9 fact, and placed it in dispute, as to whether we  
10 should have a hearing on that, whether that analysis  
11 should be required.

12 And that is all we can rely on, because  
13 that is all the information that is provided in this  
14 section 3.8, which may have been put in as a  
15 rationale, something to give the Staff and say, here  
16 is why you shouldn't worry about asking for a risk  
17 analysis for this, because we consider this increase  
18 to be insignificant.

19 Well, we consider it to be significant,  
20 BREDL does. I hope that answered your question?

21 ADMINISTRATIVE JUDGE BARATTA: Yes, thank  
22 you.

23 MS. CURRAN: It seems to me this  
24 contention really has two parts. And the reason it  
25 has two parts is because of the way section 3.8 was

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1 presented in the license amendment application. It  
2 was presented as part of the license application, no  
3 statement was made that it was gratuitous, or  
4 irrelevant.

5 We treated it as a relevant section of the  
6 application. So our first issue, here, is if you are  
7 going to address this issue, you should do it right.  
8 You should do a good job, and it should not be  
9 misleading.

10 And I must say that I find section 3.8 to  
11 be extremely misleading, offensively so, because to an  
12 ordinary person, reading this license amendment  
13 application, one of the very first thing that you see  
14 in section 3.8 is a sentence, Duke uses probabilistic  
15 risk assessment analysis to evaluate the risk to  
16 public health and safety, due to operation of its  
17 nuclear plants.

18 Then the sentence that follows, PRA  
19 analyses quantify the probability and consequences of  
20 severe accidents that involve core melt and  
21 containment failure events.

22 Now, these are topic sentences in section  
23 3.8. And the ordinary reader, apparently the trusting  
24 reader, might believe that the rest of section 3.8 is  
25 based on a PRA. And we hear Mr. Repka say, today,

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1 well actually there is a bunch of qualitative  
2 statements in here that have no relationship to a PRA.

3 Well, our position is, we would like to  
4 see -- we believe NUREG 1.174 calls for probabilistic  
5 risk assessment here, to fully understand the safety  
6 issues that are involved in using plutonium fuel.

7 But if our contention is not admitted, for  
8 some reason, then this section should be stricken from  
9 this license amendment application. There should be  
10 no question, there should be no implication that  
11 anybody came to rely on these very misleading  
12 statements for some assurance that this license  
13 application is adequate, and that the operation is  
14 going to be safe.

15 That is all I have.

16 CHAIR YOUNG: Do you have the criteria  
17 that you read off this morning?

18 MS. CURRAN: Yes, in the standard review  
19 plan?

20 CHAIR YOUNG: Right.

21 MS. CURRAN: Yes.

22 CHAIR YOUNG: Could you go through those,  
23 again, and just address how you would apply each of  
24 those here?

25 MS. CURRAN: Okay.

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1 CHAIR YOUNG: How you would argue they  
2 should be applied?

3 MS. CURRAN: Five criteria are listed.  
4 With respect, and this is on pages 19-D-1, and 19-D-2.  
5 With respect to this particular contention we believe  
6 the relevant criterion is the last one. And I will  
7 read that again.

8 Could create, "special circumstances"  
9 under which compliance with existing regulations may  
10 not produce the intended or expected level of safety  
11 and plant operation may pose an undue risk to public  
12 health and safety.

13 Now, we would apply that to the increase  
14 in the consequences of an accident to say that whether  
15 or not these consequences fall within the bounds of  
16 the Part 100 limits they are, nevertheless, special  
17 circumstances in which compliance with existing safety  
18 regulations may not be sufficient, warranting further  
19 enquiry.

20 Other criteria may apply to the  
21 contentions that we submitted today. But in this --  
22 with respect to Contention 1, this is the criterion on  
23 which we rely.

24 CHAIR YOUNG: Thank you. Anything else  
25 from --

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1 MR. REPKA: Yes, Judge Young, I would like  
2 to respond briefly.

3 With respect to that last point, on the  
4 criteria, could it create special circumstances under  
5 which compliance with safety regulations may be  
6 insufficient, and therefore there is some undue risk.  
7 And I'm paraphrasing here.

8 Our point with respect to that particular  
9 criterion is, in looking at this particular  
10 contention, there is absolutely no basis in the  
11 contention for the proposition that there is special  
12 circumstances.

13 That there is nothing in this contention,  
14 BREDL 1, other than the assertion that there ought to  
15 be some quantitative information. So there is no  
16 showing of special circumstances.

17 Number two, Ms. Curran has said this a  
18 couple of times, that it is our position, Duke's  
19 position, that the consequences will increase. Well,  
20 that is not a completely accurate statement.

21 What we have said, throughout, is that  
22 based upon our scaling of the results, the accident  
23 consequences in purely risk terms, there is a range of  
24 results, from minus 0.2 percent, meaning the  
25 consequences actually decrease, to plus 0.7 percent.

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1           And Dr. Lyman, himself, has come up with  
2           a number of 1.6 percent increase. Our point is that  
3           that doesn't support the proposition that the  
4           consequences will increase. That is, simply, a risk  
5           number that is not in any other real sense,  
6           significant, given the inherent uncertainties. Those  
7           are not risk significant numbers.

8           And then the third thing I will say is Ms.  
9           Curran just mentioned the fact, I think, that  
10          basically she said that the relief she would request  
11          is that this section 3.8 of the application be  
12          stricken.

13          I will state, right here, that we have no  
14          objection to that, we would withdraw 3.8, if that  
15          would effectively moot the contentions based on 3.8.

16          CHAIR YOUNG: I want to hear from Ms.  
17          Curran on that. But before we go back to her, would  
18          you like to address Ms. Curran's point about prior to  
19          getting your response, finding 3.8 in there, and then  
20          in response to that raising the criteria in appendix  
21          D in response to your, in reply to your response to  
22          the contention?

23          MR. REPKA: I think the application is  
24          plain on its face, that 3.7 is the required safety  
25          analysis. We all know, based upon the NRC's

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1 regulations, what is required to justify a license  
2 amendment.

3 It is the analysis of dose consequences.  
4 It addresses exactly what is changing here, the change  
5 in radionuclide inventory, and the dose consequences  
6 using a quantitative but deterministic evaluation  
7 shows the application complies with the relevant NRC  
8 requirements, and the fact that the Petitioner is  
9 surprised that 3.8 is not being relied upon, I think  
10 that really has no bearing, whatsoever, on the  
11 admissibility of the contention.

12 CHAIR YOUNG: What I was --

13 MR. REPKA: It is what it is.

14 CHAIR YOUNG: What I was asking, what I  
15 was actually offering was the opportunity to reply to  
16 her argument that someone reading this, without having  
17 the benefit of your response, the title Risk Impact of  
18 MOX Fuel Lead Assemblies, it sounds as if it is --

19 MR. REPKA: It sounds --

20 CHAIR YOUNG: -- relevant, of relevance  
21 and significance.

22 MR. REPKA: Well, we have never said it is  
23 irrelevant. But what we've said is that it is not  
24 material to the required NRC finding. It is  
25 information, it is a risk perspective. There is no

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1 question about that.

2 It is just not a required that we provide  
3 any risk perspective at all. And having supplied a  
4 risk perspective, then there is further no requirement  
5 that that be in any particular form, or any particular  
6 quantitative versus qualitative nature.

7 And then the last thing I will say is --

8 CHAIR YOUNG: Well, before you move on --

9 MR. REPKA: -- the implication is that it  
10 is misleading.

11 CHAIR YOUNG: Just before you move on,  
12 let's stick on the requirement again, because that is  
13 something that comes up again and again. And I have  
14 sort of touched on it.

15 But whenever you say that I'm assuming  
16 that you, and the Staff as well, are referring to the  
17 portion of genuine dispute on a material issue of law  
18 or fact.

19 What you are saying is that there is no  
20 possibility for a genuine dispute of law, because you  
21 say there is no legal requirement. And then the issue  
22 becomes, well, are the general public safety  
23 provisions brought into play, either as a factual or  
24 legal matter, for that matter?

25 MR. REPKA: Number one, it is a material

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1 fact question. Is there a material issue of fact.

2 CHAIR YOUNG: Right.

3 MR. REPKA: And if it is not based upon a  
4 required -- it doesn't address required finding, it  
5 would fail that test.

6 Number two, is the requirement that, not  
7 the requirement, but the criteria that if the  
8 contention, even if proven, would not be of  
9 consequence because it wouldn't entitle to relief.  
10 That also comes into play here because, again, if it  
11 is something that there is -- is not required either  
12 to make the necessary finding, or in a broader sense  
13 public health and safety, I suppose, that criteria  
14 says the contention is screened out, it is  
15 inadmissible.

16 And this contention, like the other, but  
17 this even more so than the other is less specific, is  
18 less supported in terms of what its basis would be for  
19 relief, for the relief requested being further  
20 quantitative analysis.

21 I mean, we hear this morning that that is  
22 based upon the Appendix D in NUREG 0800, the standard  
23 review plan. But, again, there is no basis presented  
24 in this contention to say that there are special  
25 circumstances, that there is some public health and

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1 safety risk significance that is unique.

2 And, therefore, that probabilistic risk  
3 assessment insights need to be applied beyond those  
4 which have already been applied.

5 CHAIR YOUNG: Okay. What I want to be  
6 clear on, here, is sometimes I get the impression that  
7 you are wanting to sort of add into the contention  
8 admissibility requirements, a requirement, like there  
9 is in some regulatory frameworks, other than the NRC,  
10 that a Petitioner provide a jurisdictional, if you  
11 will, a legal citation to a specific law, statute or  
12 rule that is the basis for their complaint or  
13 petition.

14 But there is no such requirement in the  
15 contention admissibility standards. The closest thing  
16 is the genuine dispute on a material issue of law or  
17 fact. And in addition to specific requirements, there  
18 are the general requirements with regard to licenses,  
19 and license amendments by referral back to the  
20 issuance of original licenses to refer to public  
21 health and safety, that are more or less always in  
22 play here.

23 So if something is relevant and material  
24 to a public health and safety issue, I want to be  
25 clear that you are not arguing that that would not be

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1 admissible, assuming the specificity, and so forth,  
2 other parts of it are met.

3 You are not making that argument, are you?

4 MR. REPKA: No. I'm not making that  
5 argument. What I am arguing is there has to be some  
6 basis for relief. And I think the cases on  
7 admissibility talk to the fact that the contention,  
8 and this is not a matter of formality pleading a  
9 specific regulation, but they talk in terms of the  
10 contention must show one of either two things.

11 One, a failure of the application to meet  
12 the regulations, which this is not, because this  
13 particular contention goes to something that is beyond  
14 the regulations.

15 Or the second thing the contention could  
16 do is could attempt to show that there is some  
17 regulatory gap related, that there is, that public  
18 health and safety dictates something more short of  
19 actually a challenge to the NRC's regulations, which  
20 we all know there is ample case law that says you  
21 can't do that.

22 CHAIR YOUNG: Right. But there are  
23 portions of the regulations that do talk about public  
24 health and safety. And I don't think we need to argue  
25 about which ones those are.

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1 MR. REPKA: Well, you have to be careful  
2 there. Because even, if there is, the argument is,  
3 has to be that there is some specific relief that is  
4 justified by public health and safety. No doubt that,  
5 ultimately, public health and safety is the ultimate  
6 standard.

7 But there has to be some, some specific  
8 relief that is justified to meet that public health  
9 and safety goal. And it can't be a matter of  
10 attacking NRC regulations and saying NRC regulations  
11 ought to require more, number one.

12 And, number two, if that is the argument,  
13 that something more is required to protect public  
14 health and safety, there has to be a basis for that,  
15 there has to be a factual and substantive basis.

16 CHAIR YOUNG: Right, right.

17 MR. REPKA: And so here we have, in this  
18 contention 1, we have nothing. We have a contention  
19 that says your analysis has to be quantitative. Well,  
20 you know, there is no showing, one, that either the  
21 regulations require quantitative, or two, that public  
22 health and safety requires some further quantitative  
23 assessment. There is none of that.

24 CHAIR YOUNG: Okay.

25 MR. REPKA: And then in this other

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1 contention we have the showing, the 1.6 percent, and  
2 our argument is that that is insufficient as well.

3 CHAIR YOUNG: What I would like to do is  
4 get us in some common ground here, so that we don't go  
5 over this same argument about whether or not there is  
6 a requirement for something, or a regulatory basis for  
7 something.

8 In 50.92 -- I just want to, I want to make  
9 something clear here. In 50.92, in determining  
10 whether an amendment to a license will be issued, the  
11 Commission will be guided by the considerations which  
12 govern the issuance of initial licenses.

13 And then under initial licenses, under  
14 50.57, one of the criteria is there is reasonable  
15 assurance that the activities authorized can be  
16 conducted without endangering the health and safety of  
17 the public.

18 And the reason I looked those up before,  
19 and consulted with some of my colleagues on that, is  
20 because we keep getting to this, there is no  
21 regulatory, there is no requirement. And that is a  
22 sort of fundamental requirement that applies to all  
23 license amendment applications, don't you agree?

24 MR. REPKA: Again, it depends upon what  
25 the contention is alleging. If the contention is

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1 alleging that the requirements are not met, then it is  
2 certainly an adequate, and certainly appropriate  
3 response to say the requirements, the regulations  
4 don't require that. There is no regulation that  
5 requires that.

6 This particular contention, as I think it  
7 is morphed a little bit here this morning, or this  
8 afternoon, doesn't seem to be saying that the  
9 regulations require it.

10 What you seem to be arguing is that it is  
11 arguing that this quantitative analysis is required  
12 for public health and safety. I don't disagree that  
13 you could make a contention that says public health  
14 and safety dictates that this particular measure is  
15 required.

