

**Official Transcript of Proceedings**  
**NUCLEAR REGULATORY COMMISSION**

Title: Union Electric Company  
Callaway Plant Unit 1 Oral Arguments

Docket Number: 50-483-LR

ASLBP Number: 12-919-06-LR-BD01

Location: Fulton, Missouri

Date: Thursday, June 7, 2012

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Pages 1-171

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UNITED STATES OF AMERICA

NUCLEAR REGULATORY COMMISSION

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BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

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ORAL ARGUMENT

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IN THE MATTER OF : Docket No. 50-483-LR  
UNION ELECTRIC COMPANY : ASLBP No.  
 : 12-919-06-LR-BD01  
(Callaway Plant Unit 1) :

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Thursday, June 7, 2012

Fulton, Missouri

BEFORE:

G. PAUL BOLLWERK, III, Chairman  
WILLIAM J. FROEHLICH, Administrative Judge  
NICHOLAS G. TRIKOUROS, Administrative Judge

1 APPEARANCES:

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

(9:00 a.m.)

CHAIRMAN BOLLWERK: All right, could we go on the record please. Good morning. Today we are here to conduct a Prehearing Conference and Oral Argument in a proceeding under Part 54 of Title 10 of the Code of Federal Regulations, also referred to as the CFR.

In accord with the Atomic Safety and Licensing Board Order issued on May 11, 2012, this Prehearing Conference has been convened in response to an April 24, 2012 Hearing Request and Intervention Petition submitted by the public interest group, Missouri Coalition for the Environment. This Petitioner seeks a hearing to raise certain issues under the National Environmental Policy Act of 1969 or NEPA, in particular, to challenge the adequacy of certain aspects of the Environmental Report or ER portion of the December 19, 2011 application of Union Electric Company, doing business as Ameren Missouri, in which Ameren requests the renewal of its 10 CFR Part 50 operating license for the Callaway Plant, Unit 1, located in Callaway County, Missouri.

If granted, per Ameren's application the requested extension would authorize Ameren to operate

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1 Callaway Unit 1 for an additional twenty years beyond  
2 the term of the facility's current license which  
3 expires on October 18, 2024.

4 The Missouri Coalition's April 24th  
5 Hearing Request was submitted in accord with the  
6 Nuclear Regulatory Commission or NRC's February 16,  
7 2012 Hearing Opportunity Notice, which was published  
8 on February 24, 2012 in Volume 77 of the Federal  
9 Register, at page 11,173.

10 On April 27, 2012 the Missouri Coalition's  
11 Petition was referred by the NRC Office of the  
12 Secretary to the Atomic Safety and Licensing Board  
13 Panel's Chief Administrative Judge who on May 1st  
14 appointed the three members of this Atomic Safety and  
15 Licensing Board to rule on the Missouri Coalition's  
16 Hearing Petition.

17 With respect to our conduct to the  
18 adjudicatory process relating to the Missouri  
19 Coalition's April 24th submission, we are three  
20 independent Administrative Judges appointed by the  
21 five member Commission as Licensing Board Panel  
22 members, and designated to serve on this Licensing  
23 Board to preside over any hearing required in  
24 contested matters raised concerning the Callaway Unit  
25 1 Operating License Renewal Application.

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1           The Panel's Administrative Judges do not  
2 work for or with the NRC staff relative to the staff's  
3 license application review. Rather, we are charged  
4 with deciding whether the issues proffered by those  
5 requesting a hearing, in this instance the Missouri  
6 Coalition, are admissible, and for those issues we  
7 find litigable, making a determination regarding their  
8 substantive validity in terms of granting,  
9 conditioning, -- in terms of the grant, conditioning  
10 or denial of the requested license.

11 Our decisions on hearing matters generally are subject  
12 to review. First by the Commission as the Agency  
13 supreme tribunal, and then by the Federal Courts,  
14 including in appropriate instances the United States  
15 Supreme Court.

16           Relative to the specific matter before us  
17 today in this Prehearing Conference based on the  
18 showing made by the Missouri Coalition in its April  
19 24th Hearing Petition neither Ameren or the NRC staff  
20 has contested the standing to intervene or legal  
21 interest of the Missouri Coalition to challenge the  
22 Ameren License Renewal Application for Callaway Unit  
23 1. Both Applicant Ameren and the staff however have  
24 questioned the admissibility of all three of the  
25 Missouri Coalition's proffered issue statements or

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1 Contentions contesting the validity of the Ameren  
2 Environmental Report.

3 Specifically with those three Contentions  
4 the Missouri Coalition asserts that first, Ameren's  
5 Environmental Report does not respond adequately to a  
6 May 12, 2012 Agency Order Enforcement Action, or EA-  
7 12-049, which was issued in response to the recent  
8 events in Fukushima, Japan and requires NRC licensees  
9 to consider mitigation strategies for very large scale  
10 or beyond design basis external events.

11 Second, Ameren's ER fails to explain  
12 Ameren's status of compliance with certain NRC Orders  
13 and Requests for Information as required by NRC  
14 regulations. And lastly, Ameren's ER does not  
15 adequately consider wind energy as an alternative to  
16 renewing the operating license for Callaway Unit 1.

17 The participants will have an opportunity  
18 to make oral presentations to the Board and answer  
19 Board questions regarding these contested matters  
20 during this Prehearing Conference.

21 Before we begin listening to the  
22 participants' arguments regarding these Contentions I  
23 would like to take a few minutes and introduce the  
24 Board members and have the participants identify  
25 themselves for the record, as well as provide some

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1 information regarding several administrative matters  
2 relating to today's session.

3 With respect to the Board's members, to my  
4 right is Judge William Froehlich. Judge Froehlich is  
5 an attorney and a full-time member of the Atomic  
6 Safety and Licensing Board Panel. To my left is Judge  
7 Nicholas Trikouros. Judge Trikouros, a Nuclear  
8 Engineer, is also a full-time member of the Panel. My  
9 name is Paul Bollwerk, I'm an attorney, a full-time  
10 Panel member and the Chair of this Licensing Board.

11 At this point I would like to have the  
12 various participants identify themselves for the  
13 record, along with anyone else who may be seated with  
14 them at counsel table today. Why don't we start with  
15 the Missouri Coalition and then move to the Applicant,  
16 Ameren, and finally to the NRC staff. Ms. Curran?

17 MS. CURRAN: Good morning. My name is  
18 Diane Curran. I'm an attorney with the firm of  
19 Harmon, Curran, Spielberg and Eisenberg, and I am here  
20 representing the Missouri Coalition for the  
21 Environment. I would like to also introduce Henry  
22 Robertson to my left, with the Great Rivers  
23 Environmental Law Center, who is also co-counsel to  
24 the Missouri Coalition for the Environment. And to my  
25 right is Dr. Arjun Makhijani, who has provided expert

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1 support for Contention 3. In addition, in the  
2 audience today there are a number of members and  
3 supporters of the Missouri Coalition, including Edward  
4 Smith, who is the Safe Energy Director of the Missouri  
5 Coalition.

6 And on behalf of the organization I would  
7 like to thank the Board for coming to Missouri to  
8 conduct this proceeding, which is of great interest to  
9 the Missouri Coalition and others.

10 CHAIRMAN BOLLWERK: All right thank you.  
11 We are glad to be here.

12 MR. LEWIS: Good morning. My name is  
13 David Lewis. I am with the law firm of Pillsbury,  
14 Winthrop, Shaw, Pittman, and I have the privilege of  
15 representing Ameren here today. With me at counsel  
16 table is Mr. William Bobnar, the Assistant Managing  
17 General Counsel of Ameren.

18 CHAIRMAN BOLLWERK: Thank you.

19 MS. SPENCER: Good morning. My name is  
20 Mary Spencer and I represent the NRC staff. I'm from  
21 the Office of the General Counsel of the Nuclear  
22 Regulatory Commission and with me seated at counsel  
23 table are my co-counsels, Beth Mizuno to my left, and  
24 to my right Anita Ghosh. And then we also have with  
25 us today a summer intern, Jim Akelman and we have two

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1 members of the staff, Drew Stuyvenberg and Carmen Fels  
2 (phonetic).

3 CHAIRMAN BOLLWERK: Okay, thank you. As  
4 my previous comments indicated during today's  
5 conference we will only be entertaining presentations  
6 from these three participants. Nonetheless, if a  
7 hearing is convened in this matter at some point in  
8 the future, in accord with Section 2.315(a) of Title  
9 10 of the CFR the Board may issue a Notice that among  
10 other things, may indicate that members of the public  
11 will be afforded an opportunity to provide, as  
12 appropriate, oral limited appearance statements  
13 setting forth their views concerning any contested  
14 matters relative to the proposed Callaway facility  
15 Operating License Renewal. In that issuance or a  
16 subsequent Notice the Board will outline the times,  
17 places and conditions of participation relative to any  
18 opportunity for oral limited appearance statements.  
19 In the interim, as the Board noted in its May 11th  
20 issuance in this case, any member of the public can  
21 submit a written limited appearance statement  
22 providing his or her views regarding the issues in  
23 this proceeding. Those written statements can be sent  
24 at any time by regular mail to the Office of the  
25 Secretary, U.S. Nuclear Regulatory Commission,

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1 Washington, DC 20555-001, attention Rulemakings and  
2 Adjudication Staff or by email to hearingdocket;  
3 that's all one word, at nrc.gov. A copy of the  
4 statement also should be provided to me as the Chair  
5 of this Atomic Safety and Licensing Board by sending  
6 it by regular mail to my attention at the Atomic  
7 Safety and Licensing Board Panel, Mail Stop T-3F23,  
8 U.S. Nuclear Regulatory Commission, Washington, DC  
9 20555-0001 or by email to Paul.Bollwerk; B-O-L-L-W-E-  
10 R-K, at nrc.gov.

11 In addition to being available in the  
12 Board's May 11th Order, which can be found in the  
13 electronic hearing docket on the Agency's website,  
14 www.nrc.gov, this written limited appearance  
15 submission information is outlined in the flyers that  
16 we have provided, -- we have placed on the table in  
17 the back of the room, which provides this and other  
18 background information regarding the Licensing Board  
19 and this proceeding. And anyone that wants to take  
20 one of those flyers is certainly welcome to one; they  
21 are back on the back table.

22 With respect to the order of presentation  
23 by the participants in this Prehearing Conference in  
24 our June 1st Order we outlined a schedule that affords  
25 an opportunity for the participants to address the

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1 contested matters of contention admissibility now  
2 before the Board. In that regard we asked that before  
3 starting on the issues for which the Missouri  
4 Coalition has been afforded an opportunity for initial  
5 argument and rebuttal its counsel should indicate how  
6 much of the Missouri Coalition's time allocation for  
7 that issue he or she wishes to reserve for rebuttal.  
8 Toward the end of the allocated argument time for each  
9 of the participants the Board will be providing  
10 counsel with notice of the need to finish up his or  
11 her presentation.

12 In making their arguments the participants  
13 should bear in mind that we have read their pleadings  
14 and as such they should focus their presentations on  
15 the critical points in controversy, as those that have  
16 emerged as a result of the various participant filings  
17 over the last six weeks. Additionally, as part of the  
18 presentation the Board may seek responses to a series  
19 of questions it posed in its June 1st Memorandum and  
20 Order.

21 Finally, after completion of the  
22 participants oral arguments we would like to have a  
23 brief discussion regarding some of the administrative  
24 details involved in this proceeding. And relative to  
25 administrative matters I would note that this is my

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1 cell phone which I have turned off. I am sticking it  
2 in my pocket and I am not going to turn it on again  
3 until we are in recess. I would request that everyone  
4 else here do the same thing with his or her cell  
5 phone, or at least put it on vibrate. But, if you put  
6 your phone on vibrate and it goes off while we are in  
7 session and you wish to answer it you need to leave  
8 the hearing room before you have your conversation.  
9 And in that regard you may be aware that there is a  
10 bathroom facility back in the back, but I would prefer  
11 not to see that hall back there turn into the cell  
12 phone conversation hallway. So if you really need to  
13 make a cell phone call it would be better to go  
14 outside. I think it is a fairly pleasant day outside  
15 for a couple of seconds and then come back into the  
16 hearing room. We appreciate obviously, everyone  
17 abiding by this protocol at any time this Prehearing  
18 Conference is in session.

19 At this point, unless the participants  
20 have something they need to bring to the Board's  
21 attention we will start with the Missouri Coalition's  
22 presentation regarding it's Contentions 1 and 2. But  
23 before beginning the presentation, for the benefit of  
24 the members of the public who are with us today and  
25 may not have had an opportunity to review the filings

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1 in this proceeding, I would like to read the language  
2 of those Contentions, albeit edited somewhat by  
3 shortening or eliminating the various supporting  
4 document citations for the purpose of conciseness.  
5 And so we are going to be hearing first with respect  
6 to two Contentions, 1 and 2.

7           Contention 1: The Environmental Report  
8 lacks information regarding proposed modification to  
9 the Callaway facility. The Environmental Report fails  
10 to satisfy 10 Code of Federal Regulations Section  
11 51.53(c)(2), because it does not include information  
12 about Ameren's plans to modify the Callaway facility  
13 in response to post Fukushima Enforcement Order EA-12-  
14 049, March 12, 2012. As also required by Section  
15 51.53(c)(2) the Environmental Report must include a  
16 discussion of a reasonable array of alternative  
17 measures for modifying the facility in accordance with  
18 Order EA-12-049.

19           Now with respect to Contention 2 it is a  
20 little bit longer, but I will be brief. The  
21 Environmental Report lacks information on the status  
22 of compliance with Federal requirements and approvals.  
23 In violation of 10 CFR Section 51.45(d), the  
24 Environmental Report fails to describe the status of  
25 Ameren's compliance with NRC post Fukushima Orders and

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1 requests for additional information relevant to the  
2 environmental impacts of the Callaway Nuclear Plant  
3 during the license renewal term. These requests for  
4 information, Orders for action, originate with both  
5 the NRC and the U.S. Congress. The Environmental  
6 Report for renewal of the Callaway operating license  
7 is inadequate to comply with NEPA and NRC implementing  
8 regulations because it lacks the following information  
9 regarding Ameren's compliance with NRC requirements  
10 and approvals.

11 (A). Requirement of Order EA-12-049 to  
12 quote "develop, implement and maintain guidance and  
13 strategies to restore or maintain, or pooling,  
14 containment and SFP, which is short for spent fuel  
15 cooling capabilities in the event of a beyond design  
16 basis external event.

17 (B). The following requirements of the  
18 3/12/12 information requests, one, requesting  
19 information regarding seismic hazard evaluation and  
20 seismic risk evaluation; two, required response  
21 relating to seismic hazard evaluation and seismic risk  
22 evaluation; three, requested information regarding  
23 Seismic Evaluation Report and Integrated Assessment  
24 Report; four, required response relating to Hazard  
25 Evaluation Report and Integrated Assessment Report;

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1 five, requested  
2 actions, requested information and requested response  
3 regarding communication systems and equipment used  
4 during an emergency event, assuming that a potential  
5 on-site and off-site damage is a result of a large  
6 scale natural event resulting in a loss of alternating  
7 current, AC power, and (B), the large scale national  
8 event causes extensive damage to normal and emergency  
9 communication systems, both on-site and in the area  
10 surrounding the site. Moreover, to the extent that  
11 Ameren proposes modification to the Callaway facility  
12 in response to the 3/12/12 requests for information  
13 NEPA also requires the consideration of the  
14 effectiveness and relative costs of a range of  
15 alternatives for satisfying NRC's concerns.

16 All right, and with that I will turn to  
17 Ms. Curran, are you going to make the presentation?

18 MS. CURRAN: Yes, I am.

19 CHAIRMAN BOLLWERK: All right.

20 MS. CURRAN: And I would like to reserve  
21 for each Contention or set of Contentions, -- take 15  
22 minutes for the initial presentation and fifteen for  
23 rebuttal.

24 CHAIRMAN BOLLWERK: All right, thank you.

25 MS. CURRAN: Before I start in on the

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1 issues I would just like to take a moment to describe  
2 the overall context of the Contentions and the  
3 relationship between them.