16 My point on this contention, as with BREDL  
17 2, an similar contentions, is there is no basis, there  
18 is no basis in either the regulation, or in the  
19 contention, for the proposition that public health and  
20 safety dictates a further quantitative evaluation of  
21 risk, beyond those things that the regulations already  
22 require.

23 CHAIR YOUNG: Other regulations, right?

24 MR. REPKA: Right.

25 CHAIR YOUNG: And I think that gets us

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1 much more directly to the things that we need to look  
2 at, in terms of whether there is a genuine dispute on  
3 any of the specific issues raised with this underlying  
4 NRC concern of safety informing all of it.

5 MR. REPKA: Right. And so the question is  
6 measuring the sufficiency of the basis, and if you  
7 take that public health and safety argument and say  
8 that the argument is that it is Appendix D of the  
9 standard review plan, the special circumstances, that  
10 it is that that is dictating that public health and  
11 safety requires this further assessment.

12 Again, the contention is completely devoid  
13 of anything that would justify that. All it says is  
14 that we haven't analyzed CDF and LERF, but they don't  
15 change, so where is the basis.

16 CHAIR YOUNG: Thank you. Anything more on  
17 this one? If not --

18 MS. CURRAN: Two points. It may  
19 appropriate, in light of what Mr. Repka just said, to  
20 here and now amend the contention to make it clear  
21 that we believe that the type of discussion in section  
22 3.8 is appropriate and required, and we don't think it  
23 is adequate.

24 And that one of our reasons that we don't  
25 think it is adequate is because based on information

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1 provided in section 3.8, it is possible that the  
2 consequences of an accident involving MOX plutonium  
3 lead test assemblies will increase.

4 And those circumstances, in our view,  
5 would invoke REG guide 1.174. And, of course, we did  
6 not plead that in our contention because we assumed  
7 that Duke had put that information in the license  
8 amendment request for a reason.

9 Another point I would like to address is  
10 whether the contention would be mooted by the  
11 withdrawal of section 3.8. I don't think it would,  
12 because we believe that a discussion of risk, a  
13 quantitative discussion of risk is appropriate, and  
14 required, and necessary to meet the adequate  
15 protection standard.

16 So although we do find it, it is of  
17 serious concern that it is so misleading, and it is in  
18 there, we don't think it is going to really satisfy us  
19 to just take it out.

20 CHAIR YOUNG: All right, if there is  
21 nothing more on BREDL 1, the next one is BREDL 3.

22 MR. FERNANDEZ: Your Honor --

23 MS. CURRAN: Excuse me, Judge Young, could  
24 you give us one more minute?

25 MR. FERNANDEZ: Your Honor, while they

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1 confer, just for clarity's sake, did I just hear her  
2 move to amend the contention?

3 CHAIR YOUNG: I believe so. Would you  
4 like to respond?

5 MR. FERNANDEZ: Well, we would object to  
6 doing that at this moment in time, and we would  
7 appreciate it if that is the case, and that I be done  
8 in writing so that we could respond accordingly.

9 CHAIR YOUNG: I think it is probably  
10 appropriate to put that on our list of things that we  
11 need to address before we leave, or in a subsequent  
12 conference to be held shortly after this oral  
13 argument.

14 MR. FERNANDEZ: Thank you, Your Honor.

15 CHAIR YOUNG: Scheduling and so forth.

16 MS. CURRAN: Judge Young, could we ask one  
17 more minute on this contention?

18 CHAIR YOUNG: Okay.

19 MS. CURRAN: Can I make this one more  
20 point, please?

21 CHAIR YOUNG: Sure.

22 MS. CURRAN: In the contention we  
23 criticized section 3.8 for failing to attempt to  
24 calculate the change in core damage frequency in large  
25 early release frequency.

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1                   And I believe Mr. Repka said that has been  
2 done and it is zero. Well, if it has been done, that  
3 is what we are looking for, that is the information  
4 that we were interested in. And we want to know how  
5 close it is to zero, how it was done.

6                   He implied it was zero, he may not have  
7 explicitly stated it, but it was implied.

8                   (Pause.)

9                   MR. REPKA: Do I need to respond to that?

10                  CHAIR YOUNG: I got the impression that  
11 you were going to.

12                  MR. REPKA: I think that last request,  
13 with respect to CDF and LERF, our point is that there  
14 is no change, and there is no basis to say there is  
15 going to be a change. It is not to say that it has  
16 been done.

17                  The fact of the matter is that Duke level  
18 1 and level 2 portions of the PRA, which relate to  
19 frequency of core failure, and containment  
20 performance, don't change in any respect as a result  
21 of the introduction of four MOX fuel assemblies.

22                  So you have run the calculation, but you  
23 don't even have to do that because, qualitative, you  
24 know that the result is going to be zero with respect  
25 to the core damage frequency, and the containment

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1 performance.

2 So I'm not -- I really don't understand  
3 the request for relief.

4 MS. CURRAN: It seems to me that it is  
5 getting into the merits to say you know it. How do  
6 you know it? It is a question for the merits of the  
7 contention.

8 MR. REPKA: Well, I think the burden is on  
9 the Petitioner, at this point, to show how CDF, or  
10 LERF could change. And there is nothing in the  
11 contention that suggests how that would happen.

12 CHAIR YOUNG: All right. Let's move on to  
13 BREDL 3. And from my standpoint I have one question  
14 that I would like to give you to address as you are  
15 making your argument.

16 And that is the specific relevance and  
17 materiality of the sump clogging issue with regard to  
18 the MOX lead test assemblies. In other words whether  
19 -- is this not a problem that exists completely  
20 separate and apart from the MOX fuel use, and is there  
21 anything that specifically ties the MOX fuel use to  
22 it?

23 This is one of the arguments that both the  
24 Staff and Duke make in response to this one, and I  
25 think that is a central one that would be helpful, for

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1 me anyway, to hear your response to that.

2 MS. CURRAN: Okay. We tried to explain it  
3 in the contention, but probably bears going over,  
4 because I know the Staff does, and I believe Duke may  
5 argue that containment sump failure is not caused by  
6 using plutonium fuel.

7 We don't argue that, we don't argue that  
8 there is any causative relationship between the  
9 contention sump failure issue and the issue of using  
10 plutonium fuel.

11 The relationship is this. That because,  
12 first of all, many plants are subject to this  
13 containment sump failure problem. But because of the  
14 nature of ice condenser plants, their characteristics,  
15 they are more vulnerable.

16 And then there is the element of the weak  
17 containment. And if you, in doing a risk analysis of  
18 course you put together the potential for the  
19 accident, and the consequences of the accident.

20 If you put that together with the higher  
21 consequences of using plutonium fuel in the reactor,  
22 then you get a higher overall risk. And that needs to  
23 be addressed in the risk analysis that we think should  
24 be provided in section 3.8.

25 CHAIR YOUNG: But you agree the risk

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1 exists regardless of whether or not there are the four  
2 MOX fuel lead test assemblies?

3 MS. CURRAN: The potential for the  
4 accident is not changed by the use of plutonium fuel  
5 assemblies. The overall risk of the accident does  
6 change because the consequences are higher using  
7 plutonium fuel.

8 And so that is something that ought to be  
9 taken into account, the overall risk.

10 ADMINISTRATIVE JUDGE BARATTA: That is not  
11 adequately taken into account by the GS-191 dose  
12 analysis?

13 (Pause.)

14 MS. CURRAN: We are talking here about  
15 severe accident risk. And this issue is not addressed  
16 in the PRA for Catawba. In the contention it says  
17 that containment sump clogging is a particularly  
18 severe problem for ice condenser plants, such as  
19 Catawba, because ice condenser plants need to go to  
20 sump recirculation and small break LOCAs, which is  
21 seldom the case for most other pressurized water  
22 reactors.

23 So you have the -- you start with the  
24 general potential for sump clogging that is common to  
25 many plants. Then that potential is exacerbated in

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1 ice condenser plants because of their characteristics.

2 Then you add to that the increased  
3 consequences from a release. And when you look at the  
4 overall risk it needs to be looked at, in the context  
5 of a PRA, to see what steps might be appropriate to  
6 mitigate that.

7 Shall I go on?

8 CHAIR YOUNG: Yes, go ahead. Well, I  
9 found the part I was looking for in Duke's response.  
10 Given that the scope of this proceeding is limited to  
11 the changes proposed in the license amendment  
12 application, the issues raised in GSI-191 related to  
13 the sump clogging issue, and in the contention are  
14 beyond the scope of the proceeding.

15 How do you get around that? Because --

16 MS. CURRAN: Well, there is an implicit  
17 assumption there that if the use of plutonium fuel  
18 doesn't directly cause a new accident, or a particular  
19 kind of accident like the containment sump accident,  
20 then it is irrelevant.

21 But the question before the licensing  
22 board, the scope of this proceeding, to my  
23 understanding, is should this license amendment  
24 application be approved, does it satisfy NRC  
25 requirements for the predication of public health and

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1 safety.

2 And the big question here, all day, has  
3 been to what extent is probabilistic risk assessment  
4 relevant to that determination? And PRA doesn't just  
5 look at causative events, it looks at the overall risk  
6 of doing some activity or another.

7 It looks at the potential and the  
8 consequences together, and how to minimize those  
9 consequences. So in our view the fact that using  
10 plutonium fuel doesn't cause a containment sump  
11 accident just doesn't, it is not particularly relevant  
12 to the scope question.

13 CHAIR YOUNG: Excuse me.

14 MS. CURRAN: Excuse me.

15 CHAIR YOUNG: Isn't what you are talking  
16 about here, doesn't it really sort of go to the  
17 selection of the plant issue that is raised in another  
18 contention?

19 MS. CURRAN: In a NEPA contention.

20 CHAIR YOUNG: Which I'm not expressing any  
21 view on, but it seems like you are saying there is  
22 this problem that is more severe with the ice  
23 condenser plants, and so that makes it more dangerous  
24 to use MOX fuel in that type of plant.

25 It sort of seems to be the same argument

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1 framed a little bit differently.

2 MS. CURRAN: I think it is correct that we  
3 are making the same factual argument in two different  
4 legal frameworks, and each legal framework has its own  
5 purposes, its own importance.

6 NEPA is important as a decision making  
7 tool, in looking at alternatives, and mitigative  
8 measures, where you asses the overall risk, and see  
9 how you might reduce it to minimize the impact on the  
10 environment. It is kind of a relative standard.

11 The Atomic Energy Act has a more fixed  
12 standard, no undue risk, adequate protection. So it  
13 is a separate question whether under the Atomic Energy  
14 Act you have to determine has there been enough done  
15 here.

16 Under NEPA all you have to look at is  
17 whether disclosure was adequate.

18 CHAIR YOUNG: Well, now, we are not on  
19 NEPA here, right?

20 MS. CURRAN: No, I'm making a comparison.  
21 You -- I thought you were asking me why don't you drop  
22 this one and pursue your NEPA contention.

23 And I'm telling you why we think they are  
24 both important.

25 CHAIR YOUNG: Continue, finish your

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1 sentence, I'm sorry.

2 MS. CURRAN: So in this case, what I think  
3 we are all struggling with is, and I think the  
4 Commission has been struggling with for the last ten  
5 or fifteen years, is what is the role of probabilistic  
6 risk assessment in safety decisions.

7 Of course we are moving towards risk  
8 informed licensing, that has been done in parts of  
9 part 70, and maybe other regulations, and maybe it  
10 will be formally instituted in part 50.

11 In the meantime the Commission has not  
12 totally dropped it off the radar screen for purposes  
13 of current decisions. The Commission has expressed an  
14 intent that PRA should be useful for determining  
15 whether the adequate protection standard is met in a  
16 license amendment case like this. If the criteria are  
17 met.

18 CHAIR YOUNG: So that gets us back to the  
19 Appendix D?

20 MS. CURRAN: We always seem to get back  
21 there.

22 CHAIR YOUNG: Okay. Anything further?

23 ADMINISTRATIVE JUDGE ELLEMAN: Ms. Curran,  
24 you said the frequency of the event would, presumably,  
25 stay the same if plutonium were in the core, but the

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1 consequences would be higher.

2 One reason for the consequences being  
3 higher is the concentration of plutonium is always  
4 higher in the reactor with plutonium assemblies than  
5 if enriched uranium assemblies were in there.

6 Is that the basis for your statement that  
7 the consequences are higher, or are there other  
8 reasons, in addition, that you might expect higher  
9 consequences?

10 MS. CURRAN: Essentially it is the  
11 plutonium.

12 ADMINISTRATIVE JUDGE ELLEMAN: The fact  
13 that the plutonium is somewhat higher?

14 MS. CURRAN: Yes, but in addition it is  
15 the americium and curium content, which are also  
16 increased as a result of plutonium use.

17 ADMINISTRATIVE JUDGE ELLEMAN: Okay, yes,  
18 okay.

19 CHAIR YOUNG: Mr. Repka?

20 MR. REPKA: Let me just start by  
21 addressing, I think Judge Young you raised the  
22 question of whether or not this license amendment is  
23 completely in the issues being addressed in this  
24 proposed contention, let me say it that way, are  
25 completely separate and apart from the application to

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1 use MOX fuel. And the answer to that is yes, they are  
2 completely separate and apart.

3 I think Ms. Curran, in her argument this  
4 afternoon, hit the operative point. She said there is  
5 no causative relationship between the sump clogging  
6 issue and MOX fuel consequences, and that the  
7 potential for the accident, the sump clogging doesn't  
8 change as a result of the introduction of four MOX  
9 fuel assemblies.

10 I think that is really the crucial point  
11 here, and that is why this particular contention is  
12 outside the scope of the proceeding. The proceeding  
13 is really focused on what is changing as a result of  
14 the proposed amendment.

15 And what is changing is the radionuclide  
16 inventory which I think we just alluded to, here,  
17 again. The impacts of those changes are being  
18 addressed in the section 3.7 design basis, those  
19 consequences analysis, there is no challenge here to  
20 that.

21 What we are talking about, again, is  
22 beyond design basis accident evaluation. And the GSI-  
23 191 issue, which is the focal point of this particular  
24 contention, doesn't change the radionuclide inventory,  
25 it doesn't change the consequences of the accident,

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1 that is the change in the consequences of the accident  
2 that is attributable to MOX. And I think that is the  
3 important point.

4 And, at most, there is nothing in this  
5 contention that addresses the change in consequences  
6 as a result of the change of the radionuclide  
7 inventory. In fact, that gets to the point we were  
8 just discussing, in the context of BREDL Contention 2,  
9 which is Dr. Lyman's numbers that would suggest that  
10 the consequences could go up to by as much as 1.6  
11 percent.

12 Again, our own numbers, based upon the  
13 scaling, show a range of minus .2 percent to plus .7  
14 percent. That is not changed in any way, by GSI-191.  
15 And so there is no relationship between the two  
16 issues.

17 And, again, we get back to, with respect  
18 to that particular issue, it is a different  
19 contention, and we've said what we have to say about  
20 that.

21 I think there is some confusion here.  
22 Sometimes Ms. Curran sounds like she is saying the  
23 consequences of the accident will increase. I think  
24 that is alluding to a multiplier between the increase  
25 in consequences, which she is asserting to be 1.6

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1 percent, based upon Dr. Lyman's study, times, or plus,  
2 or whatever the right formula is, the change in core  
3 damage frequency attributable to the GSI-191.

4 But that is the logic, that is the GSI-191  
5 aspect, that is really beyond the scope of the  
6 proceeding. And that is our point, that that exists  
7 independent of the MOX fuel application.

8 Some of the things we pointed out, with  
9 respect to that, in our response were just that the  
10 license amendment application doesn't increase the  
11 amount of the fibrous material that would be  
12 responsible for this postulated sump clogging.

13 It doesn't alter the procedures, or  
14 equipment related to the potential for sump blockage.  
15 The amendment doesn't alter the procedures, or  
16 equipment, that relate to mitigating the sump blockage  
17 event.

18 In total effect the issues here are not,  
19 the issues of GSI-191 are not caused, or exacerbated  
20 by the MOX fuel application.

21 I think the only other thing I would say  
22 is that that particular logic really could lead you to  
23 litigation of the generic safety issue in the context  
24 of an individual license amendment proceeding. And it  
25 really could be any license amendment proceeding.

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1           And I don't think that is the policy, or  
2           the approach of the Commission. Because if you would  
3           look at that and you would say, well if this were the  
4           contention, what would we litigate?

5           We would litigATe potentially the same  
6           issues as in BREDL 2, if that were admitted, which is  
7           on the 1.6 percent, and whether there is any veracity  
8           to that. And would we litigate the other side of the  
9           equation, the core damage frequency increase  
10          attributable to the GSI-191.

11          If we were to do that, we would really be  
12          in a position of litigating the generic issue. All of  
13          us, Duke, BREDL, even the NRC staff would be out in  
14          front of the NRC on the generic issue. We wouldn't  
15          have any basis, at all, to address the veracity of the  
16          assertions about the core damage frequency change  
17          attributable to the sump blockage issue.

18          So I think it is precisely that which the  
19          Commission's policy would be to avoid in this  
20          particular license amendment proceeding. The fact is  
21          there is a generic issue ongoing, that generic issue  
22          applies to all plants, and will be resolve on an  
23          appropriate schedule.

24                 CHAIR YOUNG: Staff?

25                 MR. FERNANDEZ: We have nothing to add,

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1 Your Honor.

2 CHAIR YOUNG: Anything further from you?

3 MS. CURRAN: Yes. First I would like to  
4 correct Mr. Repka's repeated references to Dr. Lyman's  
5 figure of 1.6 percent. That is not Dr. Lyman's  
6 figure, that is a figure that Duke came up with, that  
7 we have already provided you with our criticism of.

8 I think Mr. Repka made an argument,  
9 earlier, he raised a rhetorical question, what is  
10 changing as a result of this license amendment  
11 application, that that is the key question here.

12 Well, one of the things that is changing  
13 is the consequences of a severe accident if it should  
14 occur. And there is some debate about how much change  
15 that is. But I think it has been conceded, here, that  
16 there is a change in that.

17 So there is no doubt about that. That  
18 question is answered, there is a change, and it  
19 relates to the containment sump clogging problem,  
20 because the increase in consequences, using plutonium  
21 fuel, will increase the overall risk of that  
22 particular type of accident, in combination with the  
23 other unusual features of ice condenser plants.

24 CHAIR YOUNG: Why couldn't that issue, to  
25 the extent that it relates to the MOX fuel, assuming

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1       that there were a contention admitted about  
2       consequences increase, why would not litigation of  
3       that kind of contention be sufficient?

4               What you are asking for here seems to be  
5       something over and above that. You are asking for --  
6       the heading that you put is failure to evaluate the  
7       containment sump failure on its own.

8               MS. CURRAN: I'm not sure I understand  
9       your question.

10              CHAIR YOUNG: You have at least one other  
11       contention that has to do with estimates of  
12       consequences increase, and use of PRA generally,  
13       including the consequences increases.

14              Why is that not sufficient, assuming the  
15       issue comes in somewhere?

16              MS. CURRAN: In other words, are you  
17       saying that another contention might embrace this  
18       particular issue? Or --

19              CHAIR YOUNG: I think I asked the  
20       question, earlier, that to the extent that you get  
21       into an analysis of an increase in consequences that  
22       that then brings in whatever exists at the individual  
23       plant, including in this case the sump clogging issue  
24       to the extent that it is affected by that.

25              But to approach it from the standpoint of

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1       wanting to have a separate evaluation of the sump  
2       issue, it -- I think you've got a pretty high hurdle  
3       to overcome in terms of the causation relation and the  
4       what is changed by the license amendment request  
5       arguments that are made here.

6               MS. CURRAN: Well, it certainly would be  
7       reasonable, our view is that contention 1, for  
8       example, embraces the question of doing a defensible  
9       adequate risk analysis. And that, certainly, the  
10      factors raised in Contention 3 could be just one of  
11      the considerations in that analysis.

12             As long as we were able to address it, it  
13      doesn't matter to us, really, whether it is a  
14      freestanding contention or essentially subsumed in  
15      another contention.

16             But I do think that we need to address the  
17      issue of whether we are somehow barred from raising  
18      this issue because it has been designated as a generic  
19      safety issue. We are certainly aware that the  
20      Commission can make choices about how it resolves  
21      problems that come up in licensing cases.

22             It can do that either in each individual  
23      case, or it can do that in a generic way. The  
24      important thing, I think, is that at the end of the  
25      day, when the licensing decision is made, the issue

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1 has to have been resolved, either in the individual  
2 case, or in the generic proceeding.

3 And as far as I know the schedule for  
4 resolving the generic proceeding is pretty lengthy.  
5 Westinghouse did say they would resolve it by next  
6 spring, but it is not clear to us whether that means  
7 there will be a resolution that is acceptable to the  
8 NRC.

9 And I think the NRC schedule may be a bit  
10 longer. So we think, given the unique characteristics  
11 of the Catawba plant, and the -- with the ice  
12 containment, ice condenser containment, with the  
13 increased consequences of using the plutonium fuel, it  
14 makes sense to address this issue in the PRA.

15 In terms of resolution of the generic  
16 safety issue it is within the Commission's discretion  
17 to do that in a generic rulemaking.

18 CHAIR YOUNG: Okay. I certainly didn't  
19 mean to suggest any rulings on any of these  
20 contentions. But I think we've heard all the  
21 arguments, and understand them --

22 MR. REPKA: Judge Young, may I respond to  
23 that last question I think you raised?

24 CHAIR YOUNG: That I raised?

25 MR. REPKA: Yes, about the question of

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1       whether this issue could be addressed, for example,  
2       under another contention, like BREDL 2 addressed to  
3       the consequences.

4               I think I'm troubled by the notion that  
5       either in BREDL 2, or this particular contention, you  
6       could somehow litigate here the issue that is being  
7       addressed in the generic safety issue.

8               And for want of a better way to state it,  
9       the issue of is there a change in core damage  
10      frequency related to containment sump clogging.  
11      Whether you style that as a consequences assessment,  
12      or a core damage frequency issue, I think it is  
13      precisely the generic issue.

14              It is something that exists completely  
15      independent of the MOX fuel license application. So  
16      I think, in either case, it is beyond the scope. I  
17      think when we talked, a little bit earlier, about the  
18      consequences analysis, and we talked about if you were  
19      just to, say, postulate a .7 percent increase in  
20      public health risk consequences as a result of MOX  
21      fuel, the question is, there are two separate  
22      questions, potentially, that one could address.

23              One is, would those consequences go up if  
24      you increase core damage frequency 100 times, based  
25      upon GSI-191, or any other issue? And I think that

1 issue is completely outside the scope of the  
2 proceeding, under any contention.

3 The second question --

4 CHAIR YOUNG: I think the question that I  
5 asked, and the transcript will reflect it, hopefully,  
6 but I think the question that I asked, maybe was to  
7 Ms. Uttal, if I'm remembering right, and it was simply  
8 to this effect.

9 In analyzing this license amendment  
10 request should, whatever the Staff or the Commission  
11 does with regard to GSI-181, should that change the  
12 total, was it core damage frequency, or --

13 MR. REPKA: Certainly some clogging would  
14 go to core damage frequency.

15 CHAIR YOUNG: Right, that that would be  
16 taken into account by the Staff in its evaluation. I  
17 think it was simply a point of if the 191 analysis  
18 resulted in a change in the figures, then that would  
19 be applied in the analysis of this license amendment  
20 request.

21 And I think the answer was yes. And I  
22 can't recall exactly how it was put. But the issue of  
23 litigating it as a separate matter, I understand your  
24 point of view, and I tend to think that this is one  
25 where the hurdle is pretty high in terms of the scope

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1 of this proceeding.

2 But that is not to indicate anything other  
3 than that -- to make reference to the discussion I had  
4 earlier, I think it was with Ms. Uttal about this.  
5 And I can't recall the exact wording that we used at  
6 that point.

7 MR. REPKA: Well, I think, to just  
8 complete my thought, I think the question you asked of  
9 me, earlier, was something about the magnifier.

10 CHAIR YOUNG: That may be. You are right.

11 MR. REPKA: And then what I was alluding  
12 to was if you took any result on consequences and then  
13 assumed 100 times greater core damage frequency, of  
14 course there might be a magnifier effect.

15 But that 100 times would be related to the  
16 GSI issue, not the MOX fuel application. That is  
17 where I was coming from. And I don't think that that  
18 really is an appropriate issue in either context.

19 ADMINISTRATIVE JUDGE BARATTA: Could -- I  
20 remember that 100 time number, 30 time number. Could  
21 I ask for a clarification on that? Is there a way to  
22 break out the GSI-191 from -- I think there are two  
23 issues here.

24 One is the question of GSI-191, its impact  
25 on the probability of early containment failure. The

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1 other one is the source term effect, which deals with  
2 core damage frequency, and source term is allegedly  
3 higher for the MOX.

4 Is it possible to break that out as to  
5 what could be compared to this factor, 30, or 100 that  
6 I've read about?

7 MS. CURRAN: I believe the factor we used  
8 was 50, and it had to do with the change in core  
9 damage frequency due to sump clogging. It didn't have  
10 to do with use of plutonium fuel.

11 ADMINISTRATIVE JUDGE BARATTA: Okay. So  
12 the 100 doesn't bear on this, then?

13 MS. CURRAN: Well, we should have said on  
14 the order of 100. Anything over 30 is on the order of  
15 100, basically.

16 I just want to add one more thing, and  
17 that is a reference to REG guide 1.174, which this  
18 addresses the relationship between causation  
19 consequences and overall risk.

20 At page 1.174-4, the REG guide goes  
21 through some of its purposes. And in one paragraph it  
22 says, this regulatory guide also makes use of the  
23 NRC's safety goal policy statement.

24 As discussed below, one key principle, in  
25 risk informed regulation is the proposed increases in

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1 CDF, core damage frequency, and risks are small, and  
2 are consistent with the intent of the Commission's  
3 safety goal policy statement.

4 In other words, the Commission is  
5 concerned with overall risk, not just with causation.

6 ADMINISTRATIVE JUDGE BARATTA: I believe,  
7 if I may ask a question with respect to that, I  
8 believe the safety goal puts that in terms of a  
9 certain percentage of the average daily risk to an  
10 individual, am I correct in my recollection of that?

11 MR. REPKA: I can say that it is 0.1  
12 percent of the risk from all other sources.

13 ADMINISTRATIVE JUDGE BARATTA: Right, 0.1  
14 percent?

15 MR. REPKA: Right.

16 ADMINISTRATIVE JUDGE BARATTA: One of the  
17 questions that I had with respect to that change of  
18 risk that was discussed, some of the articles that  
19 were provided by Dr. Lyman, is putting that in terms  
20 of the change associated with the risk from this  
21 plant, as a result of burning MOX.

22 How does that compare to the safety goal?  
23 Are we still below that?

24 MS. CURRAN: Well, we can't really answer  
25 that question because it depends on Duke's

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1 probabilistic risk assessment, which has not been  
2 updated to address that.

3 ADMINISTRATIVE JUDGE BARATTA: -- Dr.  
4 Lyman's article would be like a bounding analysis.

5 MS. CURRAN: I'm sorry, I didn't hear you.

6 ADMINISTRATIVE JUDGE BARATTA: I said Dr.  
7 Lyman's article would be like a bounding analysis?  
8 And maybe setting some, I hate to say upper limits,  
9 but some order of magnitude. Am I wrong, or?

10 MS. CURRAN: Hold on just one minute.

11 (Pause.)