4 Contentions 1 and 2 relate to post  
5 Fukushima measures that the NRC is requiring of  
6 Ameren. It is not clear yet what those measures will  
7 be, they are future requirements. Ameren is being  
8 required to propose severe accident mitigation  
9 measures in response to Enforcement Order Number 12-  
10 049. And in response to the information requests is  
11 being required to submit new information regarding  
12 earthquake and flooding risks at the plant that could  
13 lead to further requirements, -- changes to the  
14 facility.

15 In our view, although those requirements  
16 were issued in the context of Enforcement Orders they  
17 must be considered in the context of the NEPA review  
18 because they will, or are likely to result in design  
19 modifications that could affect the environmental  
20 impacts of operating Callaway during the license  
21 renewal term.

22 Under the National Environmental Policy  
23 Act an agency that is going to take major federal  
24 action, such as relicensing a nuclear power plant, has  
25 to look at all the environmental impacts of the

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1 proposed action, as well as alternatives for  
2 mitigating or avoiding those impacts. We want to make  
3 sure that before relicensing Callaway the NRC is fully  
4 informed of what additional measures may be required  
5 to make Callaway, -- to improve the safety of the  
6 Callaway reactor, and that it examines a reasonable  
7 array of alternatives for achieving that. That is  
8 important here, given the fact that instead of  
9 prescribing specific measures to Ameren the NRC has  
10 told Ameren that it can devise its own measures and  
11 propose them to the Agency. That is the kind of  
12 decision-making that NEPA requires to be considered in  
13 the public eye, with an opportunity for public  
14 comment, and with consideration of alternatives.

15 One of the reasons to conduct a thorough  
16 NEPA review of post Fukushima reforms is that it could  
17 substantially affect the cost of operating Callaway in  
18 the license renewal term. If the costs of operating  
19 Callaway is significantly increased that could affect  
20 the decision of Ameren and also the NRC as to whether  
21 it is cost-beneficial to actually go ahead with  
22 relicensing Callaway or whether there are other more  
23 cost-effective alternative means of providing the  
24 electricity generation that Callaway has provided so  
25 far.

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1           Therefore the Contentions are, -- and of  
2 course, our Contention 3 criticizes Ameren's  
3 Environmental Report because it has not considered a  
4 renewable energy alternative that is already  
5 technically feasible and commercially viable, which is  
6 wind generation operating in the MISO grid. So there  
7 is something of a relationship between all of these  
8 Contentions.

9           I would like to start with Contentions 1  
10 and 2. I take it from the Board's Order that the  
11 Board has reviewed all of our pleadings. We tried to  
12 respond to all of the arguments that the NRC staff and  
13 Ameren made in response to our Contentions, so I would  
14 like to focus on answers to the Board's questions that  
15 were issued on June 1st.

16           CHAIRMAN BOLLWERK: All right.

17           MS. CURRAN: The first question is, --  
18 really gets to the heart of the argument by  
19 Ameren, -- the principal argument by Ameren and the  
20 staff, that these Enforcement Orders and the  
21 information requests that were issued are enforcement  
22 matters that relate to the current license operation  
23 term and don't relate to license renewal. And the  
24 Board cited an Order, -- a post 3 Mile Island Accident  
25 Order, CLI80-42, and asked us to compare that to

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1 Enforcement Orders. There was one particular  
2 Enforcement Order issued after the September 11th  
3 attacks, and to compare and contrast those.

4 I think what is important here is that in  
5 CLI80-42 the Commission talked about how it was going  
6 to change the requirements for operating nuclear  
7 plants in response to the 3 Mile Island Accident; that  
8 those changes could happen in the context of licensing  
9 or rulemaking. And of course, licensing and  
10 rulemaking are both subject to NEPA.

11 The Commission in CLI80-42 indicated that  
12 at least in some cases it determined that its existing  
13 requirements were not adequate to ensure adequate  
14 protection of public health and safety and that they  
15 might need to be modified. In the Enforcement Order,  
16 which was issued in 2002, the Commission stated that  
17 first of all, the Orders were prescriptive. They were  
18 very specific. They were described in an attachment  
19 to the Federal Register Notice that was cited by the  
20 Licensing Board in its Order that was not released to  
21 the public. But one can see from the language of the  
22 Federal Register Notice, which is Volume 67, page  
23 9792, dated March 4, 2002, in the first column of the  
24 Notice the Commission refers to certain compensatory  
25 measures. So in other words the Commission here, --

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1 although we can't see what the measures are, appears  
2 to have prescribed specific measures intended to bring  
3 all reactors into compliance with its existing  
4 security requirements.

5           The situation that we have post Fukushima  
6 is a little bit different in the sense that the  
7 Commission has effectively found that its existing  
8 requirements are not adequate; need to be changed;  
9 that new measures are needed. For instance what is  
10 being required in EA-12-049 are severe accident  
11 mitigation measures, but not in the usual NEPA context  
12 in which the applicant would examine whether they are  
13 cost-beneficial. These mitigation measures are being  
14 required. And the only question is whether if you  
15 compare an array of alternatives which ones are the  
16 most cost-effective?

17           So we would submit that the nature of the  
18 measures that are being required in EA-12-049 or more  
19 like license amendments or licensing actions. We  
20 think they are relevant to license renewal because  
21 they will change the level of risk posed by Callaway  
22 during the operating license renewal term. And in  
23 terms of the timing of this, most, -- as Ameren points  
24 out, most plants are not in license  
25 renewal, -- they have not got License Renewal

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1 Applications pending. But here we have one that is  
2 pending. It was filed about twelve years before the  
3 expiration of the current license. So in our view, as  
4 long as the License Renewal Application is pending  
5 where there are proposed design changes that could  
6 affect the safety and environmental impacts of  
7 operating Callaway during the license renewal term,  
8 they must be discussed in the Environmental Report  
9 under 10 CFR 51.53(c)(2).

10 CHAIRMAN BOLLWERK: And that's a fact  
11 notwithstanding the license renewal proceedings  
12 generally. I mean the focus is maintenance, age-  
13 related degradation, which these may or may not have  
14 anything to do with those sorts of issues?

15 MS. CURRAN: Well it is has been very  
16 clearly established by the Commission Judge Bollwerk,  
17 that NEPA is not restricted to aging issues. Those  
18 restrictions apply only to the NRC Safety Review. So  
19 in other words whatever the environmental, -- if there  
20 is any change from either the initial Environmental  
21 Impact Statement that was done with the licensing of  
22 this facility, or the generic Environmental Impact  
23 Statement that was done in 1996, those changes need to  
24 be described, because that is new information, changed  
25 information about the environmental impacts. Now I'm

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1 not saying that 51.92 applies here, because we're  
2 talking about 51.53(c)(2), which specifically says  
3 that if the applicant has proposed changes to its  
4 design or operation they need to be described in the  
5 Environmental Report.

6 JUDGE TRIKOUROS: Ms. Curran where in the  
7 ER would these changes be described? You didn't  
8 identify SAMA specifically in your Contention.

9 MS. CURRAN: Well in our view this is a  
10 new, -- it's almost, -- well, it certainly should be  
11 described in the category of the Proposed Action,  
12 because that's what the regulation requires. It  
13 specifically says this is part of the proposed action.  
14 So I would think there would be a description in the  
15 Proposed Action, and then also in the consideration of  
16 alternatives. As we say in the Contention because the  
17 Order is set up so that, -- to allow Ameren to propose  
18 its own measures under NEPA those measures must be  
19 proposed in the form of alternatives. So we would  
20 assume that in the section of the Environmental Report  
21 which contains a discussion of alternatives that would  
22 be included.

23 I'm not sure that it belongs in the  
24 section that is entitled "SAMA(s)," because the SAMA  
25 discussion as it has been traditionally done, looks at

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1 each alternative and weighs the relative cost and  
2 benefits of the alternative in its own right. In  
3 other words, should we go ahead with this? Does the  
4 benefit exceed the cost? And that's not what is being  
5 required by EA-12-049 because the Commission has  
6 essentially said we think the benefits here are clear  
7 and you need to do this. So it's a little bit of a  
8 different analysis.

9 JUDGE FROEHLICH: Ms. Curran, my question  
10 is a little bit different, but also deals with the  
11 timing. How is it that we have to review the  
12 environmental impacts of a response which has not been  
13 made yet? I mean their response may or may not have  
14 any affect on the environment. Isn't this Contention  
15 or this approach premature?

16 MS. CURRAN: We think that that would  
17 certainly be a reasonable response, but the  
18 intervenors in NRC proceedings don't really have the  
19 luxury of deciding that kind of thing for themselves.  
20 We have to knock on any door that appears to be  
21 enterable, possibly. That is how the process is set  
22 up for us. We consider ourselves obligated as soon as  
23 we saw that this requirement was imposed on Ameren and  
24 that Ameren had not responded; that it was, -- we  
25 needed to raise this issue as early as possible. We

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1 can't really afford to wait until later and then be  
2 told well you were aware of this when the proceeding  
3 started. It certainly, -- as a practical matter it  
4 would seem to make sense that when the proposal is  
5 made then we should criticize it. But we think it is  
6 also important to flag right now the fact that we  
7 don't think it would be adequate if Ameren did not  
8 address this at all in the Environmental Report, which  
9 probably Ameren was not planning to do. And we don't  
10 think it would be adequate if Ameren proposed only one  
11 alternative. So we are putting the NRC on notice as  
12 to what we think the requirements are. And the Board  
13 could make a ruling that these are the legal  
14 requirements which have arisen now.

15 JUDGE FROEHLICH: Thank you.

16 JUDGE TRIKOUROS: So you really are  
17 creating a placeholder in a sense?

18 MS. CURRAN: Well we think that that is  
19 something that really rests with the Board deciding  
20 that. But we do think that there is enough  
21 information now that the Board could rule that Ameren  
22 has an obligation to include these proposed measures  
23 in the Environmental Report and to include a  
24 discussion of alternatives. And considering that the  
25 Commission has many times said that it wants to

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1 resolve issues as early as possible and put everyone  
2 on notice of what the requirements are it would seem  
3 reasonable to us to establish that requirement now.

4 JUDGE TRIKOUROS: So let me understand how  
5 the alternatives argument would work. Ameren would  
6 come up with (X) number of proposed modifications to  
7 make in response to the Order. Clearly those  
8 modifications would cost money. The staff would  
9 review their recommended list of modifications and  
10 approve or deny them, and they would go back and  
11 forth. But once a set of modifications is agreed upon  
12 you are suggesting that they be costed-out in the  
13 Environmental Report as part of the alternative's  
14 analysis and compared against let's say for example,  
15 wind; that if the modifications cost more than 1,000  
16 megawatts of wind turb that that should be evaluated.  
17 Is that what you're saying?

18 MS. CURRAN: What we are saying is that  
19 yes, the cost of the proposed modifications should be  
20 discussed; that a reasonable array of alternatives  
21 should be identified that may have varying costs and  
22 levels of effectiveness, and that the information, --  
23 whatever option Ameren selects the information about  
24 those costs should be integrated into the overall cost  
25 benefit analysis for the preferred alternative.

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1 JUDGE TRIKOUROS: But clearly none of that  
2 can be done until the process I just mentioned is  
3 completed?

4 MS. CURRAN: That's right.

5 CHAIRMAN BOLLWERK: I think that with  
6 respect to questions, you've sort of dealt with  
7 Question A that we posed on Contention 1, and it looks  
8 like (B) and (C) probably you would, -- I think the  
9 statements we've just heard sort of suggest that you  
10 think there is some potential future point, if this is  
11 not it, in which someone needs to do something  
12 relative to the License Application or the  
13 Environmental Impact Statement to discuss these  
14 matters?

15 MS. CURRAN: That's right.

16 CHAIRMAN BOLLWERK: But I take it with  
17 respect to (B) and (C) you would argue that yes, there  
18 is something, if it's not now, it's got to be later?

19 MS. CURRAN: Right. And in the, -- you  
20 asked about the Environmental Impact Statement,  
21 whether that would have to discuss it. And yes, we  
22 think so under Section 51.71(c) and (d). (D) would  
23 apply to the description of the new measures and (C)  
24 would apply to the response to the request for  
25 information. In Question C I think there is a

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1 question about timing.

2 CHAIRMAN BOLLWERK: Right. The point  
3 there I guess was that there are two steps to this  
4 process, one is when an integrated Compliance Plan  
5 comes out, and then a second one when the licensee  
6 actually has to implement the requirements.

7 MS. CURRAN: Right.

8 CHAIRMAN BOLLWERK: So the question is  
9 relative to those two points; what are their  
10 responsibilities at that point? And in part, what I'm  
11 hearing from you is that if it is not now, certainly  
12 one of those two may be the time that something has to  
13 be done. Or when the EIS comes out, you know it can  
14 maybe, -- there are all kinds of different points here  
15 where things are going to happen. And of course, one  
16 of those dates is February 13th. And I believe under  
17 the schedule here, -- let me just check one second,  
18 the draft EIS comes out in about April the 13th or  
19 thereabouts, -- a little before that, February the  
20 13th.

21 MS. CURRAN: So certainly in terms of how  
22 this proceeding is going, it makes sense to analyze  
23 these alternatives in the draft EIS; that when they  
24 are proposed they should be analyzed in the draft EIS.

25 Now if the License Renewal Application

1 were submitted after the date of the implementation of  
2 the measures, --

3 CHAIRMAN BOLLWERK: Okay.

4 MS. CURRAN: -- then, --

5 CHAIRMAN BOLLWERK: That would be December  
6 of 20, '16, right?

7 MS. CURRAN: Well I think that the  
8 proposed action would definitely have to include the  
9 changes to the design that had been made. Now once  
10 the consideration of alternatives had been finished  
11 then, -- I guess I'm really not sure how that would  
12 work out. But the thing is that this case is pending  
13 now, and Ameren has chosen now to treat, -- the NRC's  
14 process for dealing with License Renewal Applications  
15 creates some odd circumstances where an Agency allows  
16 an applicant to come in as much as twenty years before  
17 a permit expires and have a review go on way in  
18 advance of the expiration of the permit, then it seems  
19 to us that what's sauce for the goose, should be sauce  
20 for the gander. If in this time period changes are  
21 being made to this proposed design and proposed  
22 operation, those should be described in the License  
23 Renewal Application. The purpose of NEPA is to  
24 prevent agencies from compartmentalizing their  
25 decisions in a way that evades consideration of what

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1 are the impacts of this proposed action. So if the  
2 NRC is now considering what are the impacts of  
3 renewing this operating license information that  
4 becomes relevant to it in this period needs to be  
5 considered.

6 JUDGE TRIKOUROS: Well in the context of  
7 the post September 11 world, there were modifications  
8 made to nuclear power plants. We don't even know what  
9 they are because they've been treated as safeguards  
10 information and not made publicly available. Those  
11 modifications are not included in any, -- to my  
12 knowledge, any License Renewal Applications at all.  
13 Now I'm trying to understand the difference, -- and  
14 I'm going to be asking this question further on, I'm  
15 trying to understand the difference, if any, of these  
16 particular plant modifications with respect to license  
17 renewal versus ten years ago.

18 MS. CURRAN: Okay.

19 CHAIRMAN BOLLWERK: Let me just expand the  
20 scope of that question slightly. I mean there are  
21 other modifications that get made to plans during the,  
22 -- I shouldn't say all the time, but certainly not on  
23 an irregular basis. For instance, what if Ameren came  
24 in and asked for a power uprate. Would that fall  
25 within the scope of what we're talking about here in

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1 terms of what has to be analyzed in the License  
2 Renewal Application?

3 MS. CURRAN: Okay, let me try to address  
4 all of those, and if I miss one you can remind me.

5 CHAIRMAN BOLLWERK: Okay.

6 MS. CURRAN: The Enforcement Order that  
7 was cited in the Board's Order of June 1st, that Order  
8 required specific measures. And it appears from that  
9 Order that those measures were considered necessary to  
10 bring reactors in compliance with the current design  
11 basis threat. It's an interpretation of what that  
12 threat was. Separately, the NRC also, around the same  
13 time period, issued Orders to every single licensee  
14 modifying the design basis threat that is contained in  
15 NRC's regulations. And the NRC was sued by Public  
16 Citizen and Mothers for Peace, who said you are  
17 amending all of the operating licenses for these  
18 reactors by changing the design basis threat. You  
19 need to do a rulemaking or go through license  
20 amendments or something, but you've changed the basis  
21 for licensing, -- allowing these plants to operate.  
22 And the NRC went through a rulemaking.

23 So there you have an example of when the  
24 NRC changes the basic requirements it is not just a  
25 question of imposing something to bring a plant into

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1 compliance, it is saying to licensees what we have  
2 required in the past is not sufficient, we have got to  
3 ask you for something more, because we now understand  
4 the risks in a different way. That is what happened  
5 in that design basis threat rulemaking, and that is  
6 what is happening here.

7 CHAIRMAN TRIKOUROS: Except that, -- and  
8 the rulemaking, I assume you're talking about 54, --  
9 what is it (HH), --

10 MS. CURRAN: No, I'm not.

11 CHAIRMAN TRIKOUROS: No?

12 MS. CURRAN: I'm talking about the design  
13 basis threat which is 10 CFR 70, -- does anybody know,  
14 --

15 MS. SPENCER: It's (73).

16 MS. CURRAN: (73).

17 MS. SPENCER: Part 73 is security.

18 CHAIRMAN TRIKOUROS: Thank you. But the  
19 question I had is with respect to the license renewal  
20 and any such requirements. Are they considered in  
21 license renewals or are they excluded because it is a  
22 generic requirement for all plants?

23 MS. CURRAN: Well wherever, --

24 JUDGE TRIKOUROS: Let me just, -- as an  
25 example, if there was a system structure or component

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1 that came out of that, that was required, it is quite  
2 likely, I believe, that no license renewal Aging  
3 Management Program included any of those SSC(s). Now  
4 again, this is going to be a question for everybody,  
5 but we are trying to learn from the history here  
6 something about today, and also, if there is anything  
7 different about this EA and related EA(s) that are  
8 coming out of Fukushima?

9 CHAIRMAN BOLLWERK: Right. And that was  
10 sort of the point of the question which you talked  
11 about, about the difference between the TMI Action  
12 Plan and the, -- and they were using Enforcement  
13 Orders in one sense now, whereas back then they tended  
14 to use a Policy Statement which seemed to open up  
15 actually the licensing process or the adjudicatory  
16 process much more to consideration of these issues.  
17 But with enforcement actions arguably, -- of course  
18 there is a Board up at Pilgrim today that's talking  
19 about that with the parties as to what the scope of  
20 those are. But of course, we are not in an  
21 enforcement action. We are not in an operating  
22 license proceeding. We are in a license renewal. So  
23 that's a question of how that plays together.

24 MS. CURRAN: But it also, -- it gets back  
25 to the question of what is the proposed action? And

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1 the proposed action is the continued operation of the  
2 Callaway Nuclear Plant for another twenty years. The  
3 proposed action is not managing aging components for  
4 another twenty years it is operating a nuclear plant  
5 for another twenty years. And the NRC regulations for  
6 Environmental Reports are intended to require that the  
7 aspects of the proposed action which may have changed  
8 since the plant was originally licensed, need to be  
9 described. So that if, -- because that could change  
10 the environmental impacts of the operation, and that  
11 is what we have here.

12 So we are submitting to you that a plain  
13 reading of that regulation requires a description of  
14 those changes, because those changes were not  
15 described in the first Environmental Impact Statement  
16 for Callaway; they couldn't have been. They were not  
17 described in the generic Environmental Impact  
18 Statement; they couldn't have been. So NEPA requires  
19 that if there is something that has changed it needs  
20 to be addressed before license renewal can be allowed.  
21 You know you don't have to go back to all those other,  
22 -- you know comparing the Enforcement Orders with TMI.  
23 A plain reading of that regulation requires a  
24 description of design modifications and modifications  
25 to the operation of the facility.

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1                   JUDGE TRIKOUROS: But the argument is made  
2 by the other parties that this is a generic licensing  
3 activity. Every nuclear plant in the United States,  
4 whether it is going through license renewal or not,  
5 has to do this. This is not associated with license  
6 renewal and the license renewal requirements would  
7 exclude it on that basis.

8                   MS. CURRAN: But when you say it is not  
9 associated with license renewal, that's simply a  
10 statement. It is a categorization that as a practical  
11 matter doesn't really hold up, because the changes are  
12 going to affect the environmental impacts of renewed  
13 operation of Callaway. So to make these artificial  
14 distinctions between, -- well something is an  
15 operating, -- a current operating license issue or an  
16 enforcement issue, doesn't really hold up.

17                   Another important point is that where the  
18 NRC makes generic changes in a rulemaking, NEPA  
19 applies to every rulemaking. So were the NRC to issue  
20 a rule saying we are going to require these changes in  
21 a rule, then there would have to be some kind of  
22 generic NEPA analysis, and that would exempt Ameren  
23 from discussing the issue. But that is not the case  
24 here. The case is that the NRC has ordered all  
25 licensees to describe plant modifications. And in

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1 this case they will affect the environmental impacts  
2 of this plant during the license renewal term. And  
3 there is no other proceeding involving a NEPA review  
4 in which that requirement for NEPA consideration would  
5 be fulfilled.

6 CHAIRMAN BOLLWERK: Well is that because  
7 the Agency chose to do it in an enforcement context,  
8 which they have the discretion arguably to proceed  
9 between Orders and rulemaking? And they have chosen  
10 an Order here, which under the rules does not provide  
11 for any analysis. So you're sort of taking the ball  
12 which is unavailable over here, and moving it over  
13 here. Now I'm saying that that is improper, but  
14 that's what occurred.

15 MS. CURRAN: But the Commission has not  
16 said NEPA is inapplicable to, -- if this happens in a  
17 license renewal context, it simply chose to order all  
18 licensees to propose these modifications. Whether the  
19 results of the Order have implications for a license  
20 renewal is a separate question that is not addressed  
21 in EA-12-049, it is left open.

22 CHAIRMAN BOLLWERK: Let me go back to my  
23 question, the scope question I raised, which is what  
24 if this were say a power uprate amendment that came in  
25 during the course of a license renewal while the

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1 application is pending, what are the implications of  
2 that? And there are all kinds of other things we  
3 could think of that they could come in and make some  
4 attempt to change the way the plant operates.

5 MS. CURRAN: Well had the NRC say issued  
6 an Order to amend all licenses, -- this is an Order  
7 for the amendment of all licenses to change your  
8 design to include measures to address station blackout  
9 and loss of cooling; just like the contents of EA-12-  
10 049 in a license amendment, then presumably there  
11 would be an opportunity to raise those issues in a  
12 license amendment proceeding under NEPA and they would  
13 be dealt with there. And then when license renewal  
14 came up the NRC could point to some NEPA review that  
15 had occurred in this license renewal proceeding. But  
16 that's not the case here.

17 CHAIRMAN BOLLWERK: Right. So you're  
18 saying if they came in and moved for a power uprate  
19 that would be an amendment, then the NEPA process goes  
20 on to the amendment and therefore we don't have to  
21 worry about the license renewal context?

22 MS. CURRAN: That's right, because NEPA  
23 would, -- there would be a NEPA review.

24 CHAIRMAN BOLLWERK: So if there were a  
25 NEPA review relative to the Order, which the

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1 regulations do not provide for I believe, that would  
2 take care of the problem and we wouldn't be talking  
3 about it here?

4 MS. CURRAN: As a practical matter, -- you  
5 know NEPA is a practical statute, so we would, --  
6 supposing it had already happened and there was a  
7 license amendment and a NEPA review, so then the  
8 question that we would have would be did the NEPA  
9 review, which only covered an amendment of the license  
10 for the next whatever, -- ten years, was that  
11 sufficient for covering the twenty years to follow?  
12 And I don't know what the answer to that question is,  
13 but that's the kind of analysis you would do. But  
14 here there's been nothing.

15 JUDGE TRIKOUROS: We don't know obviously,  
16 what the changes are going to be that come out of this  
17 Order, -- this Enforcement Order, but a number of  
18 them, and perhaps all of them, may involve equipment  
19 external to the plant, -- equipment that is staged or  
20 held in warehouses with procedures and training  
21 associated with its utilization to connect to the  
22 plant, given a severe environmental, -- you know an  
23 external hazard. That would not be, strictly  
24 speaking, considered a plant modification. So I'm  
25 really bringing up the prematurity issue here, and

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1 until we see what comes out of the Enforcement Order  
2 for Callaway we won't really know what we're dealing  
3 with, will we?

4 MS. CURRAN: In answer to your question  
5 Judge Trikouros, I just want to go back to the  
6 language of Section 51.53(c)(2), which requires the  
7 Environmental Report to contain quote, "*A description*  
8 *of the proposed action, including the applicant's*  
9 *plans to modify the facility or its administrative*  
10 *control procedures as described in accordance with*  
11 *54.21 of this chapter.*"

12 So administrative control procedures that  
13 might cover what you're describing here. Certainly it  
14 would be, -- we anticipate that when that information  
15 is provided we would discuss that in a Contention if  
16 we are dissatisfied with it.

17 JUDGE TRIKOUROS: And clearly we want to  
18 hear from the Applicant and the staff regarding  
19 interpretation of that regarding this, because you  
20 know my understanding is clearly plant emergency  
21 operating procedures and other procedures are not  
22 typically included in license renewal. And so I am  
23 not, -- I would like to understand that before we  
24 leave here today, but I appreciate you quoting that.

25 CHAIRMAN BOLLWERK: Let me just add; I

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1 guess the one point that you have not dealt with, I  
2 guess, in terms of the questions we've asked is (D),  
3 which was the relevance, if any, of the Draft Interim  
4 Guidance that was provided by the staff last Friday,  
5 as well as I guess we indicated there is an NEI  
6 document that is cited as a part of that. And I just  
7 wanted to see if you had any thoughts on that one way  
8 or the other?

9 MS. CURRAN: Yes. Well I think what is  
10 important for us to take away from the draft guidance  
11 is that what is being required of licensees here  
12 is, -- the licensees are being offered the opportunity  
13 to come up with alternative measures for satisfying  
14 this requirement. And I would like to just direct the  
15 points, -- the Board's attention to a letter from the  
16 Nuclear Energy Institute to, -- this is written to the  
17 Director of the Japan Lessons Learned Project  
18 Director, a Mr. David Skeen, on December 16, 2011.  
19 The NRC Accession Number is ML11353A008.

20 In this letter the NEI describes what they  
21 call their integrated safety focused approach to  
22 expediting implementation of Fukushima Dai Ichi  
23 lessons learned. And the NEI talks about how they  
24 think it is most effective to provide a diverse and  
25 flexible means to obtain power and water to support

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1 key safety functions. NEI was looking for flexibility  
2 in terms of being able to propose alternatives, and  
3 the NRC accepted that. Instead of prescribing  
4 measures the NRC said why don't you propose measures  
5 to us and we will evaluate them.

6 So in our view that requires NEPA  
7 consideration because if the licensees are allowed to  
8 propose measures then there is probably alternative  
9 measures and they need to be compared. There is not  
10 just one way to do it, there is a number of ways to do  
11 it. And the purpose of NEPA is to force the agency;  
12 and in the Environmental Report it would be the  
13 applicant, to look at what is an array of alternatives  
14 and what is the best way to accomplish this in a cost-  
15 effective way.

16 JUDGE TRIKOUROS: Before we leave you,  
17 when you say the word alternatives in this context I  
18 don't believe that it is appropriate to apply that to  
19 alternative plant modifications. Isn't the word  
20 alternatives referring to alternatives other than  
21 Callaway, not alternatives to the modification of  
22 Callaway? I'm not sure how you are using the word  
23 alternative?

24 MS. CURRAN: NEPA requires  
25 consideration, -- does require considerations of

1 alternatives such as alternative energy supply, but  
2 within the proposed action it also requires the  
3 consideration of alternatives to avoid or mitigate  
4 adverse environmental impacts, for instance SAMA(s).  
5 And in this case we submit that because the NRC is  
6 offering applicants to propose their own alternative  
7 means of addressing this post Fukushima requirement  
8 that that is subject to consideration of alternatives  
9 under NEPA.

10 CHAIRMAN BOLLWERK: Well if there is no  
11 licensing action pending though, what, --

12 MS. CURRAN: In the context of license  
13 renewal, because that is pending.

14 CHAIRMAN BOLLWERK: Okay, right. But for  
15 a facility that does not have a license renewal  
16 pending and they are subject to an Enforcement Order  
17 generally they don't have that opportunity. So again  
18 we're, --

19 MS. CURRAN: Enforcement and licensing are  
20 completely different legal context. But what NEPA  
21 requires is that if design changes come out of an, --  
22 this is not a request for a hearing on an enforcement  
23 action, this is a request for hearings on proposed  
24 design changes that happen to come out of an  
25 enforcement action. That's where they come from, but

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1 we are not asking for a hearing on an enforcement  
2 action. We are asking for consideration in the  
3 Environmental Report of design modifications that will  
4 affect the impacts of operating Callaway. It is a  
5 very practical consideration which is what, -- NEPA's  
6 purpose is to include those practical considerations  
7 in the decision-making process and not put them off  
8 into some other legal category where they have no  
9 effect.

10 JUDGE TRIKOUROS: But you had indicated  
11 that the fact that each applicant is being left on  
12 their own to come up with modifications was important  
13 here in this context. And actually, you quoted a flex  
14 concept which I believe is documented in NEI-1206,  
15 that is really an effort to try and get all of the  
16 utility, -- the nuclear operators to do the same basic  
17 thing. So I'm a little bit confused by that, but we  
18 can come back to that. I don't think we need to  
19 address that right now.

20 CHAIRMAN BOLLWERK: I think you have gone  
21 through all the points that we had raised, -- or all  
22 the questions we had. You have not said anything  
23 about Contention 2 specifically, is there anything you  
24 want to, -- well we didn't ask any questions about  
25 that; anything you want to say about Contention 2?

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1 MS. CURRAN: Well Contention 2 is, -- I  
2 think the main issue there is that the other parties  
3 are saying that the federal approvals that are  
4 discussed in Section 51.45 are not, -- don't include  
5 NRC approvals. And we believe that there is nothing  
6 in the regulation that limits the regulation in that  
7 way. And that the approval of the seismic information  
8 is an important aspect, relevant to the environmental  
9 impacts of licensing operation during Callaway's  
10 license renewal term because of course, earthquake  
11 risks are an extremely significant aspect of  
12 environmental risks.

13 CHAIRMAN BOLLWERK: All right.

14 JUDGE FROEHLICH: On that, so you're  
15 equating like a response to an RAI or an Enforcement  
16 Order to the approval of a permit, a license, or some  
17 entitlement?

18 MS. CURRAN: Yes.

19 JUDGE FROEHLICH: Okay.

20 MS. CURRAN: Because the NRC has said we  
21 need to see this information; it is required  
22 information.

23 JUDGE FROEHLICH: Do you have any case law  
24 or support where the Commission has equated a response  
25 to an RAI to a permit or a license that is issued you

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1 know by another agency or it's required?

2 MS. CURRAN: Well first of all, this is  
3 not a response to an RAI, which is really a request  
4 for information to supplement a license application.  
5 This is the provision of information relevant to the  
6 environmental risks. It's a post Fukushima  
7 requirement. It is a new requirement that comes out  
8 of a determination that the NRC does not know enough  
9 about the seismic risks of operating nuclear plants,  
10 so that it is on a different level than other, -- it's  
11 a very different level than other information  
12 requests. It is not information to determine whether  
13 a plant is in compliance with its seismic design  
14 basis. It is an inquiry as to whether the seismic  
15 design basis is adequate. So this is an extremely  
16 important requirement that's highly relevant to  
17 environmental impacts.