12 MS. CURRAN: Okay, I'm going to try, here.  
13 I'd like to direct you to page 1.174-16 of the REG  
14 guide. It has a set of thresholds for CDF and LERF  
15 events.

16 (Pause.)

17 MS. CURRAN: Supposing you start with a  
18 plant with an overall risk of 3.10 to the minus 5th  
19 for core damage frequency. And, say, it goes up by a  
20 factor of 30 as a result of sump clogging.

21 So then you have one times ten to the  
22 minus three. And then -- I think I should just -- I  
23 need to have Dr. Lyman write this out for me, and then  
24 I will say it, because I just --

25 CHAIR YOUNG: Would now be a good time to

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1 take a break, and come back --

2 MS. CURRAN: Yes, thank you.

3 CHAIR YOUNG: -- and provide that to us  
4 quickly, and then move on to the next one?

5 MR. REPKA: And at some point I think we  
6 would like to take a shot at answering Judge Baratta's  
7 question. I can do that now, or later. And I offer  
8 this not as a merits argument, but to provide some  
9 perspective on the basis that is being offered on this  
10 issue.

11 As I mentioned the safety goal is 0.1  
12 percent of the risk from all other sources. NUREG  
13 11.50 is the NRC's, it is the risk assessment of ice  
14 condenser plants using Sequoia as the model plant.

15 And that NUREG comes up to a conclusion  
16 that the risk of the plant is something on a factor of  
17 200 better than the safety goal. So with that  
18 perspective of two orders of magnitude, times two,  
19 better than the safety goal, we are talking here about  
20 a change attributable to the MOX fuel of 1.6 percent  
21 of that risk, that is 200 times better than the safety  
22 goal.

23 So the addition of that small percentage  
24 is clearly not significant. That is the perspective  
25 we would bring, based upon the safety goal. It is 1.6

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1 percent of a very small number.

2 CHAIR YOUNG: What about addressing it as  
3 a threshold kind of issue that was just mentioned?

4 MR. REPKA: Really a perspective on the  
5 basis. If the basis is the asserted 1.6 percent  
6 attributable to four MOX fuel assemblies I think it  
7 really behooves the Board, and all of us, to look at  
8 that with some perspective.

9 CHAIR YOUNG: Let's take a five minute  
10 break.

11 MS. CURRAN: Yes, that would be fine.

12 CHAIR YOUNG: And then try to finish up  
13 the next two before we leave today, which will give us  
14 about an hour and a half.

15 (Whereupon, the above-entitled matter  
16 went off the record at 3:25 p.m. and  
17 went back on the record at 3:37 p.m.)

18 CHAIR YOUNG: Back on the record.

19 MS. CURRAN: Here we are in page 1.174-16,  
20 which is the Acceptance Guidelines for Large Early  
21 Release Frequencies.

22 And, as we mentioned in Contention 2,  
23 these guidelines do not take into account use of  
24 plutonium fuel. So we have to make a little  
25 adjustment.

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1 But here is a rough calculation that would  
2 show how the guidelines could be exceeded. If you  
3 start with a baseline core damage frequency of 3 times  
4 10 the minus 5, and then if you figure that the factor  
5 for sump clogging frequency is 30, and multiply that,  
6 you get approximately 10 to the minus 3.

7 Then let's say the chance of containment  
8 failure is 10 percent, and you wind up with a LERF of  
9 1 times 10 to the minus 4. Then you look at what is  
10 the change in risk using plutonium fuel, and that is  
11 1.6 percent, let's use Mr. Repka's number of 1.6  
12 percent.

13 And if you multiply that by 10 to the  
14 minus 4, you get 10 to the minus 6. And that, of  
15 course, puts you over into the -- then you have to use  
16 the method in Dr. Lyman's paper.

17 You use the method in Dr. Lyman's paper to  
18 account for the fact that this graph is key to low  
19 enriched uranium, and not plutonium fuel. And you  
20 wind up showing that the change is at a degree that  
21 puts you over the acceptable level, into region one,  
22 where no change is allowed. That is the black region.

23 ADMINISTRATIVE JUDGE ELLEMAN: I don't --

24 MS. CURRAN: You don't follow it?

25 ADMINISTRATIVE JUDGE ELLEMAN: No. I was

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1 up with you until you multiplied the 10 to the minus  
2 4 by the 1 percent, that is where you lost me.

3 MS. CURRAN: The 1.6 percent?

4 ADMINISTRATIVE JUDGE ELLEMAN: The 1.6  
5 percent. You are multiplying a frequency by a change  
6 in consequence, it seems to me. Is that right?

7 MS. CURRAN: Yes, isn't that how you --  
8 then you get the change in risk that way.

9 ADMINISTRATIVE JUDGE ELLEMAN: Well, so  
10 you are saying 1.6 times 10 to the minus 6 is the  
11 change in risk?

12 MS. CURRAN: Yes, associated with use of  
13 plutonium fuel and LTAs, considering the sump clogging  
14 event.

15 ADMINISTRATIVE JUDGE ELLEMAN: That sounds  
16 like a very low consequence, though. Is that  
17 consistent with your thinking on this?

18 MS. CURRAN: If you use the method in Dr.  
19 Lyman's paper, it shows that you get into region one,  
20 which is the zone where no change is allowed.

21 ADMINISTRATIVE JUDGE BARATTA: I think you  
22 need to explain that, what is region one?

23 MS. CURRAN: Well, in this, are you  
24 looking at this table, figure 4 on --

25 ADMINISTRATIVE JUDGE BARATTA: We will get

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1 it out, just a moment.

2 CHAIR YOUNG: What page?

3 MS. CURRAN: It would be really helpful to  
4 look at it. It is 1.174-16.

5 CHAIR YOUNG: I don't have that.

6 MS. CURRAN: I will give you my copy, you  
7 can use this copy.

8 (Pause.)

9 CHAIR YOUNG: Do you all have that?

10 MR. REPKA: Yes, we do.

11 ADMINISTRATIVE JUDGE BARATTA: Dr. Lyman's  
12 method accounts for the difference between LEU and  
13 MOX. Is that a correct statement?

14 MS. CURRAN: It is a way of using the  
15 regulatory guide, which was specifically designed for  
16 application with respect to LEU use to the situation  
17 where plutonium fuel is used.

18 CHAIR YOUNG: Where, in the article, are  
19 there certain pages you are referring to?

20 MS. CURRAN: Equation 1 on page 54.

21 CHAIR YOUNG: Thank you.

22 ADMINISTRATIVE JUDGE ELLEMAN: And we are  
23 looking at figure 3 on this page, not figure 4, is  
24 that correct?

25 MS. CURRAN: Figure 4.

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1 ADMINISTRATIVE JUDGE ELLEMAN: We are  
2 looking at figure 4.

3 CHAIR YOUNG: And on page 54, in the  
4 article, you are talking about the first equation that  
5 is listed there?

6 MS. CURRAN: Yes.

7 ADMINISTRATIVE JUDGE ELLEMAN: But figure  
8 4 deals with a change in frequency. I thought we were  
9 focusing on a change in consequence, which the  
10 frequency was not changed.

11 MS. CURRAN: That is the point of equation  
12 one. The equation uses a change -- excuse me, scratch  
13 that. There is no way that -- I think that Dr. Lyman  
14 could explain this in about a minute. It is his work  
15 that he is trying to explain through me.

16 CHAIR YOUNG: If there is no objection it  
17 might make things move along more quickly. Go ahead,  
18 just quickly.

19 DR. LYMAN: Thanks, I appreciate that.  
20 The REG guide 1.174 uses a change in core damage  
21 frequency, and a change in LERF as surrogates for a  
22 change in risk, because it is really the quantitative  
23 health objectives that they have in mind, which are  
24 key to risk.

25 CHAIR YOUNG: The quantitative --

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1 DR. LYMAN: Health objectives in the  
2 Commission's safety goal policy statement.

3 Now, in the case of switching from  
4 uranium, or using plutonium fuel where the source  
5 term, the inventory changes, but the frequencies may  
6 or may not change, this regulatory guide is not  
7 applicable to that case, because the consequences  
8 change, but the frequencies don't necessarily change,  
9 yet clearly the risk changes.

10 So what I did, in this paper, was to  
11 equate the change in risk, associated with the change  
12 in large early release frequency to the change in risk  
13 associated with the change in consequences, where the  
14 large early release frequency is kept constant.

15 That way you can use figure 4, acceptance  
16 guidelines, since -- in other words, you look for the  
17 change in consequences that would be the same, that  
18 would lead to the same change in risk as if you held  
19 the consequences constant, and changed the large early  
20 release frequency.

21 So that is what equation 1 on page 54  
22 does. Now, the Staff recognized, after regulatory  
23 guide 1.174 was first issued, and I made a  
24 presentation to the ACRS on this issue, that it is  
25 not, regulatory guide 1.174 may not be appropriate if

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1       you have the situation where you have the different  
2       core inventory.

3               For instance, if you have a large power  
4       upgrade, or a change to MOX fuel. And that has been  
5       addressed in numerous secus, or couple of secus over  
6       the last few years.

7               But the proposal of the Staff to change  
8       REG guide 1.174 to look at an increase in, a large  
9       increase in power, and the change in inventory, or the  
10      use of MOX fuel was dropped, partly because of what we  
11      quoted, that the Staff decided to wait for the outcome  
12      of the expert panel review of source terms for MOX and  
13      high burnup fuel before making any changes, and those  
14      changes haven't been made.

15              So what we are just trying to do here is  
16      use the implicit change in risk restrictions, in 1.174  
17      for this other situation, where the Commission  
18      guidance hasn't changed to keep up with the actual  
19      license amendments that it is now facing. Thank you.

20              ADMINISTRATIVE JUDGE ELLEMAN: And you did  
21      use four plutonium assemblies for that basis, not the  
22      higher concentration?

23              DR. LYMAN: Well, for this back in the  
24      envelope calculation we just did in five minutes, I  
25      used Dave Repka's figure of 1.6 percent increase which

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1 I'm not sure is correct, but just for argument's sake.  
2 But that would be keyed to the four assemblies.

3 ADMINISTRATIVE JUDGE BARATTA: Okay, now,  
4 if we take out the factor of 30 associated with the  
5 sump clogging, is that -- then that brings us down to  
6 something on the order of a boundary between region  
7 two and region three, is that correct?

8 Because with the factor of 30 in there,  
9 and with the conversion that Dr. Lyman proposed, that  
10 got us up into region one, but I think if you take the  
11 30 out it doesn't get you into region three, it drops  
12 you down to region two.

13 DR. LYMAN: That is right, but this is not  
14 a -- this calculation here was not keyed to a specific  
15 plant. This, obviously, would have to be repeated for  
16 a specific case if you wanted to actually apply it in  
17 a meaningful way.

18 But we do think, well this is one reason  
19 why if the sump clogging issue is not resolved, why it  
20 could lead to what we consider unacceptable increases  
21 in risk for even the small number of LTAs that are  
22 being proposed for use.

23 ADMINISTRATIVE JUDGE BARATTA: Thank you.

24 CHAIR YOUNG: Should we move over to Duke?  
25 You wanted to respond, also.

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1                   MR. REPKA:    Yes, briefly.    The most  
2   fundamental problem I have with this particular  
3   analysis is the fact that it includes the factor of  
4   30, which is the GSI-191 issue, which for all the  
5   reasons we've already discussed, is really not on the  
6   table, and shouldn't be on the table in this analysis.

7                   The second thing is, I think I mentioned  
8   earlier, Judge Young you were asking about whether  
9   this was an appropriate license amendment for risk  
10  insights. And one of the things I mentioned was the  
11  fact that we were looking at consequences in terms of  
12  health risk consequences, not in terms of LERF or CDF.

13                  And this is precisely in health risk  
14  consequences in the area where the REG guide 1.174 has  
15  not acceptance criteria. And what this analysis is  
16  doing is it is equating the 1.6 percent health  
17  consequences with the LERF, and to try to bring it  
18  into this particular space.

19                  And that is not particularly accurate risk  
20  insight. I think the third thing is that just going  
21  a little bit into the technical aspect of this  
22  particular argument, the health risk consequences that  
23  we are dealing with, in this particular license  
24  amendment, relates to latent cancers, and those are  
25  associated with the CDF, not the large early release

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1 frequencies.

2 So it is really the CDF criteria that  
3 would be more appropriately looked at. But, again,  
4 this whole analysis that has been offered by Dr. Lyman  
5 is premised on the factor of 30 for the GSI. If you  
6 look at only the 1.6 percent I think the more accurate  
7 perspective is the one I brought up just before the  
8 break, related to the safety goal that you are talking  
9 about, a plant based upon not a back of the envelope  
10 calculation, but the NUREG 11.50 assessment of the  
11 representative ice condenser plant that was a factor  
12 of 200 below the safety goal, and you are taking 1.6  
13 percent of that as an increase, so you are still well  
14 within the safety goal.

15 I think that is -- the NUREG 11.50  
16 analysis is a matter of public record, is a much more  
17 detailed assessment, a much more detailed perspective  
18 on the legitimate risk issues associated with this  
19 type of plant.

20 And then we can look at the 1.6 percent in  
21 those terms.

22 CHAIR YOUNG: Anything more, have we  
23 cleared up everything that you all want to address?

24 MR. FERNANDEZ: Your Honor, although we  
25 did not initially address the response when we were

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1 offered the opportunity, we would like to have a brief  
2 rebuttal.

3 CHAIR YOUNG: Go ahead.

4 MR. FERNANDEZ: Very quickly, and I know  
5 it may sound late in the game, given the extensive  
6 discussion we've had. But if you look at the  
7 contention as filed, this number of 1.6 percent  
8 increase in consequences, it is nowhere in the  
9 contentions, or the basis thereof.

10 This allegation that there is going to be  
11 an increase of core damage frequency as a result of  
12 sump clogging in the order of 30, or 100, or 50, the  
13 numbers keep changing, it is nowhere in the  
14 contention.