18 JUDGE FROEHLICH: And on a power with a  
19 federal permit or a license from another agency?

20 MS. CURRAN: Federal approvals, yeah.

21 JUDGE FROEHLICH: Okay.

22 CHAIRMAN BOLLWERK: Let me pose one last  
23 question; back to Contention 1 again. We spoke just  
24 before the proceedings started about the Diablo Canyon  
25 Case, and in that case the Board, in one of the

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1 rulings they made basically said that ER(s) can't, --  
2 there is no mandate that an applicant can amend its ER  
3 for things that happened after the Environmental  
4 Report is filed. And as I mentioned to you, the  
5 Commission this morning had an affirmation session and  
6 basically let the Board's ruling stand; it did not  
7 take a petition that you had filed. What impact, if  
8 anything does that sort of ruling have that there is  
9 no requirement for the applicant to update their  
10 Environmental Report relative to things that happened  
11 after they file it have on this case?

12 MS. CURRAN: A couple of things. First of  
13 all, this is not new and significant information in  
14 the sense that in the Diablo Canyon Case the new and  
15 significant information consisted of the  
16 recommendations of the Fukushima Task Force that  
17 reached conclusions about the risks of operating  
18 nuclear plants and what should be done. And we said  
19 that was new and significant, -- I represented the  
20 Mothers for Peace in that case, and we said that is  
21 new and significant information.

22 This situation is more in the line of  
23 changed circumstances, which has not been ruled on.  
24 And changed circumstances typically are, -- do require  
25 an applicant to update its Environmental Report or

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1 application. In other words, if there is some new  
2 requirement that has to be addressed. It is very  
3 standard to amend an application to address that.  
4 It's not, -- for instance, new and significant  
5 information in our view, arises when something happens  
6 outside of the agency or outside of the regulatory  
7 process that has bearing on the decision-making  
8 process that arguably should be considered. But if  
9 the basic requirements for getting a license or for  
10 operating safely change, that's changed circumstances  
11 that simply requires you to adjust  
12 the, -- requires the applicant to adjust the  
13 application to address it.

14 JUDGE TRIKOUROS: Well I can quote the  
15 Applicant, they say "*None of the post Fukushima Orders*  
16 *or information requests can be categorized as*  
17 *approvals that must be obtained in connection with the*  
18 *proposed action*". You disagree with that?

19 MS. CURRAN: Yes. That is their  
20 interpretation of Section 51.45(d). But in terms of  
21 our interpretation of 51.92, which deals with new  
22 information and changed circumstances what we are  
23 saying is that new information is very different from  
24 changed circumstances, and that it is very standard to  
25 have to address changed circumstances.

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1 CHAIRMAN BOLLWERK: Anything further that  
2 anyone else has?

3 *(No audible response)*

4 CHAIRMAN BOLLWERK: Okay, you have gone  
5 through all of the questions and I take it that that  
6 is what you wanted to do?

7 MS. CURRAN: Yeah. Thank you.

8 CHAIRMAN BOLLWERK: All right, thank you.  
9 Let's then turn to the Applicant. And we had a lot of  
10 questions for Ms. Curran, and obviously went a little  
11 bit over the time we allotted to her, and we will  
12 certainly provide you the same flexibility obviously,  
13 in terms of what you need to talk about here. So I  
14 think we will have some questions, too.

15 MR. LEWIS: Thank you, Judge Bollwerk.  
16 Let me just start with the proposition that I heard  
17 from Ms. Curran, that the plain language of the rules  
18 that they are relying on require us to describe these  
19 modifications.

20 We disagree with that. We think the plain  
21 language clearly indicates that we do not have to  
22 include these. 10 CFR 50.53(c)(2) requires you to  
23 identify the proposed action. And within the proposed  
24 action those changes, -- those modifications to the  
25 plan or procedures that are required in accordance

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1 with 54.21(d), those provisions, -- and so the ties  
2 the modifications that you have to describe to those  
3 that you have to make under Part 54, which are those  
4 changes that might be made to manage aging. You might  
5 have a procedure change to manage aging. You might  
6 have to refurbish a component. Those have to be  
7 described under Part 54, and those are a part of the  
8 proposed action. And I think it is very clear when  
9 51.53(c)(2) identifies those kind of modifications as  
10 being part of the proposed action that it is defining  
11 the types of modifications that the Commission  
12 considers and wants to analyze. And by exclusion,  
13 other modifications which are unrelated to what you  
14 are doing under Part 54 do not have to be included.

15 The same is true under 51.54(d), you have  
16 to identify the approval is required in connection  
17 with the proposed action. Here there is simply no  
18 connection. This is not an approval that we need to  
19 get to obtain license renewal. The NRC is imposing  
20 these post Fukushima requirements entirely independent  
21 of license renewal. We would have to meet these even  
22 if we did not apply if we want to continue to operate.  
23 There is no causal connection. And in fact, it has  
24 always been recognized that NEPA requires a causal  
25 connection that is similar to proximate cause. There

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1 has to be some connection between an effect and a  
2 proposed action for it to be considered as a part of  
3 the proposed action. That is just entirely absent  
4 here.

5 It is true that the Applicant has to  
6 describe the impacts of the proposed action, but some  
7 of those impacts have been assessed generically. And  
8 what the NRC has done is it has identified a specific  
9 set of impacts that have to be described. And they  
10 are identified in 51.53(c)(3). There are a number of  
11 Category II issues.

12 The identification of severe accident  
13 mitigation alternatives is one of those issues that we  
14 have to address, but MCE's reply specifically says we  
15 are not taking issue with that. The only thing I've  
16 heard them say is that you have to identify these  
17 modifications because they will change the level of  
18 risk. But that is an issue actually, that we do not  
19 as an Applicant have to address in our ER; that is  
20 subject to a generic determination in the GEIS that  
21 the probability-weighted consequences of severe  
22 accidents are small for all plants. And in fact, the  
23 Pilgrim Case, which we cite in our Answer, the  
24 Commission made it clear that that has been determined  
25 generically.

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1 I think what is also very significant here  
2 is the Missouri Coalition has not provided any  
3 explanation or indication how that finding could  
4 change, and certainly how that finding, -- how the  
5 impact could increase. These are actions that reduce  
6 risks. They reduce you know the potential  
7 consequences or potential probability of an accident.  
8 They are not going to cause an increase in any  
9 environmental impact that is identified in the GEIS,  
10 or an increase in any environmental impact that is  
11 identified in our ER.

12 The Coalition argues NEPA requires them to  
13 look at alternatives to these imposed requirements.  
14 Well that is not true even in the abstract. NEPA  
15 requires you to analyze the environmental impacts of  
16 a proposed action that significantly affects the  
17 environment. If the Commission were in deed ordering  
18 us to do something that caused a significant  
19 environmental impact to the environment; you know  
20 changing the method of cooling the, -- you know  
21 putting in a, -- a plant with cooling power is going  
22 to new cooling, because it is more reliable, would  
23 obviously have a significant impact and you have to  
24 analyze alternatives. But here the only thing that  
25 the Commission is doing is requiring the Applicant to

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1 identify some things that reduce risks. It is  
2 absolutely not true that NEPA requires you to, -- or  
3 gives the Missouri Coalition the chance to require  
4 analysis of different ways to reduce impacts. That is  
5 just not what NEPA requires.

6 Let me turn briefly to your questions.

7 JUDGE TRIKOUROS: Before you do, --

8 MR. LEWIS: Yes.

9 JUDGE TRIKOUROS: -- let me embellish a  
10 little bit. With respect to the Commission's  
11 intentions with respect to this BA and related  
12 actions, I believe they indicate that this is Phase I,  
13 basically gathering information, with Phase II being  
14 a decision as to whether or not the design basis of  
15 the plant should be changed. Now if the Commission  
16 decides that the design basis of the plant needs to be  
17 expanded would that then, -- the results of this Order  
18 in terms of modifications, would that fall under this  
19 license renewal action at that point?

20 MR. LEWIS: Actually it could, because the  
21 rules in Part 54 require you to identify those CLB  
22 changes every year in an Annual Amendment that  
23 materially alter the application. Currently EA-12-049  
24 is requiring you to mitigate beyond design basis  
25 events. So what you propose to do in response to EA-

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1 12-049 is not going to create new safety-related  
2 equipment. It is not creating new design basis  
3 events. It is not creating new equipment within the  
4 scope of license renewal. The scope of license  
5 renewal relates to, -- in Part 54, that equipment that  
6 is relied on, -- that safety-related equipment that is  
7 relied on to prevent or mitigate a design basis event,  
8 non-safety-related equipment that whose failure could  
9 cause safety-related equipment to fail or certain  
10 classes of equipment that are relied on to meet fire  
11 protection, ATWAS, station blackout, something else,  
12 -- the four rules, -- EQ, not encompassing anything in  
13 the scope of EA-12-049.

14 If the Commission actually had required,  
15 -- or in the future says yes, we are now creating new  
16 design basis events and you now have to treat these as  
17 a design basis event and have safety-related equipment  
18 to prevent or mitigate it, you would in fact be adding  
19 equipment to the scope of, -- equipment important to  
20 license renewal. In Part 54 you would have to  
21 identify those CLB changes in your application. That  
22 is just not the case here. But if that kind of  
23 situation occurred the answer to your question is yes.

24 JUDGE TRIKOUROS: Or if the regulation  
25 that you've just quoted that brought in EQ(s), station

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1 blackout, you know the non-design, -- the design basis  
2 events that are not design basis events or whatever  
3 you want to call them, --

4 MR. LEWIS: Yes. If the Commission  
5 amended that rule, yes.

6 JUDGE TRIKOUROS: And that may or may not  
7 happen, but if it does you agree that then a lot of  
8 these arguments that are being proposed here would  
9 then be true, the license renewal would be affected?

10 MR. LEWIS: At that point in time.

11 JUDGE TRIKOUROS: At that point in time  
12 right, according to your, -- that's the question I'm  
13 asking, at that point in time?

14 MR. LEWIS: There was a similar situation  
15 in the McGuire-Catawba license renewal proceeding, and  
16 I can find the citation at a break. But there was an  
17 assertion that license renewal needed to consider the  
18 possibility if a plant would burn you know mock fuel  
19 in the future. And there was a reference to the fact  
20 that there was a need to analyze potential changes to  
21 the CLB. And the Commission said that refers to  
22 changes to the CLB that has occurred. We are not  
23 going to, -- you know there is nothing that requires  
24 an applicant to address the possibility of future  
25 changes to the CLB that at this point are inchoate.

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1 And that is the exact situation here.

2 JUDGE TRIKOUROS: I understand.

3 CHAIRMAN BOLLWERK: So in part we are back  
4 to a question of timing here, in terms of, -- although  
5 you all, obviously depending on if this were to be put  
6 into the rule, and you've already gone through the  
7 process, then you've made it in the sense that you've  
8 gotten by without having to analyze it because the  
9 rule came after your License Renewal Application was  
10 put in place. If that were to play out that would be,  
11 --

12 MR. LEWIS: If there were a CLB change  
13 like that or it would probably require a license  
14 amendment and it would be a separate proceeding, -- or  
15 it would be a generic requirement that the NRC would  
16 analyze that.

17 CHAIRMAN BOLLWERK: Right. So you would  
18 have to analyze it as a part of the license renewal?

19 MR. LEWIS: I would assume so, depending  
20 on what the change is. And that is very speculative,  
21 and that is actually another reason why you would not  
22 want to try and get into this, you would not know what  
23 those changes are. I don't think you could even  
24 handle that situation now, nor should you be waiting  
25 for something that's a mere possibility.

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1           With respect to the timing, your  
2 question, -- one of your questions was you know does  
3 the timing of the License Renewal Application you know  
4 make a difference? And I would submit to you it makes  
5 absolutely no difference. The issue here is not the  
6 timing of the application, the issue here is that EA-  
7 12-049 and these other requirements are not part of  
8 license renewal. They are not causally connected to  
9 license renewal.

10           I believe I heard Ms. Curran suggest that  
11 if a License Renewal Application were filed after  
12 these changes had been already made, at that point  
13 they would get brought in and you would have to  
14 analyze alternatives after the fact. That makes no  
15 sense whatsoever. You know and the reason is again,  
16 is it is simply unrelated to license renewal. So it  
17 is not a matter of when the application is filed. If  
18 we had filed our application next year after we had  
19 described these proposed modifications they would be  
20 no more within the scope; they would be no more  
21 causally related. You know perhaps they would  
22 eliminate some uncertainty in the claims of the  
23 opponent, but I think all that they would show in  
24 fact, is that there is no environmental impact from  
25 the changes, all they do is reduce risks. And they

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1 would not materially alter any finding in the GEIS,  
2 and they would not materially alter anything in our  
3 Environmental Report.

4           With respect to the TMI Policy Statement  
5 that you inquired about, and its difference in  
6 the, -- as opposed to the two Enforcement Orders; the  
7 one after 9/11 and the one after the Fukushima  
8 accident, the Policy Statement and these Orders are  
9 not the real question. The real question is what's  
10 within the scope of license renewal? In the Policy  
11 Statement the Commission was licensing a new plant or  
12 licensing new plants. And it was applying this Policy  
13 Statement to the licensing of a new plant. And they  
14 make a broad finding of reasonable assurance that a  
15 new plant operation would be consistent with public  
16 health and safety. And so they allowed their TMI  
17 Action Plan measures to be contested to a certain  
18 extent, in individual licensing proceedings because  
19 the scope was broader than the constraint.

20           In license renewal the Commission has  
21 specifically limited the scope to aging, -- managing  
22 the effects of aging. And has specifically said that  
23 all other issues, including the adequacy of the CLB,  
24 the operational safety of the plant, are outside the  
25 scope of the license renewal and are not subject to be

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1 contested. That is the real significance here and not  
2 the scope of the Policy Statement or the scope of the  
3 Enforcement Orders.

4 CHAIRMAN BOLLWERK: I don't want to put  
5 words in her mouth, but I think I heard Ms. Curran say  
6 that that only applies on the safety side, not on the  
7 NEPA side?

8 MR. LEWIS: Yes I think that is true, but  
9 on the NEPA side again, our obligation is to analyze  
10 Category II issues. Here there is no showing that  
11 this Enforcement Order is going to affect any Category  
12 II issue. The Coalition has specifically disclaimed  
13 challenging our SAMA analysis. The only issue again  
14 they say is it may affect risk. That is an issue that  
15 has been generically determined. You know perhaps  
16 yes, if there were in deed an Order that would  
17 materially increase an impact that was assessed in our  
18 ER it would be required to be analyzed. Of if there  
19 was a change that materially increased one of the  
20 generic findings of impact in the GEIS it could be put  
21 forth as significant new information and an opponent  
22 could seek a waiver.

23 But that is not the case here again.  
24 These are measures that in the end will do nothing  
25 more than reduce risk. It is not going to increase an

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1 impact. It is not going to be, -- the probability-  
2 weighted consequences of a severe accident is now not  
3 going to be large as a result of this. And as the  
4 Commission has determined generically, it's small.  
5 And here, the Coalition has not made any showing that  
6 that generic finding would be affected.

7 CHAIRMAN BOLLWERK: You're making an  
8 interesting argument. Arguably, -- again, this is one  
9 of the things that Pilgrim, -- what I think is being  
10 heard today. But under the Enforcement Order in the  
11 Balatti Case the only thing that you can really  
12 contest in an enforcement action are something that in  
13 fact you say increases risk and therefore you need to  
14 fall back, -- do away with whatever the staff is  
15 proposing to be done, and go back to the baseline that  
16 you already had. You can't ask for newer measures,  
17 you can't ask for the X, Y or Z. You have to say  
18 staff says (A), (A) is bad, you need to get rid of  
19 (A). Now you're saying that if there is increased  
20 risks then you can analyze this under NEPA, even  
21 though you couldn't under the Enforcement Order, if  
22 I'm understanding where you're going with this?

23 MR. LEWIS: I think under the Balatti  
24 decision when the Commission has defined the scope of  
25 an Enforcement Order as, --

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1 CHAIRMAN BOLLWERK: Or the Order has been  
2 sustained?

3 MR. LEWIS: -- and the Order has been  
4 sustained, the only issue that you can raise is  
5 whether the, -- it should be sustained. And you  
6 cannot argue that more should be done.

7 CHAIRMAN BOLLWERK: Right. But you can  
8 certainly argue that what you are about to do is bad  
9 and you should get rid of it?

10 MR. LEWIS: Yes. And so if there is a  
11 requirement to do something that in fact would  
12 increase risk and would subject the public to adverse  
13 consequences, you could say that's a bad idea and  
14 should be opposed. Again, here I think though that  
15 you know there is no allegation that being able to  
16 mitigate beyond design basis events for longer periods  
17 of time is bad and harms the public. I guess if when  
18 we submit our plan if we were in fact you know  
19 proposing something that increased overall severe  
20 accident risk you know that might be a different  
21 situation. I don't think that Ameren is going to  
22 propose a measure in response to 12-049 that increases  
23 severe accident risk.

24 JUDGE TRIKOUROS: I think that this post  
25 Fukushima licensing world is like a moving train. The

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1 Intervenor don't want, -- they understand the safety  
2 significance, --

3 CHAIRMAN BOLLWERK: Right, the train is  
4 pulling out of the station and they want to be on it.

5 JUDGE TRIKOUROS: Yes, there is serious  
6 safety significance here. They know that. The train  
7 is moving they want to be latched to that train. This  
8 Contention is sort of an effort to do that and there  
9 are premature arguments being raised.

10 After, -- I think it's 50.54(h(h), the  
11 fire, -- large explosion requirements, people put, --  
12 and after 9/11, people put equipment in place to deal  
13 with that. And right after Fukushima the staff did an  
14 evaluation of that and found that that equipment had  
15 been, -- you know it wasn't even there in many  
16 instances, or in other instances was there, but nobody  
17 knew how to use it. And they've corrected that in  
18 this effort by throwing training requirements,  
19 procedural requirements, et cetera, -- inspection  
20 requirements are all being included. So they learned  
21 from that mistake.

22 Somewhere along the line this train is  
23 going to go into the realm of design basis. Clearly  
24 that is the direction it's going; at least in my view,  
25 and I think you know they've actually basically said

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1 that and at least eluded to that. So the question  
2 really here is do we have a premature contention? And  
3 I think we have to wrestle with that question. But  
4 the Intervenors are trying to argue that it is not  
5 premature. You're arguing that it's not, -- it should  
6 be, -- that it doesn't apply at all.

7 MR. LEWIS: Yes, I agree it is not  
8 premature. I'm arguing it's outside scope and this is  
9 the wrong forum. And yes, the members of the public  
10 and individuals may have great interest in the post  
11 Fukushima requirements, and they should do so by you  
12 know expressing their views to the Commission. And  
13 after an applicant proposes their modifications if  
14 they think they are wrong they should raise those  
15 concerns with the staff. Whether they will have a  
16 hearing opportunity I think would depend on you know  
17 what those modifications are; if they involved a  
18 license amendment. I guess which is conceivable if  
19 they involved an un-reviewed safety question they  
20 would involve a license amendment. If they didn't,  
21 they won't. But I think it is clearly improper for  
22 them to be trying to hitch that issue to this wagon,  
23 there is no causal relation.

24 JUDGE FROEHLICH: If they hitched it to  
25 the Company's response to the Commission's Order would

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1 the Company be objecting to their contention? Not  
2 going to the merits of the contention, but the timing  
3 of that contention? If we say to them, -- and Ms.  
4 Curran expressed a concern that they have to respond  
5 as early as possible; they want to raise the flag.  
6 I'm saying if they raised this flag in response to  
7 your filing will you oppose it on a timing basis; that  
8 it's too late?

9 MR. LEWIS: I believe that if our  
10 Compliance Plan identified a modification to the  
11 facility that was required to be included under 54.21,  
12 -- let me make sure I have the right, -- be included  
13 in our application under 54.21, and there was some you  
14 know reason for objecting to that, there would be good  
15 cause. Now whether they have a valid contention or  
16 met all the other standards, but yes, in the future if  
17 we identify a change that materially alters our  
18 application and as a result, under 54.21 we have to  
19 amend our application as that rule provides, it would  
20 seem to me that it would be good cause at a minimum.  
21 And you know a lot of other issues though to decide at  
22 that point.

23 JUDGE FROEHLICH: And on the merits you  
24 would address the scope and the other issues?

25 MR. LEWIS: Yes.



1 CHAIRMAN BOLLWERK: Do you want to say  
2 anything about how this plays into the question of  
3 ER(s) having to be amended or not?

4 MR. LEWIS: I have not read the decision.  
5 It is true that there is generally not an ER updating  
6 requirement like there is an FS error updating  
7 requirement. But I've always believed that there is  
8 an obligation to tell the NRC if your application is  
9 materially wrong, or there is material information  
10 that affects it. So whether you have to amend your ER  
11 you know perhaps is the wrong issue. I think you  
12 would definitely have to disclose it to the staff on  
13 the docket. If the staff had done their Draft  
14 Environmental Impact Statement and it affected that,  
15 they would have to supplement that draft. And so  
16 perhaps it does not require an amendment to the ER,  
17 but it would have to get in the NEPA review somehow.  
18 Again, I have not read this morning's decision, so I'm  
19 not sure of any, --

20 CHAIRMAN BOLLWERK: Well actually I think  
21 all the decision says, if I'm understanding it is they  
22 are not taking review of what the Board certified,  
23 which is a question about whether ER(s) have to be  
24 amended or Ms. Curran's Petition for Interlocutory  
25 Review. So I don't think it says a whole lot.

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1 JUDGE FROEHLICH: There is also a dissent  
2 by the Chairman from the Order, and he gives separate  
3 reasons he's responding to, --

4 CHAIRMAN BOLLWERK: That's neither here  
5 nor there. Okay. All right, anything further that  
6 you want to tell us at this point?

7 JUDGE TRIKOUROS: I just wanted, --

8 CHAIRMAN BOLLWERK: Go ahead.

9 JUDGE TRIKOUROS: -- I wanted to clarify  
10 one thing. Any of the system structures and  
11 components that come out of this EA-12-049 are not  
12 going to be looked at from the point of view that's of  
13 aging management, correct? The Applicant is not  
14 planning to include any of those in the Aging  
15 Management Program?

16 MR. LEWIS: I believe that's correct, not  
17 as a part of license renewal. Again, that equipment  
18 would not be within the scope of license renewal as  
19 defined in Part 54.

20 JUDGE TRIKOUROS: Okay.

21 CHAIRMAN BOLLWERK: And I take it that  
22 sort of deals with Question D we asked as well, which  
23 is what is the relevance of anything of what's in the  
24 staff's guidance, -- Interim Guidance, or the NEI Flex  
25 Plan, I guess it is sort of cited there as?

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1 MR. LEWIS: I think the only relevance of  
2 you know what is described in the Flex Plan right now  
3 is you know undercutting any speculation at this point  
4 that there is going to be modifications that result in  
5 significant environmental impacts. And again, there  
6 has certainly not been any basis you know put forward  
7 by the Missouri Coalition that there is going to be  
8 something that requires a major modification.

9 For example, a big part of the evaluation  
10 is, is there a flooding risk that needs to be  
11 mitigated? Well Callaway is on a high plateau, it's  
12 300 feet above the highest flood level of the river.  
13 It's 250 feet above the flood plains of the nearest  
14 creeks. And that's in the FSA, or they could have  
15 looked it up. Being on a plateau where the slopes  
16 actually slope away there is terrific run-off. You  
17 know this is not going to be a site, -- and certainly  
18 there is no basis suggested where you know we need to  
19 build dikes or dams or, -- that kind of factual  
20 predicate for the speculation that is offered is  
21 entirely lacking here.

22 Instead, what this Flex Plan shows is that  
23 what you're trying to do is have portable equipment  
24 that you can stage nearby that you can hook up that is  
25 going to reduce risk, allow you to cope with a severe

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1 accident you know longer than you could now. Again,  
2 all that suggests to any reasonable reader is that you  
3 know this is only going to be you know changes, -- you  
4 know the staging of equipment that is going to reduce  
5 risk, not cause an increase in any environmental  
6 impact.

7 CHAIRMAN BOLLWERK: All right, any other  
8 questions that the Board has?

9 JUDGE TRIKOUROS: No, not right now.

10 CHAIRMAN BOLLWERK: All right, are you  
11 finished sir?

12 MR. LEWIS: Yes.

13 CHAIRMAN BOLLWERK: All right, thank you.  
14 Let's turn to the staff then.

15 MS. CURRAN: Excuse me.

16 CHAIRMAN BOLLWERK: Oh sure.

17 MS. CURRAN: Judge Bollwerk, could we ask  
18 for a ten minute break?

19 CHAIRMAN BOLLWERK: Sure. We were going  
20 to do it after we were done with the Contention, but  
21 maybe this is a good time.

22 MS. CURRAN: It would be for me.

23 CHAIRMAN BOLLWERK: That's fine. Let's go  
24 ahead and take a ten minute break and we'll come back  
25 and start with the staff.

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1                   *[Whereupon, at 10:29 a.m. the hearing was*  
2                   *recessed, to reconvene this same day at 10:39 a.m.]*

3                   CHAIRMAN BOLLWERK: All right, let's go  
4                   back on the record please. All right, we had a brief  
5                   break and we are ready to start with the staff's  
6                   response. Before we do however the Applicant's  
7                   counsel wanted to add one citation to the record just  
8                   for clarification purposes.

9                   MR. LEWIS: Yes, I referred to a  
10                  Commission decision in McGuire-Catawba and said I  
11                  could find the citation. It is CLI02-1455 NRC at 278.

12                 CHAIRMAN BOLLWERK: All right, thank you  
13                 sir. All right, let's hear the staff then. Many  
14                 interesting ideas on the table here, what do you have  
15                 to contribute, -- what are you going to tell us?

16                 MS. SPENCER: Good morning your Honors.  
17                 I'm Mary Spencer and I represent the NRC Staff. I  
18                 guess one point, -- before I was going to focus my  
19                 presentation exclusively on the questions that the  
20                 Board posed about Contention 1 in its June 1st Order,  
21                 but I guess one thing that has come up and it's  
22                 perhaps, more for clarification of the audience than  
23                 for the Board, the difference between the Order, --  
24                 and the Order is the subject of Contention 1.

25                 Contention 1 claims that there needs to be

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1 information about compliance with the Order and the  
2 Environmental Report, whereas Contention 2 talks about  
3 both the Order and the 50.54 Information Request. And  
4 I think one matter that has not been made clear this  
5 morning is that the Order was issued and the Order is  
6 immediately effective and imposes the requirements, --  
7 the requirements are immediately effective. The Order  
8 is immediately effective, but the parties have time,  
9 -- the licensees have time to come into compliance.  
10 So there is no further licensing action contemplated  
11 in the sense that the Order, -- the requirements of  
12 the Order are immediately effective. There is just  
13 additional time for compliance, which is no different  
14 than a lot of rules that the Commission issues, in  
15 that the rule may be effective in 30 days, but then  
16 licensees have perhaps, two years to come into  
17 compliance with the regulation.

18 So for purposes of NEPA you know the NEPA  
19 would attach to the Order. However under the  
20 Commission's regulation 51.10(d) which incorporates  
21 CEQ regulations there is no NEPA analysis performed  
22 for Orders. And that has been true throughout the  
23 history of the NRC. If you look at the Orders from  
24 9/11 you will see no discussion of NEPA. And if you  
25 look back to Orders that were issued around the time

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1 of TMI, although the Action Plan refers to Orders, --  
2 I mean there were Orders and Bulletins issued  
3 following TMI, in addition to the TMI Action Plan.  
4 And some of those are discussed in the TMI Action Plan  
5 itself.

6 And so the other matter is that the  
7 issuance of this Order, -- of the Order EA-049, does  
8 not change the proposed action. I mean here we are  
9 still talking about the proposed action, which is to  
10 renew the operating license for Callaway Plant, and  
11 that is looking at twenty additional years of the  
12 potential environmental impacts, twenty additional  
13 years of operation, which would be 2024 until 2044.

14 So turning to the Board's Question Number  
15 1, following TMI the Commission issued a Policy  
16 Statement which provided guidance on litigation of TMI  
17 safety issues and power reactor operating license  
18 proceedings. The Commission did not issue any such  
19 Policy Statement after 9/11, and continued to follow  
20 its Part II procedures. And this was notwithstanding  
21 a request to suspend licensing actions following 9/11.

22 It is important to keep in mind that 1980  
23 was a different time than post 9/11 and the post  
24 Fukushima time, because at that time many of the  
25 nuclear reactors currently operating in the United

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1 States were not yet licensed. And that would be  
2 Callaway included, because Callaway did not receive  
3 its operating license until 1984. So the Commission  
4 was still, -- and the Commission staff was still in  
5 the process of reviewing a lot of licenses, --  
6 operating licenses, and they were still proceeding to  
7 go on.

8 In CLI1105 the Commission recounted its  
9 response to both TMI and 9/11. And you know as noted  
10 there, -- and the Commission issued a series of Policy  
11 Statements in the post TMI time frame providing  
12 guidance to licensing boards on litigation of TMI  
13 safety issues. And in providing that guidance the  
14 Commission stated that the existing procedural  
15 requirements for filing contentions, such as  
16 timeliness and specificity, would still apply. And  
17 you know specifically, as noted by the Board, the  
18 Commission authorized some challenges to the guidance  
19 provided in the TMI Action Plan. But I would note  
20 that the word requirement, -- there is a reference to  
21 the word requirements of the TMI Action Plan, but  
22 there was a later Commission decision, CLI81-5 that  
23 indicated that New Reg. 0737, which is the TMI Action  
24 Plan Clarification, did not impose legally binding  
25 requirements in and of itself. Also in CLI1105 the

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1 Commission observed that TMI related issues were  
2 litigated in very few operating reactor proceedings.  
3 And then as you know, the Policy Statement was  
4 rescinded in 1989.

5 The Commission's response to Fukushima is  
6 very similar to its response to 9/11. The Commission  
7 is conducting, and has conducted, and is continuing to  
8 conduct a systematic review of its regulatory  
9 requirements and intends to imply any of those  
10 requirements to all licensees, regardless of whether  
11 they have cold or are applying for renewed licenses.

12 In CLI1105 the Commission refused to  
13 establish special procedures for litigation of  
14 Fukushima contentions, -- Fukushima related issues in  
15 proceedings. They did not think it was necessary at  
16 that time to do so, and they did not preclude the  
17 possibility of it occurring in the future, but they  
18 said they saw no need at that time. And they did  
19 state that to the extent Fukushima events provide the  
20 basis for contentions appropriate for litigation in  
21 individual proceedings the Commission's procedural  
22 rules contain ample provisions for litigants to seek  
23 admission of such contentions.

24 The other point to be made in connection  
25 with this is that numerous licensing boards have

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1 concluded that contentions seeking to impose stricter  
2 requirements or requirements beyond the regulations  
3 are not admissible. And also contentions challenging  
4 the Commission's regulations are generally  
5 inadmissible.

6 Turning to the second question with regard  
7 to amendments to the application, whether Ameren has  
8 any duty to amend its application, as discussed by  
9 Ameren's counsel, under 54.21(b) the applicants must  
10 submit an annual update if there are changes to the  
11 current licensing basis that materially affect the  
12 contents of the LRA. There is no similar provision  
13 requiring, -- specifically requiring the Applicant to  
14 update the Environmental Report. But as Mr. Lewis  
15 pointed out there is a duty to ensure that the  
16 information provided to the NRC is complete and  
17 accurate. And so that could in theory prepare an  
18 avenue for an applicant to feel a need to supplement.

19 Of course the staff can ask for RAI(s),  
20 and staff's position of course, is that there is no  
21 specific explicit regulatory requirement that  
22 applicants update their Environmental Report, because  
23 that report is really intended to assist the NRC staff  
24 in fulfilling its NEPA obligations.

25 As far as supplementing a draft EIS or a

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1 final EIS, the Commission's regulations established  
2 standards for when those things need to occur. And  
3 they are when there is a substantial change in the  
4 proposed action that is relevant to environmental  
5 concerns, or there are new circumstances or  
6 information relevant to environmental concerns bearing  
7 on the proposed action or its impacts.