15 So although it seems like an interesting  
16 academic exercise, at least we have to look at what  
17 has been filed by the Petitioner in this case. They  
18 failed to support their contention, they do not meet  
19 2.714 and the contention should not be admitted.

20 Also, briefly, on what the Petitioner has  
21 said regarding the tables in 1.174, also in 1.174, if  
22 you look -- I can't read here right now the page, but  
23 in -- there is also margins built into the charts that  
24 they have been referencing when they've done these  
25 calculations, off-hand, here today.

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1           That there is, in page 1.174-5, the second  
2 full paragraph, explains that there are a margins  
3 built into those tables. And those tables don't  
4 specifically match up with the design goals, the  
5 safety goals that we were talking about before.

6           So in and of themselves the tables don't  
7 explicitly represent, match exactly with the safety  
8 goals. There are margins built into those tables. So  
9 with that, we don't have anything to add.

10           CHAIR YOUNG: I think we may want to take  
11 some of this argument in the context, not necessarily  
12 of this one, but just as we are applying the arguments  
13 from the earlier ones to the later ones, and I can't  
14 remember which one it was that we had the discussion  
15 about the possible magnifier effect.

16           But we will take all your arguments under  
17 advisement with regard to the issues as they arise,  
18 and try to make sure we address all those.

19           Anything else on, in the context of the  
20 discussion of this BREDL Contention 3, or related  
21 issues in earlier contentions that any of the parties  
22 want to touch back on? Otherwise I think we can move  
23 forward and --

24           MS. CURRAN: Judge Young?

25           CHAIR YOUNG: Yes?

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1 MS. CURRAN: I just wanted to register,  
2 for the record, that we disagree with some of Mr.  
3 Repka's characterizations of the analysis that we  
4 presented. I don't think it is that useful to get  
5 into them here, other than to say that we think we  
6 presented a way of looking at the problem that helps  
7 you understand the potential significance of this  
8 issue.

9 And whether we disagree about various  
10 aspects of it, that is what we intended by that.

11 CHAIR YOUNG: All right. Let's see, the  
12 next one would be NIRS 1. And we've got a little bit  
13 over an hour. BREDL 6 looks as though it is -- it may  
14 not take quite as long, but --

15 (Off the record discussion.)

16 CHAIR YOUNG: We might be able to go to  
17 BREDL 6 and 4 before we leave today, do you think,  
18 would that be a reasonable expectation? Rather than  
19 getting into NIRS 1, which is -- are we wrong in  
20 assuming that that might take a little bit longer?

21 MS. OLSON: I don't know. But, Your  
22 Honor, I have two documents that were referenced in  
23 it, in my hand. Should I distribute those now,  
24 whether we do the contention now, or not?

25 CHAIR YOUNG: Sure. And while you are

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1 doing that we can talk about, if any of the parties  
2 have anything to say about the order of argument.

3 MR. REPKA: It does not matter to us.

4 CHAIR YOUNG: Ms. Curran, if we do your 6  
5 and 4 next, and you can also take this back to Ms.  
6 Curran, it is her copy of that.

7 (Pause.)

8 CHAIR YOUNG: In any event we can go to 6  
9 and if possible we will try to get 4 in as well. Does  
10 that seem reasonable?

11 MS. CURRAN: Okay.

12 CHAIR YOUNG: Okay, let's move to 6, then.  
13 Mr. Repka, you said you didn't have any --

14 MR. REPKA: We don't have any preference,  
15 Your Honor.

16 CHAIR YOUNG: Okay. All right.

17 MS. CURRAN: Shall I begin?

18 CHAIR YOUNG: Yes. I'm listening, I'm just  
19 trying to make sure I put these back in the right  
20 folders so that I don't lose your place.

21 MS. CURRAN: Contention 6 asserts that  
22 Duke fails to provide quantitative support for its  
23 assertion that the consequences of a severe accident  
24 involving use of plutonium LTA fuel assemblies will  
25 increase by .3 percent at most.

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1           Of course we are now up to .7 percent. In  
2 the words of Yogi Berra, I think this argument is  
3 going to seem like deja vu all over again. I'm not  
4 sure how much of it I need to repeat. As I'm going  
5 over my notes I see that almost everything here is  
6 ground that we have already plowed at least once.

7           One of the arguments that Duke makes with  
8 respect to this contention, that I don't think it  
9 makes in the other ones, is that a categorical  
10 exclusion from NEPA is warranted here, because there  
11 is no significant increase in risk.

12           And, again, I think what we are getting  
13 into here is kind of circular reasoning. To the  
14 limited extent that Duke has done some work it has  
15 come up with some numbers that it claims are  
16 insignificant.

17           We question the validity and the adequacy  
18 of the work that Duke has done. We also disagree with  
19 Duke about the significance in terms of fatalities,  
20 the number of fatalities that .7 percent implies.

21           So we think that the contention is  
22 admissible, that a categorical exclusion would not be  
23 warranted in this case.

24           CHAIR YOUNG: And, again, just -- the  
25 basis for that, again, just quickly summarize that for

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1 me, if you would?

2 MS. CURRAN: The basis for the contention?

3 CHAIR YOUNG: No, no, the basis for your  
4 argument that the categorical exclusion does not apply  
5 under the three criteria there. You were looking at  
6 the --

7 MS. CURRAN: Right. Well, the basic  
8 criteria, there is no significant increase in risk, I  
9 think you can sum it up that way. So then the  
10 question is, is that plausible, or not?

11 And there are two reasons why we don't  
12 think that that is a justifiable defense of an  
13 exclusion, because first of all we've got this sort of  
14 revolving wheel argument that Duke did very limited  
15 amount of work to come up with a conclusion that the  
16 consequences are insignificant.

17 And we think that more work is needed,  
18 better risk assessment, using up to date PRA, using  
19 available data that the information that Duke has used  
20 so far is not adequate to support that kind of a  
21 conclusion.

22 And, second, even if you accept Duke's  
23 number of .7 percent, it is still, in our view, a  
24 significant number when you look at the actual health  
25 and life impacts that that would have in the event of

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1 a severe accident.

2 And that was something that we went over  
3 this morning. I don't think, at this moment, I have  
4 anything to add on that.

5 CHAIR YOUNG: Go ahead.

6 MR. REPKA: This is a NEPA contention, it  
7 asserts that the need for further quantitative  
8 analysis of beyond design basis accidents, based on a  
9 NEPA, and more precisely based on 10CFR51.45(c).

10 We talked, earlier, about a basis for an  
11 admissible contention. And we talked about the  
12 contention would have to have two possible courses.  
13 One, it has to assert that NRC regulations are not  
14 met.

15 Or it would have to assert that in the  
16 absence of an -- there is a regulatory gap, there are  
17 no particular NRC regulations that apply, and  
18 something must be addressed in order to protect public  
19 health and safety.

20 And that is the case law we have cited in  
21 our brief, and this particular contention --

22 CHAIR YOUNG: Excuse me, excuse me just  
23 for one second. Now, the case law that you are  
24 talking about, again, is the private fuel storage?

25 MR. REPKA: Among others. I believe there

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1 is the Seabrook case, going further back, which talked  
2 about a contention needs to have a basis to show that  
3 there is either a regulatory non-compliance, or when  
4 the regulations are silent there is some public health  
5 and safety.

6 I say this all as prelude only to draw  
7 contrast, in this particular contention, to some of  
8 the ones we talked earlier, where I think the basis  
9 was, at least as it evolved today, was one of public  
10 health and safety based upon REG guide 1.174, or  
11 whatever.

12 This one is based upon a particular  
13 asserted non-compliance, so it falls in the first part  
14 of this, where you would have basis for relief. So,  
15 therefore, it falls -- it sinks or swims entirely  
16 based upon 51.45(c).

17 And our position is that 51.45(c) does not  
18 compel, in any way, a quantitative probabilistic risk  
19 assessment on the order of what BREDL asserts is  
20 needed here in this contention.

21 Specifically if you look at the contention  
22 it says, Duke does not attempt to calculate the  
23 changes in CDF and LERF associated with the proposed  
24 license amendment.

25 Well, we have been down that road already,

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1 before, and we certainly explained why it is not  
2 necessary to do that because, in fact, there is no  
3 change with respect to those.

4 And then second it says, Duke must provide  
5 all details of its consequence assessment, including  
6 a full description of core inventory release  
7 fractions, consequence modeling techniques used and a  
8 full accounting of uncertainties.

9 Essentially asking for a probabilistic  
10 risk assessment of these beyond design basis  
11 scenarios. I think that our position is that that is  
12 relief that really exceeds what is required in any  
13 reasonable sense by 10CFR51.45(c).

14 I think we talked about this a little bit  
15 earlier this morning, that 51.45(c) does say, to the  
16 extent practical, an environmental assessment ought to  
17 include some quantitative assessments.

18 We believe we, in fact, have done that  
19 based upon two things. The dose consequences  
20 assessments of design basis accidents that are  
21 included in the safety analysis.

22 And then number two is with respect to  
23 beyond design basis accidents, the assessments draw  
24 on, and based upon the comprehensive work that was  
25 performed in the DOE SPD EIS that show an increase in

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1 severe accident consequences.

2 We originally said 0.3 percent, but now we  
3 are talking about minus anywhere from a minus 0.2  
4 percent to a plus .07 percent. So there is that  
5 assessment of quantitative data. I think, basically,  
6 the contention is seeking a full PRA in the context of  
7 NEPA.

8 And I think that really exceeds any  
9 possible rule of reason, any possible reading of  
10 51.45(c). A couple of data points that support that.  
11 Number one is we referenced the Ginna precedent, where  
12 the NRC did issue a license amendment authorizing a  
13 MOX fuel demonstration program.

14 Admittedly that is not a licensing board  
15 decision, or adjudicatory decision, but it is an NRC  
16 precedent, where the Staff reached the conclusion that  
17 there was no significant environmental impact  
18 associated with that.

19 Number two, we referenced earlier the  
20 decision of a licensing board in the DCS case, that on  
21 the directly analogous issue there, of whether or not  
22 a PRA is required by NEPA, and is required by  
23 51.45(c).

24 Obviously that is not a controlling  
25 precedent on this board, but it is a precedent of a

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1 parallel board on a directly analogous point. So I  
2 think it is, it is certainly a matter of some interest  
3 to the Board, and should be.

4 The last thing is the question that we  
5 also addressed, earlier. I think the Board asked that  
6 we address the idea as to whether the PRA of the  
7 magnitude that the Petitioner is seeking here, would  
8 be practical in the terms of the regulation 51.45(c).

9 And I think we gave some of the reasons  
10 why that would really exceed what is practical.  
11 Again, the precise detail modeling is not something  
12 that has been done, with respect to release fractions  
13 and accident progressions, and I think given that,  
14 coupled with the fact that what we have provided is  
15 based upon some fairly comprehensive work performed by  
16 DOE, what is here, what is presented in the  
17 application is more than adequate to address 51.45(c),  
18 and is more than adequate to serve the purposes of  
19 NEPA.

20 There really is no other specificity or  
21 basis in this contention with respect to particular  
22 defects in the analysis that has been provided. This  
23 is simply a straight up request that the NEPA analysis  
24 be turned into a PRA.

25 And I think that exceeds any possible

1 reading of the regulations.

2 CHAIR YOUNG: One question. When you were  
3 paraphrasing the regulation you said the environmental  
4 report shall, to the extent practicable, provide some  
5 quantifiable, or quantified measures, or information.

6 And actually the word some is not in  
7 there. And it seems to me that we are sort of in a  
8 line drawing kind of thing here. And it would be  
9 helpful to me, at this point, to have a little bit  
10 more in-depth understanding of, and I don't mean  
11 exhaustive, but at least something that I can get a  
12 hold of, sort of idea of the practical issues that are  
13 involved, that would be involved in doing a revision,  
14 or doing revision to the PRA to address the issues  
15 that are raised.

16 In terms of what data is available, what  
17 data is not available, how much of it is just plugging  
18 in numbers, how much of it is doing other things, just  
19 to give me a sense here.

20 Because it really is sort of a line  
21 drawing thing, it seems to me.

22 (Pause.)

23 MR. REPKA: Let me try to address it this  
24 way. First I will just read the regulation because I  
25 don't want to -- if I paraphrased it earlier I don't

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1 want to be construed that I tried to mislead, in any  
2 way, what it says.

3 It says, the analysis for environmental  
4 report shall, to the extent practicable, quantify the  
5 various factors considered. To the extent that there  
6 are important qualitative considerations, or factors,  
7 that cannot be quantified, those considerations or  
8 factors shall be discussed in qualitative terms.

9 The environmental report should contain  
10 sufficient data to aid the Commission in its  
11 development of an independent analysis.

12 Legally that is precisely what we've done  
13 in the environmental report. With respect to the --  
14 it is probably difficult for me to explain, since I'm  
15 not familiar with the details of what goes into a PRA.

16 But I think what I tried to explain  
17 earlier is that developing the radionuclide inventory  
18 is something that, to the extent it is generally  
19 available, or could be developed, that is not really  
20 the issue here.

21 The issue here is taking that information,  
22 redoing the probabilistic risk assessment to model the  
23 specific accident progressions, and the particular  
24 release fractions related to various scenarios.

25 And, really, without going into more

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1 detail, I think, not being a PRA expert I'm not sure  
2 I could do that. But I can say it is significant  
3 modeling undertaking, it just qualitative speaking, we  
4 are talking, probably, a man year of effort, although  
5 I wouldn't write that in stone.

6 But it is a fairly significant  
7 undertaking. And I think given that, again it gets  
8 back to the point that I think I tried to make  
9 earlier, the Department of Energy has done a certain  
10 amount of this, for some particular accident sequences  
11 in the SPD EIS process.