8           You also asked about when the staff may  
9 supplement an SER with open items or an SER, -- a  
10 final SER. And generally I think there is no  
11 regulatory standard established for that like there is  
12 for supplementation of EIS(s). But in practice, if an  
13 applicant substantially modifies its application that  
14 would generally require a supplement. Also if the  
15 staff became aware of operating experience or an  
16 error, -- some issue they could, -- and it has been  
17 done, to supplement an SER, even a final SER, when the  
18 staff becomes aware of a new or emerging issue that  
19 needs to be addressed.

20           With respect to future timing of the  
21 submissions, the staff believes that the arguments we  
22 made in our Answer to the Petition apply with equal  
23 force to a License Renewal Application submitted  
24 either after February 2013 or in 2016. These matters  
25 have simply no nexus between these Orders and license

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1 renewal. And this is unrelated. In fact yes, we do  
2 not disagree with Petitioners that NEPA, for purpose  
3 of license renewal is not limited to the scope of our  
4 safety review. But it is limited to the environmental  
5 impacts of an additional twenty years of operation.  
6 And the Orders must be complied with. Callaway must  
7 be in compliance with Order EA-049 by December 31,  
8 2016, regardless of whether the renewed license is  
9 granted. And every other plant in the United States  
10 that received this Order; and all operating plants  
11 received it, must be in compliance by 2016, regardless  
12 of whether they have a renewed license or they are  
13 seeking a renewed license. And so the timing of the  
14 application in our view is not relevant.

15 Finally, with respect to the Interim Staff  
16 Guidance we think that that generally supports our  
17 view; that there is no nexus, but you know petitioners  
18 are obviously under an obligation to amend their  
19 contention if they believe that those documents  
20 provide support for the contention that they have.

21 And so ultimately the Petitioners just  
22 simply have not provided any basis for their assertion  
23 that the Order which is intended to enhance the  
24 mitigation of severe accidents and improve safety  
25 could result in greater environmental impacts during

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1 the proposed period of extended operation. And they  
2 simply have not demonstrated that there is a nexus  
3 between the Order and compliance of that Order, and  
4 license renewal. And that's the McGuire citation that  
5 Mr. Lewis provided at the beginning of our session.

6 JUDGE TRIKOUROS: Is EA-12-049 considered  
7 part of the current licensing basis for the plant?

8 MS. SPENCER: Yes. I would say that it  
9 would be considered. It is a requirement, they don't  
10 have to, -- I believe that it would be considered,  
11 it's just something that they don't have to be in  
12 compliance with at this point because they are, --  
13 they have time provided under the rules to come into  
14 compliance, whereas the 50.54(f) letters would  
15 certainly not be.

16 JUDGE TRIKOUROS: But it will be part of  
17 the current, -- you're saying yes, it is part of the  
18 current plant?

19 MS. SPENCER: It will be. It will be in  
20 the sense if they haven't implemented the  
21 requirements. I mean it's a current requirement in  
22 the sense that the Order is immediately effective and  
23 they need to be working on compliance in accordance  
24 with the schedule established by the Order.

25 JUDGE TRIKOUROS: The license renewal

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1 requirement is to preserve the current licensing basis  
2 throughout the additional twenty year renewal, so how  
3 does that exclude the Order, -- the modifications that  
4 may come out of the Order?

5 MS. SPENCER: Well it doesn't exclude them  
6 so much as it doesn't, -- it isn't within the scope of  
7 proposed action, which is to look at the environmental  
8 impacts for an additional twenty years of operation,  
9 and in looking at the modifications at the facilities  
10 that are being done attendant on license renewal. It  
11 is not part of the proposed action in this case,  
12 because the proposed action is to look at the  
13 additional impacts of the twenty years of extended  
14 operation. And this has no nexus to that. This Order  
15 is a separate action from the license renewal action.

16 CHAIRMAN BOLLWERK: I mean your argument  
17 is basically whether they renew or not they still have  
18 to comply, therefore it has nothing to do with license  
19 renewal?

20 MS. SPENCER: Yes.

21 JUDGE TRIKOUROS: It is somewhat  
22 convoluted though, because of the statements that are  
23 made in the regulations. It is not clear to me that  
24 CLB actually means design basis. But if I asked you  
25 that same question with respect to design basis, --

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1 well I know the answer, but I'll ask it anyway, is  
2 this Order and the result of this Order going to be  
3 part of the plant design basis?

4 MS. SPENCER: I think it would be.

5 JUDGE TRIKOUROS: Will be?

6 MS. SPENCER: It will be, yes.

7 JUDGE TRIKOUROS: That's a yes?

8 MS. SPENCER: I believe that's a yes,  
9 because they will be making changes, -- presumably  
10 they will be making changes to the design basis in  
11 order to comply with this. What that exactly is going  
12 to entail and what that is right now we don't know.  
13 But it's not unusual for the NRC anymore, the  
14 Commission has gone to you know performance based  
15 regulations, so if you look at 50.54(h)(h) for  
16 example, that we've been talking about earlier, it  
17 simply says you know have strategies, have procedures  
18 to deal with large fires and explosions. It doesn't  
19 tell licensees exactly how to do it, and that is the  
20 same thing with some of the Part 73 regulations that  
21 were put in to make the Orders from post 9/11  
22 generally applicable. They simply tell licensees to  
23 ensure that, -- meet certain requirements, have  
24 certain capabilities, but they do not tell the  
25 licensees how to obtain those capabilities.

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1 JUDGE TRIKOUROS: And to further add to  
2 the confusion the severe accidents in license renewal  
3 space are identified as very small safety risks, and  
4 yet, we are going through this massive effort post  
5 Fukushima to do required severe accident  
6 modifications. Not recommended or requested, but I  
7 mean required severe accident modifications. We are  
8 left with things hanging out. Now I understand the  
9 Commission is probably looking at how to integrate all  
10 of this, but you know we are left right now with  
11 disparity things.

12 MS. SPENCER: That is not necessarily a  
13 new thing though. As I believe you, Judge Trikouros  
14 mentioned earlier, that we have, -- the Commission  
15 already has certain regulations that are, -- address  
16 beyond design basis or severe accident scenarios.  
17 Beyond design basis for sure with the Station Blackout  
18 Rule, but also the ATWAS, and there are, -- and  
19 50.54(h) (h) would also be considered severe accident  
20 scenario; that it would be beyond design basis. So I  
21 guess the Commission is acting expeditiously in areas  
22 that it believes are necessary for reasonable  
23 assurance, but that does not necessarily mean that  
24 they are not going to follow up with Task Force  
25 Recommendation 1 to make the regulations more

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1 comprehensive and more, -- or clearer about how  
2 different types of accidents should be treated.

3 JUDGE TRIKOUROS: Okay.

4 CHAIRMAN BOLLWERK: Well I think part of  
5 the Intervenor's argument though, if I heard it  
6 correctly, was that their concern is the cart and the  
7 horse here, and the cart is way before the horse. If  
8 the Commission wants to do rulemaking that's fine, do  
9 the rulemaking and I'll comment on it and what comes  
10 out of that, comes out of it. But actually what  
11 you're doing is taking the actions first and putting  
12 the rule in place second, and that leaves them out of  
13 the picture in terms of their ability when the changes  
14 are being made, which may be some time well before the  
15 rule, how do they become part of the process?

16 MS. SPENCER: Well I think what you said  
17 is correct it's what was done after 9/11. And I think  
18 the concern is that the staff, -- the Commission  
19 determined that the requirements imposed by the Order  
20 were necessary for reasonable assurance of adequate  
21 protection. And under the Atomic Energy Act the  
22 Commission is duty bound to provide reasonable  
23 assurance of adequate protection, and I guess if you  
24 were to follow through with the Petitioner's argument  
25 you would say well it's more important to have public

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1 participation than it is to address what the  
2 Commission has identified to be as actions necessary  
3 for reasonable assurance of adequate protection to  
4 wait. And that is not something that the Commission  
5 chose to do at this time. And that is probably part  
6 of the reason why the Commission rarely does go down  
7 the road of issuing Orders. It is not a common thing  
8 for the Commission to do. But where the Commission  
9 believes it is necessary to take those measures and  
10 impose them by Order, and then subsequently follow up  
11 with rulemaking, that's possible.

12 I mean the Commission does of course,  
13 offer an opportunity to challenge our Orders. And as  
14 we discussed earlier with the Balatti Case that that  
15 challenge, -- the ability to challenge may be somewhat  
16 limited because the Commission gets to define the  
17 scope to whether the Order should be sustained, but  
18 it's a matter of the process.

19 CHAIRMAN BOLLWERK: But I think Ms.  
20 Curran's point is until the staff, -- until the  
21 Applicant, -- I'm sorry until the Agency does the  
22 rulemaking that leaves questions open for cases like  
23 this where it is not covered. And why can't she hold  
24 the Agency's feet to the fire and say NEPA still has  
25 a requirement here. You have not foreclosed it or

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1 dealt with it on the rulemaking side, the Order side  
2 does not tell us anything about how it applies here  
3 therefore we get to litigate this here?

4 MS. SPENCER: Well I think you could view  
5 that perhaps, then, as a challenge to the rule, but it  
6 states that Enforcement Orders are not subject to a  
7 NEPA review.

8 CHAIRMAN BOLLWERK: Yeah, but we are not  
9 in an Enforcement Order case, that's her whole point.

10 MS. SPENCER: No, we are not. But she  
11 needs to show that, -- Petitioners need to show that  
12 this is somehow, -- has a nexus to, and is within the  
13 scope of this proceeding, and they have not done that.

14 CHAIRMAN BOLLWERK: Okay, I think we are  
15 back to the same point. Okay, any other questions?  
16 *(No audible response)*

17 CHAIRMAN BOLLWERK: Anything you want to  
18 say about Contention 2?

19 MS. SPENCER: Well I think that the only  
20 other additional point that the staff would make on  
21 Contention 2 is that there have been a number of cases  
22 that have litigated whether a applicant can provide  
23 all of the federal approvals that are needed for a  
24 licensing action and those have always been approvals  
25 from other agencies.

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1           The other part of that is of course that  
2 this is a requirement for the Environmental Report.  
3 51.45(d) is a requirement for what the applicant needs  
4 to include in the Environmental Report. And it would  
5 be somewhat ridiculous to suggest that we need this  
6 Applicant to provide us with information on the  
7 compliance with something that the NRC was undertaking  
8 on its own accord.

9           Also, requests for information are not  
10 terribly unusual, and I think it would a quite  
11 extensive list if applicants are required to include  
12 in their Environmental Report a list of their  
13 compliance with the various generic letters,  
14 bulletins, information requests, that have been issued  
15 over the years in their Environmental Report. It  
16 would be quite onerous. But the bottom line is that  
17 there are some cases where this particular regulation  
18 and a licensees, -- or an applicant's compliance with  
19 the regulation was contested and they always dealt  
20 with matters coming from other federal agencies. And  
21 that is cited in our response.

22           CHAIRMAN BOLLWERK: All right.

23           JUDGE TRIKOUROS: I'm going to ask you the  
24 same question I asked the Applicant. The  
25 modifications that may come out of this Order would

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1 the Applicant have an obligation to examine the  
2 structure, systems and components associated with  
3 those modifications with respect to their Aging  
4 Management Program?

5 MS. SPENCER: Yes. I believe they would  
6 if they make a change, -- I'm just thinking purely of  
7 54.21(b), where it states that if they make a  
8 modification to their CLB that materially modifies  
9 their License Renewal Application they would need to  
10 update their application or modify their application.  
11 I am not saying that I believe, or have reason to  
12 believe that there is some modification that the  
13 applicant may need to make to comply with the Order  
14 will effect a structure, system or component that is  
15 in the scope of license renewal under 54.21.

16 JUDGE TRIKOUROS: Well the Applicant  
17 thinks they don't have to, right?

18 *(No audible response)*

19 JUDGE TRIKOUROS: I had asked you earlier,  
20 do you have to modify your Aging Management Program to  
21 include the modifications that come out of the EA-12-  
22 049, and you said no.

23 MR. LEWIS: Our position, -- I'm not sure  
24 how I said it, but we would only have to apply Aging  
25 Management Programs to any new or modified components

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1 that fall within the scope of license renewal as  
2 defined in Part 54. And there probably aren't going  
3 to be any.

4 JUDGE TRIKOUROS: Right, but that goes  
5 back to whether they are required for, -- well again,  
6 I think it has been interpreted as a design basis, not  
7 what you would call a current licensing basis. But  
8 the words are current licensing basis, so I'm, --

9 MR. LEWIS: Oh, I'm sorry Judge.

10 JUDGE TRIKOUROS: -- in other words, if a  
11 modification is required to meet the design basis of  
12 the plant you have to include it in your evaluations  
13 under aging management, but if it does not, -- if it  
14 is not required, then it is excluded as I understand  
15 it. For example, I don't believe that the  
16 modifications following 9/11 are included in Aging  
17 Management Programs.

18 MR. LEWIS: There is a Rule, 10 CFR 54.4  
19 that defines the scope of equipment that is subject to  
20 aging management review, and it is safety-related  
21 equipment which is defined as that equipment which  
22 prevents or mitigates design basis events.

23 JUDGE TRIKOUROS: Right.

24 MR. LEWIS: The non-safety class and the  
25 regulatory class of that was EQ. And if we make any

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1 change that changes that scope or adds to that scope,  
2 yes we have to. If we add equipment that does not  
3 fall within that scope then we would not modify our  
4 application.

5 JUDGE TRIKOUROS: Right. And as we  
6 discussed earlier, certain things, ATWAS, EQ and I  
7 can't remember the name, --

8 MR. LEWIS: Station blackout and fire  
9 protection.

10 JUDGE TRIKOUROS: -- station blackout,  
11 they have been identified as being required to be  
12 design basis events in a sense, but anything post 9/11  
13 or post Fukushima has not, as far as I know.

14 MS. SPENCER: I think that's right.

15 JUDGE TRIKOUROS: And I don't know if the  
16 post Fukushima modifications will be treated  
17 differently from the post 9/11 modifications, but as  
18 far as I know license renewal applicants have not  
19 looked at Aging Management Programs for post 9/11  
20 equipment.

21 MR. LEWIS: And I believe that's correct.

22 MS. SPENCER: Because they would not fall  
23 within the scope of structure, systems and components  
24 that are reviewed under 54.4. They are in scope under  
25 54.4 and/or don't strain-out under 54.21.

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1 JUDGE TRIKOUROS: Right. And so is the  
2 answer to the question that that would also be true of  
3 post Fukushima modifications?

4 MR. LEWIS: Yes. Unless we do something  
5 that happens to affect something in the scope the  
6 answer would be no.

7 MS. SPENCER: I would agree with that,  
8 that at this point we don't believe that there would  
9 be. I mean what the requirements are, -- the Order,  
10 and then largely, -- I mean they do talk about  
11 installed equipment in the first phase of the  
12 response, -- first grouping of capabilities, but the  
13 others are from portable on-site equipment and  
14 portable off-site equipment. And so that type of  
15 equipment is probably not going to be within the scope  
16 of license renewal.

17 JUDGE TRIKOUROS: Right, I think that's  
18 probably true, but I don't know that it will stay true  
19 in the course of this, -- if the event is defined as  
20 a design basis event, which it currently is not, --

21 MS. SPENCER: And I don't know that it is  
22 going to change. I think that's something we don't  
23 know, that this event is going to somehow start to be  
24 considered a design basis event.

25 JUDGE TRIKOUROS: Right. And right now it

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1 is not?

2 MS. SPENCER: Right.

3 JUDGE TRIKOUROS: All right. Perhaps it  
4 is not worth pursuing any further at this point. But  
5 I do think there is no continuity. I think that it is  
6 a discontinuous situation and I do believe that there  
7 are efforts to try and change that.

8 MS. SPENCER: That's correct.

9 JUDGE TRIKOUROS: All right.

10 CHAIRMAN BOLLWERK: All right, anything  
11 further for the staff that anyone from the Board has?

12 *(No audible response)*

13 CHAIRMAN BOLLWERK: All right, thank you  
14 very much. Let's turn back to Ms. Curran then.

15 MS. CURRAN: Okay. I'd like to go back to  
16 the scope of 10 CFR 51.53(c)(2), which it has been  
17 argued here only applies to this description of the  
18 proposed action that any modifications to the plant or  
19 the operation have to be related only to the issue of  
20 aging. And the Applicant and the staff reached that  
21 conclusion based on the fact that 10 CFR 54.21 is  
22 referenced in the regulation.