12 And given that that is available, that is  
13 what Duke chose to use as a basis for its evaluation.  
14 There is no showing, in this contention as to how that  
15 is particularly wrong.

16 And then we couple that with the fact that  
17 I think I tried to explain earlier, is that as a  
18 matter of qualitative technical judgement, we would  
19 conclude that further detailed analysis wouldn't  
20 substantially change those results.

21 So, again, it is practicable, has to be  
22 viewed in terms of usefulness, as well. The  
23 usefulness of the effort has to be considered. And I  
24 think in light of everything that has been done, and  
25 the difficulty involved in doing what is proposed

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1 here, I would characterize it as not practicable, and  
2 certainly not necessary to aid the Commission in its  
3 independent analysis.

4 CHAIR YOUNG: I guess what I'm hearing you  
5 say is that these contentions, and factors, cannot be  
6 quantified' under the rule because of the  
7 practicability issues around the amount of time, you  
8 say one man year, to produce a revised PRA with regard  
9 to these factors.

10 And that the qualitative, that in  
11 combination with the quantitative data, or information  
12 that you provided, should be sufficient to aid the  
13 Commission in its development of an independent  
14 analysis.

15 I guess the one part that it would be  
16 helpful for me if you could address, and that is to  
17 the degree you do give qualitative descriptions, and  
18 I'm thinking back to the 3.8, and that may not be the  
19 right section to be thinking of right now, but that is  
20 what I'm thinking of.

21 The issue of statements being made that  
22 are of a nature that unless there is other information  
23 elsewhere, sort of have to be taken at face value in  
24 order to do an evaluation, or an analysis.

25 And so that is the -- that is sort of the

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1 part that troubles me a little bit, in terms of the  
2 independent analysis. If you have figures it is  
3 easier to do an independent analysis than taking  
4 qualitative statements.

5 MR. REPKA: Well, 3.8 is then translated  
6 into the environmental report in section 5.6.3.2, on  
7 severe accidents.

8 CHAIR YOUNG: That is right, thank you.

9 MR. REPKA: And that section is, it is  
10 very similar. It says that there are a series of  
11 considerations which would lead to the conclusion that  
12 the PRA results would not change significantly, or  
13 substantially.

14 Those particular considerations are  
15 subject to independent analysis, are subject to  
16 challenge. One doesn't need the PRA to asses whether  
17 or not the plant configuration is changing, whether or  
18 not the fuel characteristics are changing, and how,  
19 whether decay heat is changing, or whether the  
20 radionuclide inventory is changing. Those are the  
21 things listed there.

22 And what we are saying is that all of  
23 those things are not really changing significantly,  
24 radionuclide inventory is the one thing that is  
25 changing, at least in some respects. And that is

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1 something that is addressed in the application.

2 So one doesn't need the PRA, either as a  
3 Petitioner to challenge whether or not these  
4 qualitative considerations really support the  
5 conclusion that a risk assessment would not  
6 substantially change, number one.

7 And number two, I would point out that  
8 ultimately the Staff will issue an environmental  
9 assessment, or whatever form of NEPA document it  
10 chooses to asses, and they will make a determination  
11 as to whether or not further information is required.

12 And certainly based upon, as we've seen in  
13 other cases, the Staff may not necessarily agree with  
14 what Duke is presenting. And certainly the Staff is  
15 free to do that.

16 The fact that we present certain factors  
17 doesn't lock anybody, including the Staff, or the  
18 Intervenor, into a particular position if they have a  
19 basis to suggest that this is in error, or this is  
20 inadequate.

21 I think the bottom line, here, again is  
22 the PRA aspect of it, is whether that is something,  
23 you know, without putting a precise number on the time  
24 and effort that would be involved in doing that, is  
25 whether that is really practicable, and whether that

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1       could be justified. And we quite simply don't think  
2       it is. Again, for four lead assemblies.

3               MS. UTTAL: I just want to make one point.  
4       As to this issue covered by this contention, the Staff  
5       has, in its opinion, has enough information to be able  
6       to make its independent evaluation, which is the  
7       purpose of providing the information in the  
8       environmental report.

9               ADMINISTRATIVE JUDGE BARATTA: I guess I  
10      am a little confused here, because reference was made  
11      earlier to the panel review of the MOX fuel  
12      fabrication application. That was discussed briefly.  
13      And that was a panel, I believe, that was chaired by  
14      Judge Moore.

15              And his decision, as well as in the  
16      testimony, there was some discussion about this, and  
17      it was agreed that that was not, the question of the  
18      accident analysis and PRA, and such, that we are  
19      talking about with respect to NEPA, was not  
20      appropriate for that.

21              But there were statements that appeared in  
22      the Applicant's, as well as the Staff's discussion,  
23      that taking environmental, and I'm quoting a quote,  
24      safety and environmental impacts of design basis, and  
25      beyond design basis accidents will be analyzed by the

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1 reactor licensee as part of the 10CFR part 50 reactor  
2 license amendment process.

3 And that statement appeared in the  
4 application in section 5.6.4, and both the Staff as  
5 represented by Mr. Hull, I think, and the licensee  
6 appeared to accept that that was the position.

7 Is that -- am I misinterpreting what that  
8 is saying, in light of what is being said today, or?

9 MS. UTTAL: Judge, I don't think we are  
10 saying anything different. Those aspects will be  
11 considered as part of the Staff's NEPA review. It is  
12 just that the Staff feels that what has been provided  
13 in the ER is sufficient for them to make their  
14 independent assessment. That is what I said.

15 And I believe that during the discussion,  
16 I have a piece of the transcript, and the colloquy  
17 between Mr. Hull and Chairman Moore. And Mr. Hull  
18 does say that the information will be considered as  
19 part of the Staff's NEPA review.

20 I believe that he qualified it. That is  
21 on page 331.

22 ADMINISTRATIVE JUDGE BARATTA: Okay, I'm  
23 looking at page --

24 MS. UTTAL: Well, further on he qualified  
25 it, on page 331, line 21 and 22.

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1 ADMINISTRATIVE JUDGE BARATTA: Excuse me,  
2 21 what? Okay, yes. Okay, so you are saying that  
3 that statement that appeared in the application,  
4 itself, really pertains just to the NEPA --

5 MS. UTTAL: Are you talking about the  
6 application for the --

7 ADMINISTRATIVE JUDGE BARATTA: Well, the  
8 statement that appears on line 4 through 8 on that  
9 same page, 331.

10 MS. UTTAL: On 331?

11 ADMINISTRATIVE JUDGE BARATTA: Yes. Lines  
12 4 through 8, there.

13 MS. UTTAL: First of all, I'm not familiar  
14 with the application, with that particular --

15 (Pause.)

16 MS. UTTAL: Judge, prior to that, on page  
17 330, I guess it indicates that this information was in  
18 the environmental report. And it does say that the  
19 safety environmental impacts of design basis will be  
20 analyzed.

21 It has been done in this environmental  
22 report, and I just don't understand, and the further  
23 point is, it doesn't say in that statement whether it  
24 has to be qualitative or quantitative, just that it  
25 would be done.

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1 ADMINISTRATIVE JUDGE BARATTA: I just  
2 wanted clarification on that, that is what I was  
3 trying to get at.

4 MS. UTTAL: And as I was saying, Mr. Hull  
5 does say that it will be done as part of the NEPA  
6 review, further on, for the severe accidents, anyway.

7 ADMINISTRATIVE JUDGE BARATTA: Thank you.

8 CHAIR YOUNG: If you have anything  
9 further, Ms. Curran, go ahead. Meanwhile I will  
10 listen and look for something here, as well.

11 MS. CURRAN: Okay. I think the important  
12 thing to bear in mind, here, is that it is the issue  
13 that the licensing board needs to decide, is whether  
14 BREDL has raised a material and disputed issue of fact  
15 as to whether providing a risk analysis for the  
16 environmental report is possible, if feasible.

17 I can't remember the exact wording of --

18 CHAIR YOUNG: Practicable.

19 MS. CURRAN: Practicable under the  
20 regulation. The situation that we have here is that  
21 we know that Duke has a PRA, we know they've revised  
22 it a number of times, it is at revision 3.

23 This isn't a case where Duke has to create  
24 a PRA out of whole cloth. It has one. We also know  
25 that Duke has said, a number of times, that it is

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1 essentially a no-brainer to say that the impacts of  
2 this change, in the fuel that is used in the Catawba  
3 plant, are insignificant.

4 And yet if we ask Duke to actually apply  
5 its PRA to these changes, this is way too much work  
6 for Duke to do. So on the one hand it is incredibly  
7 simple, and on the other hand if they were asked to do  
8 it, it is way too hard, if they were asked to do it in  
9 a probabilistic risk assessment.

10 And it seems, to me, internally  
11 contradictory what is the answer. That is issue one.  
12 But issue two, that goes to the merits. It seems to  
13 me that we are entitled to a hearing on that question,  
14 is this practicable for Duke to do a better job.

15 And Mr. Repka talked about how section  
16 5.6.3.2 is an adaptation of section 3.8 for purposes  
17 of NEPA. Well, the wording of these two sections is  
18 almost identical. There is almost no difference  
19 between them.

20 They essentially took 3.8 and reproduced  
21 it in the environmental report. And we just heard Mr.  
22 Repka say that even though the topic sentence of the  
23 second paragraph of the discussion is, Duke uses PRA  
24 to analyze public health and safety risks, or words to  
25 that effect, that a significant portion of both

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1 section 3.8 and its mate, 5.6.3.2 consist of  
2 qualitative statements that don't have any basis in a  
3 PRA.

4 So in our view we are entitled to a  
5 hearing on whether it is reasonable to expect more of  
6 Duke. This environmental report is required for  
7 compliance with the National Environmental Policy Act.

8 That is an action forcing statute. That  
9 is a statute that makes agencies take a hard look at  
10 the consequences of their actions. This section 3.8,  
11 and 5.6.3.2 are going to be used in any government  
12 environmental analysis that is put out to the public  
13 as this is the government's rationale for saying to  
14 you, the public, that this project is going to be  
15 safe, and that your health and safety, and the health  
16 of your environment will be protected.

17 And we have heard, here today, that there  
18 is just not much to it. Even though Duke has, in its  
19 possession, has spent a great deal of resources on  
20 developing a very sophisticated study that it could  
21 apply to this problem.

22 What we are asking for, here, is a hearing  
23 on whether that ought to be done under the rule of  
24 reasonableness of NEPA and section 51.45(c). And it  
25 doesn't have to be a regulatory requirement, it is a

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1 requirement of reasonableness, of practicability.

2 And I don't think that the Board should  
3 rely on merit statements made by counsel for Duke,  
4 here, as to how difficult it is. We should have a  
5 hearing on that issue.

6 CHAIR YOUNG: You look like you want to  
7 respond, Mr. Repka. Were you finished, Ms. Curran?

8 MS. CURRAN: Yes.

9 MR. REPKA: Yes, I do.

10 CHAIR YOUNG: And when you respond let me  
11 just ask you to address something. I was just looking  
12 through this portion of the transcript from the MOX  
13 fuel fabrication facility case, and what I was trying  
14 to determine was whether this discussion was the  
15 discussion on the same contention, the ruling on which  
16 you quoted from in your response.

17 And if anyone can provide that  
18 information?

19 MR. REPKA: Well, I can, at the front of  
20 this that I have no idea. I certainly was not  
21 involved in the case, and this is the first I've seen  
22 the --

23 CHAIR YOUNG: -- the ruling, that is why  
24 I thought you might know, or the Staff might know,  
25 since you had the portion of the transcript. If you

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1 don't we can check it.

2 MR. REPKA: While the Staff is checking  
3 that perhaps I could respond. I think that Ms. Curran  
4 has just changed the contention, very subtly, here in  
5 that last discussion.

6 This contention asserts that Duke must do  
7 a PRA to meet 51.45(c). That is the issue. Our  
8 position is that Duke does not need to do a PRA to  
9 meet 51.45(c), and Duke has met 51.45(c).

10 Ms. Curran is now saying the hearing would  
11 be on the question of whether it is practicable to do  
12 further PRA in this context of the NEPA. That is not  
13 the contention, there is nothing in the contention  
14 that provides a basis to say that it is practicable.

15 The contention just simply says, Duke  
16 should do a PRA because we want one, and because  
17 they've already done a PRA. It really sort of, it  
18 boils down to Duke has a PRA, when NRC requirements  
19 don't require a PRA in any context, much less a NEPA  
20 context.

21 And, therefore, Duke should be penalized  
22 when Duke comes in for a subsequent license amendment,  
23 and therefore, by being required to do a full scale  
24 plant specific PRA in an environmental assessment of  
25 a license amendment.

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1 I really, I think that the issue for the  
2 Board is, is there any basis for a contention that  
3 there must be a PRA? And the answer is, there is not.  
4 The issue for hearing is not whether it is practicable  
5 to do so because that is a, not the contention. And,  
6 b, there is no basis whatsoever to assert that it is  
7 practicable.

8 CHAIR YOUNG: Let me just ask you a  
9 question. Isn't it true that you and BREDL are in  
10 dispute over whether Duke has complied with, or  
11 violated, the requirement of 51.45(c), that the  
12 analysis in an environmental report must quantify the  
13 various factors considered to the extent possible?

14 MR. REPKA: There is a dispute as to  
15 whether 51.45(c) requires that. Our response, at the  
16 basis stage is, however, there is no basis in the  
17 regulation for the Petitioner's position on that  
18 issue. And that is a threshold basis issue.

19 Again, this is the sort of contention,  
20 based on the regulations, non-compliance with the  
21 regulations.

22 CHAIR YOUNG: You are agreeing, as I  
23 understand it, you are agreeing that there is a  
24 genuine dispute?

25 MR. REPKA: I'm not agreeing that there is

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1 a genuine dispute in the sense of an admissible  
2 contention. I'm agreeing that there is a dispute, in  
3 this contention, with respect to whether or not there  
4 should be a PRA.

5 CHAIR YOUNG: Let me back up, then. You  
6 are agreeing that there is a dispute, and I don't hear  
7 you saying that the dispute over whether 51.45(c) has  
8 been complied with is not material.

9 So you would agree there is a dispute that  
10 is material?

11 MR. REPKA: No. Again, there is a  
12 proposed contention that says that the environmental  
13 report, with respect to severe accidents, must include  
14 a PRA. That is the contention, and we dispute the  
15 admissibility of that contention.

16 And we dispute the admissibility of that  
17 contention because it is based upon alleged non-  
18 compliance, which we believe is a matter of law is not  
19 a non-compliance. That is a threshold question --

20 CHAIR YOUNG: That is your --

21 MR. REPKA: -- as to whether there is any  
22 basis for the --

23 CHAIR YOUNG: -- position on it?

24 MR. REPKA: -- relief requested. That is  
25 our position.

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1 CHAIR YOUNG: And let me just, because I  
2 want to give you an opportunity to respond to my  
3 analysis at this point.

4 Just looking at the contention, the  
5 contention says failure to provide quantitative  
6 information in support of assertions in or re  
7 environmental impacts. Duke fails to provide  
8 quantitative support for its assertions that the  
9 consequences of a severe accident involving use of LTA  
10 MOX fuel assemblies will increase 0.3 percent at most.

11 And then the basis goes into the -- your  
12 provision of qualitative arguments, and the lack of a  
13 PRA. And then the next part of the basis says, by  
14 describing the environmental impacts in purely  
15 qualitative terms, when it also has information in  
16 quantitative terms, Duke violates the requirement of  
17 51.45(c), that the analysis and the report must  
18 quantify the various factors considered, to the extent  
19 possible.

20 Your argument is that there is no way it  
21 could be argued that a failure to provide the sort of  
22 quantitative information that the Petitioners are  
23 saying is lacking, by virtue of not having the PRA  
24 revision, you are saying that there is no way that  
25 that argument can legally be made with regard to

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1 51.45(c), in this case?

2 MR. REPKA: That is correct. Certainly  
3 based upon the basis presented here. Which the basis  
4 presented here is simply that 51.45(c) somehow  
5 requires the PRA, which on its face it doesn't. And  
6 then the basis doesn't go any further, other than to  
7 say that we didn't quantify change in CDF and LEFR,  
8 but that is not a basis for requiring a PRA under the  
9 circumstances, because those aren't things that would  
10 change.

11 So there really is no basis, is our point,  
12 there is no basis for the assertion that there should  
13 be a PRA under 51.45(c). To the extent the argument  
14 is mutating now to the question of whether there is  
15 any basis, whether it is practicable or not, there is  
16 no basis, in the contention, that even addresses  
17 practicability.

18 We have heard an argument now that somehow  
19 it should be required simply because one is on the  
20 shelf. But I don't believe that that constitutes  
21 practicability, because that would effectively  
22 penalize any licensee that has spent the time and  
23 effort to create a PRA.

24 And, again, there is no Commission  
25 precedent that would support that.

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1 CHAIR YOUNG: I'm sorry, say that last  
2 sentence over again? That to say that --

3 MR. REPKA: The argument is --

4 CHAIR YOUNG: Let me finish. To say that  
5 requiring the PRA as the quantitative information that  
6 would be provided to the fullest extent practicable,  
7 under 51.45(c), to say that would be imposing an  
8 impossible burden?

9 Did I -- say that again --

10 MR. REPKA: No, that is not what I said.  
11 What I said was, the only basis we've heard, now, with  
12 respect to practicability, from the Petitioner, is  
13 that Duke has one on the shelf. And that is not in  
14 the contention, we heard that today.

15 And that addresses a different issue than  
16 what is in the contention, but the argument is Duke  
17 has one on the shelf. And my response to that is,  
18 that in and of itself doesn't establish that it is  
19 practicable to do a PRA for this license amendment  
20 change.

21 That would have the effect of penalizing  
22 Duke, or any other licensee, that has actually done a  
23 PRA, because you would be able to make that argument  
24 in any case and say, you have a PRA, therefore you can  
25 do a PRA on any license amendment, in the NEPA review.

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1                   And, again, there is no Commission  
2 guidance, no case law, there is nothing that would  
3 support that fairly novel proposition.

4                   And I think, again, we have identified  
5 some of the factors that actually undercut the  
6 conclusion that just because you have a PRA on the  
7 shelf, it doesn't make it practicable. There is more  
8 work that would need to be done.

9                   So to assert that it is required under a  
10 practicability standard, in this case, would require  
11 more basis than what has been presented. Whereas what  
12 has been presented is just they have one on the shelf.

13                  But, you know, again that doesn't  
14 establish that it is an easy task, that it is a  
15 justified task, that it is a useful task.

16                  CHAIR YOUNG: It sounds like there is a  
17 dispute on that.

18                  MR. REPKA: No. Again, that is not the  
19 contention. The contention is, there can be no dispute  
20 where there is no basis. And the contention is, you  
21 Duke must have a PRA. And our point was, it is not  
22 required by the regulation.

23                  And they said, yes it is, because of  
24 practicability, it is practical. But there is no  
25 basis for that. So there can't not be a dispute where

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1 there is no basis for the assertion.

2 CHAIR YOUNG: We are sort of starting to  
3 go around in circles. I want to ask you one more  
4 question, and then I think we can move on.

5 MR. REPKA: Before you do that, I would  
6 point to our footnote 66, which is on a different  
7 contention, but it addresses the kind of issue where  
8 there is a legal basis, or lack --

9 CHAIR YOUNG: Which contention?

10 MR. REPKA: -- there of.

11 It is on BREDL 4, it is footnote 66 on  
12 page 37 of the response.

13 CHAIR YOUNG: Why don't you read it to me?  
14 Because I don't have that in front of me right now.

15 MR. REPKA: In this case, we cite to a  
16 couple of cases. One is a Clinch River case, where it  
17 is quoted, a licensing board may, under certain  
18 circumstances, reject contentions on legal grounds, on  
19 the pleadings.

20 And then we go on and we cite Limerick,  
21 which is a licensing board decision. But, again,  
22 analogous. Where the Board denied contentions arguing  
23 that the NRC cannot issue an operating --

24 CHAIR YOUNG: You are sort of mumbling,  
25 and I don't think we are getting all of that.

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1 MR. REPKA: Well, perhaps it would be  
2 easier -- I would just like the record to reflect  
3 footnote 66. It is a fairly lengthy footnote, and  
4 rather than read it, I think the document can speak to  
5 itself.

6 CHAIR YOUNG: I have it now.

7 MR. REPKA: But, again, our point is that  
8 there can be no dispute where there is no basis. And  
9 the burden is on the Petitioner, at this particular  
10 time, to show the basis.

11 CHAIR YOUNG: Are you finished?

12 MR. REPKA: I am finished.

13 CHAIR YOUNG: Now, my question to you. A  
14 lot of this is definitional and semantic. But it  
15 seems somewhat obvious that a PRA is a form of  
16 quantified information, correct?

17 MR. REPKA: Yes, it is.

18 CHAIR YOUNG: So that --

19 MR. REPKA: As is the DOE SPD EIS.

20 CHAIR YOUNG: Right. There are a lot of  
21 ways that information can be quantified. And the rule  
22 51.45(c) says information shall be quantified to the  
23 extent practicable.

24 And there is no limitation on how the  
25 information is quantified, or not quantified. And I

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1 sort of -- you agree with that, but I sort of hear you  
2 saying that a PRA is a special form of quantified  
3 information that because it is not listed by name in  
4 the rule, you haven't quite gotten that far, but you  
5 are getting close to saying that because it is not  
6 listed by name in the rule, therefore it doesn't fall  
7 under the type of quantified information that that  
8 rule is directed to address.

9 Am I understanding you correctly, or can  
10 you provide some clarification on your position with  
11 regard to that?

12 MR. REPKA: The rule requires that  
13 environmental report shall, to the extent practicable,  
14 quantify the various factors considered.

15 CHAIR YOUNG: Right.

16 MR. REPKA: That does not say PRA, it does  
17 not say that all aspects of the analysis must be  
18 quantitative, it says --

19 CHAIR YOUNG: Okay, let me stop you, then.

20 MR. REPKA: -- various factors that --

21 CHAIR YOUNG: Let me stop you there. You  
22 just said that does not say that the PRA has to be  
23 required.

24 So, again, what I think I'm hearing you  
25 say is that because the words probabilistic risk

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1 assessment, analysis, assessment, whichever the A  
2 stands for, because those words, or the acronym PRA is  
3 not mentioned in the rule, that it is not implicitly  
4 encompassed within the concept of quantified  
5 information that the rule addresses.

6 And that doesn't really -- I'm not  
7 following how you get from one to the other.

8 MR. REPKA: Well, I think what we are  
9 saying is that it says that the environmental report  
10 shall quantify the various factors considered, and  
11 that has been done. That has been done based upon the  
12 DOE documents which are quantitative.

13 CHAIR YOUNG: And, Mr. Repka, let's stop  
14 going in circles. I'm going to try to stop you as we  
15 go here, because I really want to take you through  
16 this analysis, so I can understand what you are  
17 saying.

18 And in order to do that it doesn't help to  
19 repeat. I want to try to go through this step by  
20 step. The rule says that the environmental report  
21 shall quantify the information.

22 And you stopped there and said, and we've  
23 done that. But the rule goes on to say, to the extent  
24 practicable. And there appears to be a dispute over  
25 whether it would be practicable to include, as part of

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1 that quantified information, or as part of that  
2 quantifying the PRA, whether that is practicable.

3 It is not automatically excluded, it is  
4 simply a question of whether it is practicable. And  
5 that appears to be the dispute between the parties.

6 MR. REPKA: I think, again, that that is,  
7 the contention is that -- the contention, as of today,  
8 is that it is practicable. We don't believe a basis  
9 has been presented to show that is a genuine dispute,  
10 that it is practicable.

11 There has been no reason given that it is  
12 practicable. We have explained some of the reasons  
13 why it is not, but there has been no basis presented  
14 that it is practicable to do that. And beyond that,  
15 there has been no basis provided to explain why a  
16 quantification of the various factors considered is  
17 equivalent to a PRA.

18 I don't think a quantification of the  
19 various factors considered necessarily encompasses a  
20 PRA, or any PRA that might be available. I think that  
21 is -- various factors considered is different from a  
22 PRA.

23 CHAIR YOUNG: So you are saying, you have  
24 said three things. You have said it is not equivalent  
25 to, and then you said it is not encompassed by, and

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1 then you said it is different from.

2 MR. REPKA: All of those are true.

3 CHAIR YOUNG: But the words themselves  
4 quantify to the extent practicable. Just the words  
5 themselves, in their plain english meaning, you are  
6 not saying that a PRA does not quantify information?

7 MR. REPKA: No, a PRA is quantified  
8 information, clearly. But, again, a requirement that  
9 you provide a quantification of the various factors  
10 considered is not equivalent, does not translate,  
11 whatever does not encompass, I think those are all  
12 true, does not encompass a PRA.

13 Certainly without more basis to show that  
14 somehow that would be practicable, that that would be  
15 useful, that that would be more than a meaningless  
16 exercise, and at some great cost, particularly given  
17 the extensive analysis that DOE has done of this  
18 entire program.

19 I won't try to quantify that effort, but  
20 it is a fairly substantial sum of money.

21 ADMINISTRATIVE JUDGE ELLEMAN: Ms. Curran?

22 MS. CURRAN: Yes?

23 ADMINISTRATIVE JUDGE ELLEMAN: You would  
24 like Duke to do a PRA, Mr. Repka says there is no  
25 regulatory basis for doing so. You suggested to us,

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1 earlier, that a principle of reasonableness should  
2 prevail here, as to what should happen.

3 I had, earlier, expressed my problem over  
4 the fact that as the plutonium is first inserted in  
5 the reactor, the plutonium produced by U-238  
6 transmutation is on the order of four to six times  
7 higher than the plutonium in the added assemblies.

8 And Mr. Nesbit nodded his head. I know he  
9 could give us more accurate numbers than that. But  
10 lets, for the moment, accept those as being correct.  
11 As the first cycle continues the disadvantage to the  
12 added plutonium gets worse.

13 By the time you get to the end of the  
14 first cycle it is probably eight to ten times as much  
15 plutonium from U-238, as from the plutonium added in  
16 assemblies. When you get into the second cycle it is  
17 even worse.

18 The added plutonium from the MOX fuel gets  
19 less and less, as a percentage, of the total  
20 plutonium. Therefore it would seem to me, as sort of  
21 a reasonableness type assumption, that for the added  
22 plutonium to produce a substantial change in the  
23 consequence of an accident, the fission products from  
24 the added MOX fuel, or the plutonium from the added  
25 MOX fuel, have to behave differently from the

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1 plutonium that is from the transmuted U-238.

2 If that is not true, then the largest  
3 change you can possibly get is on the order of a 15 to  
4 20 percent change in consequence, because that would  
5 assume that that is all the fraction of the added  
6 plutonium represents to the total.

7 I had asked you, and Dr. Lyman, what could  
8 support a difference in change in the behavior of the  
9 added plutonium. And the suggestion was that because  
10 it is segregated, that this could produce differences  
11 in the release of plutonium, or differences in the  
12 release of fission products.

13 But Duke, to do a PRA, would have to  
14 quantize those effects in some way. And I'm concerned  
15 that there is no data out there that would let them  
16 quantize it. If they assume that the plutonium and  
17 the fission products behave just like the other  
18 plutonium, and fission products, then they can't come  
19 up with a number greater than about a 15 percent  
20 change, or so it would seem to me.