23 If you read the language of the regulation  
24 it is not that narrow. It says, *"The report must*  
25 *contain a description of the proposed action,*

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1 including the applicant's plans to modify the facility  
2 or its administrative control procedures as described  
3 in accordance with Section 54.21 of this chapter". So  
4 the word including modifies plans to modify the  
5 facility or its administrative control procedures as  
6 described in accordance with Section 54.21. The  
7 proposed action does not consist entirely of aging  
8 management measures. And in fact, what this suggests  
9 is that plans to modify the facility that could affect  
10 the environment, regardless of whether they are aging-  
11 related need to be identified. Because it says this  
12 report must describe in detail the modifications  
13 directly affecting the environment or affecting plant  
14 affluence that affect the environment. So that phrase  
15 is "the modifications". It doesn't say the aging-  
16 related modifications.

17 So we have a fundamental disagreement with  
18 the Applicant and the staff, and we don't think their  
19 interpretation makes any sense given the Commission's  
20 interpretation of NEPA as being much broader than the  
21 license renewal regulations for implementation of the  
22 Atomic Energy Act.

23 So the whole construct of NEPA review is  
24 that we know that NEPA review can be tiered, so if  
25 environmental impacts have already been looked at they

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1 don't need to be looked at again. So it is arguable  
2 that if the NRC looked at environmental impacts of the  
3 licensing basis for Callaway in some impact statement,  
4 it does not need to go back and do that all over  
5 again. But clearly the measures that are being  
6 proposed here, or that will be proposed, have never  
7 been analyzed in any Environmental Impact Statement  
8 before. That's the critical distinction.

9 JUDGE TRIKOUROS: But does that refer to  
10 severe accidents or just events within the design  
11 basis? I think that's the distinction.

12 MS. CURRAN: It refers to both. Events  
13 or, -- let's just say this, typically the NRC changes  
14 its requirements for operating licenses, either  
15 through license amendments or rulemakings. And in  
16 both cases NEPA is applied. There is a NEPA analysis  
17 for both. So here we have the unusual situation that  
18 you've got design modifications having been required  
19 through an enforcement action, and there has not been  
20 a NEPA review. So there is no preceding NEPA review  
21 that could be cross-referenced in this license renewal  
22 review, which would be typical.

23 For instance with 50.44(h)(h), that's a  
24 basic safety requirement. I believe that in a hearing  
25 an intervenor could challenge the adequacy of the

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1 measures that are proposed under the safety  
2 regulations. Also, 50.44(h) (h) I am assuming, when it  
3 was promulgated there was some kind of a NEPA review  
4 that said the purpose of this is to protect the  
5 environment and you know we think that this complies  
6 with NEPA. There is no comparable NEPA review with  
7 respect to these measures. It doesn't exist.

8 An argument was made there's no causal  
9 connection between the Enforcement Order and license  
10 renewal. The causal connection is that Ameren will be  
11 proposing changes to the design that have not received  
12 any NEPA review, or even a safety review in terms of  
13 a licensing action, or a rulemaking, nothing like  
14 that. They are just changes to the design that are  
15 un-reviewed. We are asserting that they need to be  
16 reviewed in the NEPA review.

17 And that brings up the question of timing.

18 The argument is made well this applies to the current  
19 licensing basis now, it is all going to be resolved  
20 before license renewal and that license renewal won't  
21 happen until after 2024. But as I said before we  
22 don't think that Ameren can have it both ways. You  
23 can't sort of play around with this timing issue in  
24 order to avoid dealing with relevant circumstances.

25 For instance in the issue of alternative

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1 energy supply we're told you must look at the  
2 circumstances that exist now. And you must make your  
3 prediction about the future after 2024 based on the  
4 circumstances that exist now. Why should a different  
5 standard apply to this contention? We are being told  
6 by the NRC we allow licensees to apply up to twenty  
7 years in advance and if an intervenor comes in well,  
8 it's too bad if you have difficulty predicting out  
9 twenty years, you must do the best you can with the  
10 circumstances that exist now. That is what Missouri  
11 Coalition is doing now. And we don't think it is fair  
12 to be able to say for purposes of excluding us that  
13 these issues are not relevant now, because they've  
14 come up in some other different context. They are  
15 relevant now because they could affect the renewed  
16 operation of Callaway and the License Renewal  
17 Application is pending. It's a tangible effect on the  
18 impacts of operation.

19 An argument was made that the only issues  
20 that Ameren has to address are Category II issues.  
21 And that severe accidents, -- the significance of  
22 severe accidents has already been addressed in the  
23 generic EIS. Well two responses to that. The generic  
24 EIS says that, -- it does not say anything about  
25 alternatives being Category I issues. The requirement

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1 for an alternatives analysis is still relevant to  
2 individual licensing proceedings.

3 And the second one just flew out of my  
4 mind. Oh SAMA(s), they are an example of alternatives  
5 analysis. Now this is not, -- as I was saying before,  
6 this is not a classic SAMA because the NRC is  
7 requiring these alternatives. But is an, -- SAMA(s)  
8 are clearly designated as Category II. The issue of  
9 alternatives is not ruled out as Category I, so this  
10 discussion is appropriate in the Environmental Impact  
11 Statement.

12 JUDGE TRIKOUROS: And if the SEIS does not  
13 include this, you have an opportunity to say that, or  
14 mention it. To file a Contention, for that matter,  
15 right?

16 MS. CURRAN: Well if we got to that point.

17 JUDGE TRIKOUROS: At that time?

18 MS. CURRAN: If we got to that point, yes  
19 we would, if we don't get a Contention admitted here.  
20 But we probably do, --

21 JUDGE TRIKOUROS: But that does not  
22 necessarily apply at this time, right?

23 MS. CURRAN: Perhaps not. Okay, another  
24 question is we think that the question of, -- these  
25 mitigation measures could be significant. They could

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1 cost a lot of money. NEPA requires that those kinds  
2 of considerations be included in the license renewal  
3 decision. So if we are not allowed to integrate this  
4 analysis into the EIS for Callaway license renewal,  
5 then we won't get a good and well informed decision  
6 about license renewal that takes into account maybe  
7 the Fukushima-related back-fits get to be so expensive  
8 that this particular energy alternative does not make  
9 sense. Our purpose here is to ensure that all these  
10 considerations come into play in the license renewal  
11 decision because they are relevant.

12 I believe that counsel for the NRC staff  
13 made a distinction between the period after 3 Mile  
14 Island when there were a number of license  
15 applications under review by the Commission. And now  
16 when most licenses have been issued I think the  
17 Commission has not really addressed the issue yet.

18 The Commission did say in CLI1105 that it  
19 was appropriate to raise Fukushima-related issues in  
20 individual licensing cases, which we have done. But  
21 there has been, -- there certainly has been no generic  
22 policy pronouncement from the Commission about how  
23 NEPA applies to licensing decisions.

24 We do not see a significant distinction  
25 between license renewal decisions and initial

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1 licensing decisions. They both involve the same  
2 question as to how changing requirements are going to  
3 be brought to bear on licensing decisions. That's the  
4 common denominator for new licenses and license  
5 renewal is that NEPA pushes an agency to make sure  
6 that all these issues that might otherwise be  
7 extraneous and not get considered, be focused in on  
8 and integrated into the analysis of how significant  
9 are the impacts of what we are about to do, and are  
10 there better ways, cost-effective ways, to mitigate or  
11 avoid those impacts. The whole purpose of NEPA is to  
12 ensure that when a decision like this is being made  
13 that all the pragmatic considerations are brought to  
14 bear. And that is I think what Ameren and the staff  
15 are trying to avoid here.

16 I think that concludes my argument.

17 CHAIRMAN BOLLWERK: All right, let me just  
18 see if there are any questions.

19 MR. LEWIS: Judge Bollwerk, could I  
20 respond very quickly just to one point?

21 CHAIRMAN BOLLWERK: Yes, but Ms. Curran  
22 gets the last word, always.

23 MR. LEWIS: That's fine. There was an  
24 assertion that we needed to analyze these impacts  
25 because they might affect the cost of the project,

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1 which has to be then considered under NEPA. And I  
2 just want to point out that under the NRC rules in  
3 51.53(c)(2), 51.71(d) and 51.95(c)(2), the cost of  
4 license renewal is not an issue. The Commission  
5 specifically said that the economic cost and benefits  
6 of the proposed action in the case of license renewal  
7 does not need to be addressed. And that's because of  
8 the way it defined the proposed action.

9 MS. CURRAN: I'm sorry I didn't hear; that  
10 is because of, --

11 MR. LEWIS: The matter in which the  
12 Commission defined the proposed action as being one  
13 designed to preserve the option of continued operation  
14 for energy decision-makers.

15 MS. CURRAN: Well as we said in our reply  
16 that was filed recently, the Commission has not  
17 eliminated consideration of alternatives. And so it  
18 seems to us that it is a part of considering  
19 alternatives to compare the cost of alternatives with  
20 the cost of the proposed action.

21 CHAIRMAN BOLLWERK: All right, anything  
22 further that anyone has then on Contentions 1 or 2?

23 JUDGE TRIKOUROS: Next Contention.

24 CHAIRMAN BOLLWERK: All right, let's go  
25 ahead and move to Contention 3. Just as a scheduling

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1 matter, my expectation is we will be able to finish  
2 before we take a lunch break. So we are going to try  
3 to get this done, and then we will be done, but we'll  
4 see how that goes along.

5           Again, for the purposes of the folks who  
6 may not have been, -- had access to the record,  
7 Contention 3 states that, -- it is entitled,  
8 *"Inadequate Discussion of Wind Energy Alternative"*.  
9 It states that the Environmental Report is inadequate  
10 to satisfy NEPA or 10 CFR Section 51.53(c)(2), because  
11 it dismisses and refuses to consider the relative  
12 merits of the reasonable energy alternative of wind  
13 energy operated in the Midwest Independent  
14 Transmission System Operator. Is that pronounced MESO  
15 or is it M-I-S-O? How is it normally pronounced?

16           JUDGE TRIKOUROS: MISO.

17           MS. CURRAN: MISO.

18           CHAIRMAN BOLLWERK: MISO? Okay, MISO  
19 Grid. Wind energy operating in the MISO Grid warrants  
20 serious consideration as an alternative because it is  
21 currently available and sufficient to entirely replace  
22 the energy to be generated by Callaway during the  
23 license renewal term. Wind energy also has the  
24 relative benefits that it is less dangerous than the  
25 renewed operation of Callaway, depends on a renewable

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1 energy source and would save millions of gallons of  
2 water now used by Callaway every day.

3 All right, we will turn to the Petitioner.

4 MS. CURRAN: Thank you. I think what I  
5 would like to focus on is going through the Board's  
6 questions.

7 CHAIRMAN BOLLWERK: All right.

8 MS. CURRAN: This is very technical  
9 material and I am going to be consulting Dr. Makhijani  
10 as I go along, and that may be a little bit  
11 cumbersome, but worth the effort.

12 CHAIRMAN BOLLWERK: All right, thank you.

13 MS. CURRAN: Okay, so the first question  
14 is, is base load defined by the MISO? If so, how is  
15 it defined?

16 We were not able to find a formal  
17 definition of the term base load power on the MISO  
18 website, but we did look at some other definitions of  
19 base load power. The North American Electrically  
20 Liability Council defines base load as the minimum  
21 amount of electric power delivered or required over a  
22 given period at a constant rate. And would you like  
23 me to provide a reference for that?

24 CHAIRMAN BOLLWERK: Yeah, please.

25 MS. CURRAN: Okay.

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1 CHAIRMAN BOLLWERK: That's from the NERC?

2 MS. CURRAN: That is a glossary of terms  
3 published by NERC in 2008. Actually I have a long web  
4 address that, -- I wonder if it would be a good idea  
5 if I just, -- if we cite to references like this would  
6 it be good to just send them to you in a supplemental  
7 memorandum?

8 CHAIRMAN BOLLWERK: If no one has an  
9 objection to that, we can certainly do that, it  
10 probably would speed things up.

11 JUDGE TRIKOUROS: Yeah, if it's citations.

12 CHAIRMAN BOLLWERK: We're talking  
13 citations here, we are not talking argument I don't  
14 think so.

15 MS. CURRAN: Yeah.

16 JUDGE FROEHLICH: Why don't we do it that  
17 way?

18 MS. CURRAN: Okay, great we'll do that.

19 CHAIRMAN BOLLWERK: We'll set a time for  
20 that after we hear exactly what is going to be  
21 involved, because there may be some others that come  
22 up, so all right.

23 MS. CURRAN: Okay, so base load is a  
24 characteristic of a power delivery or utilization  
25 system. In terms of generation its definition can be

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1 applied to a single generating device or a combination  
2 of generating devices so long as the predetermined  
3 amount of power is supplied.

4 We also found a definition of base load or  
5 a discussion of base load by John Wellinghoff  
6 (phonetic), the Chairman of the Federal Energy  
7 Regulatory Commission. In 2009 he said "*I think base  
8 load capacity is going to become an inaccurisum  
9 (phonetic). Base load capacity really used to only  
10 mean in an economic dispatch, which you dispatch  
11 first, what would be the cheapest thing to do.*" Well  
12 ultimately wind is going to be the cheapest thing to  
13 do, so you will dispatch that first. And he said that  
14 in an article that was published in 2009 and we will  
15 send you the reference for that. And we will probably  
16 get back to the question of what is base load further  
17 along.

18 The next question is does the MISO assign  
19 a capacity value for wind? If so, what is the  
20 significance of this feature?

21 MISO does assign a capacity value to wind  
22 generation. The capacity value is a fraction of the  
23 installed nameplate generation capacity. This  
24 fraction depends on the fraction of generation  
25 supplied by wind. The capacity value assigned by MISO

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1 to wind in 2012 was just under 15 percent. For wind  
2 penetration of 30 percent MISO would assign a capacity  
3 value of 10 percent. This is discussed in Dr.  
4 Makhijani's Declaration at paragraph 4.5, where  
5 reference to a MISO publication from 2012 is also  
6 provided.

7 The significance of this figure is that a  
8 certain fraction of installed wind capacity can be  
9 attached to a value for power dispatch purposes. The  
10 matter has now advanced beyond attaching an overall  
11 capacity value to wind since wind is now considered a  
12 dispatchable intermittent resource by MISO. And wind  
13 farms that have the necessary equipment can receive  
14 and respond to dispatch signals from the grid  
15 operator.

16 The next question the Board asked is to  
17 what extent is there currently a base load wind in the  
18 MISO and/or Ameren service areas?

19 The capacity value attached to wind in the  
20 MISO area is currently just under 15 percent. As we  
21 will explain, MISO would attach a varying value of the  
22 amount of power to be dispatched by wind resources  
23 designated as dispatchable intermittent resources on  
24 the basis of five minute forecasts of wind. This in  
25 effect, attaches a capacity value to wind resources

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1 every five minutes. The term base load wind is not  
2 used by MISO or Ameren as far as we are aware.

3 MISO has designated wind as a dispatchable  
4 resource even though it is intermittent. The Federal  
5 Energy Regulatory Commission has given approval to  
6 this approach for wind installations. And that is in  
7 a FERC decision from 2011 that we will send you a  
8 reference for. This approach makes wind resources  
9 similar to more traditional dispatchable resources  
10 such as fossil fuel, hydro or nuclear power plants,  
11 though traditional resources are dispatched on an  
12 hourly basis, and wind would be dispatched based on  
13 five minute forecasts.

14 One of the key characteristics of a power  
15 plant that feeds power into the grid, whether the  
16 source of energy is wind or nuclear or any other  
17 source, is whether its output is dispatchable from a  
18 queue of resources set up by the grid operator. Wind  
19 is now explicitly designated as a dispatchable  
20 resource by MISO and accepted by the FERC. Generally  
21 new wind resources will be required to have equipment  
22 that can receive and respond to dispatch signals from  
23 the grid operator. Wind farm output forecasts will be  
24 made and updated frequently. Therefore the  
25 alternative to Callaway generation of new wind farms

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1 that are designated as dispatchable intermittent  
2 resources would work similarly to traditional  
3 dispatchable resources, with some technical  
4 differences such as the requirement for wind farm  
5 output forecasts to be made and updated every five  
6 minutes.