21 Now, am I off base here, in how I'm  
22 looking at this, am I missing a major point? And if  
23 so, please --

24 MS. CURRAN: I'm a lawyer, okay? So I  
25 can't provide you the technical merit of your

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1 argument. But there is a couple of things that I want  
2 to say to you.

3 ADMINISTRATIVE JUDGE ELLEMAN: Okay.

4 MS. CURRAN: The first one is that this  
5 isn't a case -- well, just a couple of points. The  
6 first one is this isn't a case where we are talking  
7 about whether an environmental impact is necessary, or  
8 whether there should be an environmental assessment,  
9 and finding of no significant impact.

10 A while ago the DOE decided to prepare an  
11 environmental impact statement, and then once that  
12 happens pieces of that action that come along have to  
13 be evaluated. There is no hurdle to get over, any  
14 more, as to whether you evaluate the parts of the  
15 action.

16 This is from a legal standpoint, in my  
17 view. So we are not in a legal position of determining  
18 whether this environmental report supports an  
19 environmental assessment, or an environmental impact  
20 statement, which is where I think, you are looking at  
21 how detailed an analysis is needed here.

22 But, you know, the other thing that I  
23 think is really important to bear in mind is -- well,  
24 Mr. Repka says, what this contention says is Duke must  
25 provide a PRA.

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1                   That is not what the contention says. The  
2 contention says Duke has quantitative information,  
3 that is certainly the implication of this  
4 environmental report. As a matter of fact it seems to  
5 be a very misleading implication, from what I've heard  
6 today.

7                   If you read this environmental report,  
8 this section whatever it is, where they talk about the  
9 severe accident impacts, it starts out by saying, Duke  
10 does a PRA. And everything that follows implicitly  
11 relates to some kind of risk evaluation.

12                  If you were a reasonable person, reading  
13 this thing, you would think that all these qualitative  
14 assertions that are made here flow from a PRA, because  
15 that is how Duke started out the discussion. We did  
16 a PRA, this is how we do it.

17                  So, of course, we come in and say, well if  
18 this is what you are offering us, in terms of your  
19 quantitative assessment, we don't think it is good  
20 enough. And now they say, we don't have to do a PRA.

21                  But the fact is that Duke implicitly  
22 offers a PRA in this environmental report. It pretty  
23 much characterizes what it is doing, what it is  
24 saying, as being the result of a PRA.

25                  And then it turns out, well, it is maybe

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1 the results of a PRA done over ten years ago, and some  
2 of these assertions are just qualitative assertions,  
3 based on their best engineering judgement. All kinds  
4 of qualifications are made about what this language  
5 really means.

6 But what NEPA says is quantify the impacts  
7 to the extent practicable. In our contention we said,  
8 by describing environmental impacts in purely  
9 qualitative terms, also has the information in  
10 quantitative terms, Duke violates the requirement of  
11 51.45(c).

12 You see, we thought that if Duke was  
13 starting this discussion by saying, we did a PRA, and  
14 here is all the information that follows, here is all  
15 the conclusions and analyses that follow, that meant  
16 Duke had the information in quantitative form, but was  
17 simply summarizing it qualitatively for us.

18 Well, if Duke wants to say now, that is  
19 not really the case, we really didn't mean what we  
20 seemed to mean in this thing. Well then let's  
21 litigate, what is practicable for Duke to do?

22 And if Duke wants to come out and offer  
23 some technical rational why this is a useless, a waste  
24 of time, it is not cost effective, then let them do it  
25 on the merits, but not here, not in this discussion.

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1 ADMINISTRATIVE JUDGE ELLEMAN: So,  
2 potentially, it could be something other than a PRA  
3 they would offer that would be a practical support?

4 MS. CURRAN: Sure. But that is what they  
5 said they had done. And, of course, we all know that  
6 PRA is a very valued thing in the NRC. If the  
7 licensee comes in and says we do a PRA, everybody sits  
8 up and says, well that is good, I feel better knowing  
9 Duke has done a PRA, so let's get to the bottom of it.  
10 What is this?

11 CHAIR YOUNG: Ms. Uttal, you want to say  
12 something? And before you do, we are going to have to  
13 conclude pretty soon so that we can all be out of the  
14 building by 5:30.

15 So let's try to start wrapping it up, and  
16 if there are any things hanging over we can take those  
17 up first thing in the morning.

18 MS. UTTAL: It is the Staff's position  
19 that a PRA is not required. It is not required under  
20 the regulation, and it is not required from Duke in  
21 this case. They have produced sufficient quantitative  
22 information to permit the Staff to do its assessment.

23 They -- we cited some of it in our  
24 response to the contention information provided in  
25 section 3.7.2.5, and figure 3-12 in the LAR.

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1                   So also the information provided in DOE's  
2 SPD EIS, which includes a lot of quantitative  
3 information regarding the beyond design basis accident  
4 impacts for Catawba, using a comparison of LEU and MOX  
5 fuel. That is on page K-71 of Appendix K of the SPD  
6 EIS.

7                   In addition, in the MOX fuel design report  
8 there is quantitative information. And these are just  
9 examples of the kind of quantitative information that  
10 Duke supplied, either in the environmental report  
11 itself, or in the references referred to in the  
12 license amendment application.

13                   And the fuel design report there are, that  
14 would be BAW10238, in section 3, page 315, 17, and 18,  
15 there is quantitative information.

16                   CHAIR YOUNG: But you are adding to the  
17 references that are actually contained in the  
18 environmental report itself, am I understanding that  
19 right?

20                   MS. UTTAL: I believe that these documents  
21 are referred to in the license renewal application.  
22 I don't know the exact -- in the what? In the MOX  
23 application. I'm sorry, I'm in the wrong case, not  
24 the license renewal application, the LAR.

25                   And I don't know the exact place where

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1 they are referenced, but I know that they are  
2 referenced in the application. I believe that  
3 appendix K is referenced in the environmental report.

4 CHAIR YOUNG: We are going to have to  
5 leave, but the regulation does say that the  
6 environmental report shall provide it.

7 MS. UTTAL: Yes, but if it provides  
8 quantitative information, it discusses it on page 5-9  
9 of the environmental report, and refers to appendix K,  
10 and discusses the fact that DOE evaluated several  
11 severe accident sequences at McGuire and Catawba for  
12 both kinds of cores.

13 And I think that that reference to the  
14 report is sufficient to bring it into the  
15 environmental report.

16 CHAIR YOUNG: So basically there does seem  
17 to be a dispute here, and I'm sure the parties have  
18 different opinions on whether it is on material  
19 issues. But there does seem to be a dispute on  
20 whether the environmental report that is provided  
21 contains, quantifies information to the extent  
22 practicable?

23 MS. UTTAL: There may be a dispute on  
24 that, but the requirement for a PRA, I don't think it  
25 rises to a dispute that is material, because it is not

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1 required. There is no requirement for a PRA, and  
2 while BREDL may say that we weren't asking for a PRA,  
3 everything they list in the contention rises to a PRA.

4 And there is no requirement, legally, as  
5 Mr. Repka discussed previously. So it cannot be -- it  
6 can be decided on legal grounds, and it is not the  
7 kind of material issue that would lead to the  
8 admission of this contention, there is no basis  
9 provided to show that a PRA is required.

10 CHAIR YOUNG: I want to ask you one  
11 question, and then maybe leave you with something to  
12 think about.

13 I understand you to be saying, this is the  
14 question, I understand you to be saying that you  
15 agree, in effect, with Duke when they say that the  
16 reference to quantifying to the extent practicable  
17 does not include PRA, because it doesn't say PRA, more  
18 or less, that sort of seems to be what you are saying?

19 MS. UTTAL: To the extent practicable,  
20 yes, I do agree with what Mr. Repka has said about  
21 this. But I think that there needs to be a different  
22 perspective on the way that you are couching it.

23 It says that you have to quantify it.  
24 There is no requirement of a particular way of  
25 quantifying it, and no requirement that you submit a

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1 PRA to quantify this.

2 CHAIR YOUNG: Right. We have to look at  
3 whether it is to the extent practicable, and there  
4 appears to be a dispute on that, whether it is  
5 material, you all seem to disagree. The thing I would  
6 like to leave you with, and then we will probably  
7 better conclude for the day, and that is I would like  
8 to hear a response to Ms. Curran's statement that the  
9 portion of the application that leads into, and is the  
10 environmental report, starts by talking -- in the  
11 severe accident part of it, starts by talking about  
12 PRA.

13 And that is how -- well, Duke uses  
14 probabilistic risk assessment analyses to evaluate the  
15 risk to public health and safety, due to operation of  
16 its nuclear plants, I don't think we've heard a  
17 response to that.

18 And we got into that discussion, to some  
19 degree, with section 3.8. But now we are in the NEPA  
20 contention, and the way we ended up on 3.8 was, I  
21 think, Duke offered to withdraw that, and BREDL  
22 suggested that it should not be withdrawn, and asked  
23 to amend their contention.

24 That is where we are left with that one.  
25 I would like you to think about where we are left with

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1 the environmental one, in the environmental report  
2 portion of the LAR.

3 And I wish we could continue here but  
4 other than just a couple of words, I think we had  
5 probably better conclude for the day. You look like  
6 you have to say a couple of words.

7 MS. CURRAN: I just had a few words in  
8 response to Judge Elleman's question. I'm afraid I  
9 didn't answer the one about the situation where you  
10 don't have enough data, about the release fractions  
11 from the plutonium and the LEU core versus the  
12 plutonium that you are adding.

13 And I would just say that that would have  
14 to be addressed in the analysis of uncertainties. And  
15 one of the important features of NEPA is that it  
16 requires the preparer of the analysis to discuss what  
17 they don't know.

18 So that you have a sense of how much can  
19 you rely on this analysis, or are there some unknowns,  
20 such that you have to make some educated guesses? But  
21 you don't pretend that you know what you don't know.

22 MR. REPKA: And I would like to respond,  
23 briefly, to the question about the preamble in section  
24 5.6.3.2. Ms. Curran has repeatedly said that that  
25 discussion is somehow misleading.

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1                   And I want to make it very clear, for the  
2 record, that our position is that there is nothing,  
3 whatsoever, misleading about this discussion.

4                   CHAIR YOUNG: We are not surprised that  
5 you don't think it is misleading. I think we can  
6 agree that you don't think that it is misleading.

7                   MR. REPKA: Nor is there any reason that  
8 it would need to be withdrawn. The point here is that  
9 we are trying to highlight that there are certain  
10 things that are relevant in a probabilistic risk  
11 assessment. And then say, qualitative in the bullets,  
12 essentially why those things are not being impacted by  
13 this amendment.

14                   So that is a basis for saying why no  
15 further probabilistic risk assessment is necessary.  
16 Then it goes on to talk about the SPD EIS.

17                   CHAIR YOUNG: I'm sorry, what was the  
18 basis for your argument, that no further qualified  
19 analysis is necessary?

20                   MR. REPKA: The qualitative considerations  
21 listed are those reasons why those things that are  
22 relevant in a PRA are not changing. So, therefore,  
23 there is no further PRA required. And then it goes on  
24 to, in addition, address the probabilistic work that  
25 has been done by DOE, references Appendix K,

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1 references the DOE documents, which is all very  
2 quantitative.

3 So if BREDL didn't understand it, it  
4 wasn't our doing and, really, has nothing to do with  
5 the admissibility of the contention, whether they  
6 understood it or not.

7 CHAIR YOUNG: Okay. I think we understand  
8 your positions. Mr. Fernandez, two minutes.

9 MR. FERNANDEZ: Just one last thing.  
10 Judge Baratta had asked about whether the discussion  
11 in the transcript referred to the contention that is  
12 referred to in the decision by Judge Moore with  
13 regards to the PRA.

14 CHAIR YOUNG: Yes, I asked that.

15 MR. FERNANDEZ: Contention number --  
16 having represented the Staff in that proceeding, if I  
17 remember correctly, and Anne can correct me, because  
18 she actually represented the party that proffered the  
19 contention.

20 Contention 13, which is addressed in the  
21 decision, specifically challenged the Applicant in  
22 that case for not providing a PRA at all for their  
23 facility. It had nothing to do with a PRA, or a  
24 probabilistic analysis of accident consequences for  
25 the reactor use impacts.

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1 CHAIR YOUNG: My only question was, what  
2 contention was that discussion about?

3 MR. FERNANDEZ: The contention that was  
4 proffered was that the Applicant in that case should  
5 have prepared a PRA to support their application and  
6 their ER. And that part 70 Applicant did not prepare  
7 one at all, for the fuel fabrication facility.

8 CHAIR YOUNG: You are saying that is the  
9 contention that was being discussed in the transcript?

10 MR. FERNANDEZ: No, that is the one in the  
11 decision.

12 CHAIR YOUNG: Right. My question was what  
13 the --

14 MR. FERNANDEZ: And the transcript, I  
15 think this was just merely a discussion of when,  
16 similar to what we discuss in a license renewal  
17 proceeding, when would the use impacts of MOX be  
18 discussed. But you have access to the transcript as  
19 well.

20 CHAIR YOUNG: We will see you tomorrow  
21 morning, and if there are any final notes on this one  
22 we will --

23 MS. CURRAN: Your Honor --

24 CHAIR YOUNG: -- take those up, and then  
25 we will move into yours.

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1 MS. OLSON: We start in the morning with  
2 NIRS contention 1?

3 CHAIR YOUNG: Yes, right after any, very  
4 quick, very short housekeeping things, and follow-up  
5 to this. There may not need to be any.

6 (Whereupon, at 5:10 p.m., the above-  
7 entitled matter was adjourned.)

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CERTIFICATE

This is to certify that the attached proceedings  
before the United States Nuclear Regulatory Commission  
in the matter of:

Name of Proceeding: Duke Energy Corporation

Catawba Nuclear Station

Units 1 and 2

Oral Arguments

Docket Number: 50-413-OLA and 50-414-OLA

Location: Charlotte, NC

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