7 The Board also asked what is the capacity  
8 factor assigned to the Callaway facility for MISO  
9 purposes? What is the actual capacity factor for the  
10 Callaway Plant for each of the past ten years?

11 This question requires some background  
12 and we would like to put the answer in a context. For  
13 wind resources designated as dispatchable intermittent  
14 resources MISO would assign a dispatch value to wind  
15 every five minutes. This is in effect a signing and  
16 operational capacity factor for that period. Of  
17 course since wind varies this value is updated every  
18 five minutes and for purposes of longer term planning  
19 MISO assigns a quote, "*must run fracture*," from among  
20 a set of pre-designated base load units.

21 For instance, in the context of planning  
22 for renewable integration into the eastern  
23 interconnect, which includes several grid operators,  
24 MISO and other grid operators assign a hundred percent  
25 must run fraction to nuclear, 25 percent to other

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1 quote, "base load steam," and other fractions to other  
2 fossil fuel plants. And MISO explains this as  
3 follows; this is a quotation from MISO's Joint  
4 Coordinated System Plan from 2008, Volume 1 at page  
5 38. And again, we will send you a reference, but I'll  
6 read you the quotation. "All base load steam and  
7 nuclear units are set to must run units. And all  
8 other units are not must run. If a generator is  
9 designated in the database as a must run unit the  
10 minimal segment of the generator will be dispatched at  
11 all times regardless of its placement in the energy  
12 bid order. Only the minimum segment of the generator  
13 will be dispatched at all times. The upper segment  
14 will still be dispatched according to its bid costs."  
15 So that gives you some context for how this dispatch  
16 system works.

17 These must run dispatch fractions are made  
18 based on the characteristics of the power plants that  
19 are currently on the grid. For instance, nuclear has  
20 a hundred percent must run fraction because it is very  
21 undesirable to vary the output at nuclear power plants  
22 over periods of hours or days. The hundred percent  
23 must run fraction is evidently not on the time scale  
24 of years to decades, since Callaway, like other  
25 nuclear units, and in deed all generating units, has

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1 planned and unplanned outages and does not run at a  
2 hundred percent capacity factor year in, year out.

3 The upper segment that I mentioned is the  
4 fraction of the resource that is not designated as  
5 must run. For nuclear power reactors this fraction is  
6 zero, since nuclear power plants are scheduled to be  
7 dispatched at full capacity or shut down. Nuclear is  
8 basically an all or nothing resource. So that is very  
9 different from wind.

10 Okay, there is a question, -- the MISO  
11 Tariff and the MISO Business Practices Manual describe  
12 the resources that move across the grid. Among the  
13 generation resources discussed is a category called  
14 Dispatchable Intermittent Resources, or DIR(s). Is  
15 wind energy treated as a DIR by the MISO? And the  
16 answer is yes.

17 The MISO Tariff document's definition of  
18 dispatchable intermittent resources is as follows: "*A  
19 generation resource whose economic maximum dispatch is  
20 dependent on forecast-driven fuel availability*". And  
21 that is from the MISO 2012 Tariff, paragraph 1.162(a),  
22 the PDF at page 71. This definition was effective as  
23 of March 1, 2011.

24 In the case of wind energy the fuel is of  
25 course wind, when it is available above the threshold

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1 that initiates power generation. Since the  
2 transmission of wind energy across the MISO system  
3 involves interstate transmission the FERC has  
4 jurisdiction over the designation of the resources.  
5 MISO filed an application with FERC in November 2010  
6 explicitly requesting the designation of intermittent  
7 renewable energy resources, and particularly wind  
8 generation resources, as dispatchable intermittent  
9 resources. And as we noted, the FERC accepted this  
10 request, but rejected it without prejudice for non-  
11 wind resources; that this is not applicable to wind.

12 The next question pertains to the Seabrook  
13 decision, where the Commission stated that the  
14 standard is that we must show that the alternatives  
15 capable of providing technically feasible and  
16 commercially viable base load power during the renewal  
17 period. And the Board asked well how have you showed  
18 that this is commercially viable?

19 We think we've showed that by showing that  
20 wind energy is now an established part of the MISO  
21 Grid. And it is a standard element of the energy  
22 portfolio that is offered on the MISO Grid. We  
23 understood the purpose of the Commission's decision in  
24 Seabrook was to ensure that alternatives that are real  
25 and viable in present time are discussed, and not

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1 hypothesized far into the future. Well we think we  
2 have done a very thorough job of documenting for you  
3 that wind is commercially viable, because it is being  
4 used. If it weren't commercially viable we don't  
5 think it would be used.

6           And I just want to add that there are  
7 10,000 megawatts of wind on the MISO Grid. This is a  
8 well established energy source that could more than  
9 compensate, -- it has more than the amount of power  
10 generation to substitute for the Callaway Nuclear  
11 Plant.

12           And I do want to highlight the fact that  
13 we think that the question to some degree,  
14 misconstrues what Missouri Coalition is asserting in  
15 the Contention. We are not asserting that wind all by  
16 itself can substitute for Callaway, any more than  
17 Callaway all by itself could supply all the  
18 electricity needs of its service area, because  
19 sometimes Callaway goes down. Sometimes there are  
20 planned outages, sometimes there are unplanned  
21 outages. They are different in the sense that when  
22 there is an outage at Callaway it is for a period of  
23 days or months. When wind is not available it is for  
24 a period of hours. But it is still the same in the  
25 sense that neither one of these energy sources is

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1 available all the time and so, one has to look at both  
2 in the context of the grid where they operate. And  
3 one has to look at them as dispatchable sources of  
4 energy that are part of the whole energy portfolio.

5 As I've discussed, wind is now designated  
6 as a dispatchable resource by MISO, and as such, it  
7 will be treated similarly to other dispatchable energy  
8 sources like fossil fuel power plants. In this  
9 context designations of base load, intermediate load  
10 and peak load for generating units are useful only as  
11 indicators of where in the loading order a particular  
12 generation unit fits. In the past the must run  
13 fraction of units designated as base load would be  
14 first in the loading order and nuclear had a hundred  
15 percent fraction since it is an inflexible resource.  
16 But this percentage is not indicative of capacity  
17 factor, but of how dispatch is organized when the unit  
18 is available. With the designation of wind as a  
19 dispatchable resource the loading order can be changed  
20 and wind can be dispatched in preference to other  
21 resources. The likelihood that nuclear may dispatch  
22 to its full capacity in preference to all other  
23 generating units feeding into the transmission grid is  
24 not an indication of whether it's base load, but  
25 rather due to its inflexibility. It is difficult and

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1 costly to vary the power level of a commercial power  
2 reactor frequently. It also takes a significant  
3 amount of time to start up coal and nuclear units once  
4 they are shut down.

5 And I just would like to conclude by  
6 saying that as Dr. Makhijani showed in his Declaration  
7 in Section 4, it is technically feasible for wind to  
8 reasonably and reliably replace all of the generation  
9 now fed into the grid by Callaway. There is no  
10 question that wind provides a commercially feasible  
11 electricity generation resource. Installed capacity  
12 of wind power increased by more than 26,000 megawatts  
13 between 2006 and 2010 in the United States, as  
14 reported by the EIA in 2011.

15 MISO has designated wind as a dispatchable  
16 resource even though it is intermittent. Hence, wind  
17 power can be considered as a technically and  
18 commercially feasible alternative to Callaway, and  
19 should therefore be considered in Ameren's  
20 Environmental Report.

21 As part of that consideration Ameren  
22 should be required to assess the specific economics  
23 and environmental impacts of this alternative, and  
24 also compare to those of relicensing Callaway. These  
25 costs and impacts should include an assessment of the

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1 risks, costs and impacts of planned and unplanned  
2 outages based on the best available information.

3 JUDGE TRIKOUROS: But let me ask you, you  
4 just made a statement that there are 10,000 megawatts  
5 of wind on the MISO Grid, and you said that is more  
6 than sufficient to replace Callaway?

7 MS. CURRAN: That's right.

8 JUDGE TRIKOUROS: But right now there is  
9 Callaway and there is 10,000 megawatts of wind. So  
10 are you telling me that if Callaway disappeared  
11 tomorrow there would be no increase in spending  
12 reserves, there would be no additional plants started  
13 up, there would be no power purchase from other grids,  
14 is that what you're saying, that the wind would just  
15 do that? I mean that's kind of critical I think.

16 MS. CURRAN: Judge Trikouros, we are  
17 proposing that wind generation plants would be built  
18 to replace the Callaway generation. But what we  
19 needed to show for this Contention is that wind is a  
20 going concern; that there already is plenty, -- there  
21 is plenty of wind generation already; that this is not  
22 a huge endeavor to create more wind generation. It  
23 exists in a large quantity and it is growing.

24 JUDGE FROEHLICH: Before we get into the  
25 base load requirement that we read about in the

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1     Seabrook and Davis-Besse case, let me just follow up  
2     on Judge Trikouros' question with something that had  
3     been bothering me. As I read through the  
4     Environmental Report in Section 7.2, page 7 of 38,  
5     Ameren discusses the regulatory framework in which it  
6     works in retail and they operate within the State of  
7     Missouri. And they state that they supply all the  
8     end-use customers in their franchise service area with  
9     bundled generation transmission and distribution  
10    service. Therefore they look in their Environmental  
11    Report to alternatives that are in their service area.  
12    And I think for the coal plant or a new gas plant they  
13    even look at it in the property that they currently  
14    own. Are you saying that they should be studying the  
15    purchase of 11,000 megawatts from elsewhere, on the  
16    MISO Grid? Are you suggesting that they would be  
17    building 11,000 megawatts in or near their service  
18    area? Or just taking it from the grid as I think  
19    Judge Trikouros was asking?

20                   MS. CURRAN: There is no restriction as  
21    to where Ameren gets its power from. Ameren typically  
22    buys generation from the MISO Grid, -- Ameren has wind  
23    energy from outside of Missouri that it purchases. It  
24    is in Dr. Makhijani's Declaration, and I'll get you a  
25    paragraph number.

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1 JUDGE FROEHLICH: I realize that they  
2 purchase from time to time wind energy and arrange its  
3 transportation across the grid. But you're not  
4 suggesting that there's transportation capacity on the  
5 grid to take 11,000 megawatts from Minnesota and send  
6 it across the grid to serve St. Louis, are you?

7 MS. CURRAN: It's not 11,000 megawatts it  
8 is between 2,300 and 3,000 megawatts, to begin with.

9 JUDGE FROEHLICH: Right. Okay, and the  
10 current transmission upgrades to attach wind I think  
11 they are queued up in the neighborhood of 27,000 units  
12 where there is no transportation capacity available?

13 MS. CURRAN: MISO has an extensive program  
14 to upgrade transmission over the next fifteen years.  
15 And what we are asking for here is a consideration of  
16 the alternative. We have nothing in the Environmental  
17 Report. We are trying to get across the threshold to  
18 get a discussion of this. We would like to see the  
19 discussion of if there are transmission issues let us  
20 see it discussed. But to completely throw out this  
21 alternative as beyond consideration we think was  
22 unreasonable.

23 JUDGE FROEHLICH: Well how about the, --  
24 I mean I looked for a discussion in the Environmental  
25 Report on wind and in Section 7.2 wind is discussed

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1 and some of the concerns I guess that the Applicant  
2 had with replacing Callaway with wind are discussed.

3 MS. CURRAN: Well what it says in the  
4 Environmental Report, -- this is on page 6 of Section  
5 7.2.1, is that Ameren has considered evaluating wind  
6 or solar, in combination with fossil fuel generation  
7 as alternatives. However because of the intermittent  
8 nature of wind and solar power in the region such  
9 combinations would require building fossil fuel plants  
10 with a full capacity.

11 So in our view the wind option was never  
12 considered. It was never, -- and it was presented in  
13 a way that is misleading. We think that Ameren could  
14 build enough wind generation to fully substitute for  
15 Callaway and could sell that wind generation. And it  
16 is not a question of will we have to have a few  
17 windmills and a bunch of fossil fuel plants to  
18 substitute when the windmills aren't working, that's  
19 not how it works. You build enough capacity so that  
20 you could build, -- Ameren could build more than the  
21 amount that is generated by Callaway today in terms of  
22 wind, and could sell that wind generation, and then  
23 just purchase enough fossil fuel from gas plants in  
24 order to cover the periods when the wind is not  
25 blowing. It's not a question of, -- the concept that

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1 is presented by Ameren is since wind does not blow all  
2 the time we absolutely have to build fossil fuel  
3 plants. That is not correct.

4 We have shown that there is adequate  
5 capacity in MISO that fossil fuel plants don't have to  
6 be built, because to construct, -- if enough windmills  
7 were constructed then there is wind generation that  
8 can be sold and that offsets, -- it's a different kind  
9 of a system. It's a conceptually different thing than  
10 was looked at in the past.

11 JUDGE TRIKOUROS: Let me ask the question  
12 this way, I think the Seabrook decision was saying  
13 that the question of whether or not a sufficient  
14 amount of wind can be built to replace Callaway in the  
15 next ten years in such a manner that it is base load,  
16 -- that it is base load replaceable or that it  
17 replaces base load, is not something that people can  
18 answer right now. I mean it might and it might now.  
19 I don't think there is a definitive answer.

20 Now this idea that wind could be built  
21 anywhere within an eight state region, or whatever the  
22 number of states are, and that that in fact would  
23 replace Callaway, is not an idea, -- from what I've  
24 seen it is not an idea that is guaranteed of success.  
25 I mean the grid itself requires a certain amount of

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1 base load generation. Let me not say base load, let  
2 me say coal and nuclear continuous type generation.  
3 And I'm assuming there are periods of time  
4 statistically, when there is no wind. Even in a five  
5 state area there probably are statistically over five  
6 minute intervals, periods of five minutes where there  
7 just simply is no wind in five states. Now I have not  
8 looked at any data. We are not here to do a merit's  
9 evaluation, so it's a little bit difficult for us.  
10 But the different documents that we have been pointed  
11 to on the internet; and there are many references in  
12 Dr. Makhijani's Declaration, show that there are  
13 uncertainties. Different people disagree as to even  
14 how to calculate the benefits or lack of benefits of  
15 wind, in terms of how they take into account spending  
16 reserves and just a variety of different variables  
17 that seem to be treated differently by different  
18 people, depending on their let me just say point of  
19 view or sort of what they want the outcome to be. And  
20 we all do that, I understand that. I mean clearly you  
21 are trying to make an argument. But is there  
22 certainty that Callaway could be replaced in that  
23 period of time? We're talking about building, -- that  
24 Ameren would have to arrange for wind to be built in  
25 multiple states, and you know I don't know hard or

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1 easy it is for that to happen. I do know that it  
2 would be easier for them to do it within their own  
3 area, but they've made arguments in their answer that  
4 their own area is not a very good wind area in terms  
5 of, -- you know I think there is a seven level  
6 scaling, is not a very good wind area.

7 So all of that just brings into question  
8 whether or not there is certainty that in ten years  
9 one could in fact do this with very high probability?  
10 And I think that's where we are.

11 MS. CURRAN: In answer to your question  
12 Judge Trikouros, we don't think that there is  
13 certainty about anything in this case. There is no  
14 certainty that Callaway is going to be operating in  
15 twenty years. There is no certainty about what the  
16 characteristics of the MISO Grid and wind power are  
17 going to be. But we think we've shown a high  
18 probability, which is, -- under NEPA the rule is  
19 reasonableness. We've shown it is reasonable to  
20 predict that wind is going to be a significant  
21 commercially viable, feasible source of electricity in  
22 this area in the future. We don't have to show  
23 certainty any more than Ameren has to show it.

24 We're talking about an additional 2,500  
25 megawatts of generation. This study of the Eastern

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1 Interconnect done by the grid operators, -- all of the  
2 grid operators in the east coast showed that it would  
3 be possible to build almost a hundred times that much  
4 wind generation in the next fifteen years.

5 JUDGE TRIKOUROS: I understand, but that  
6 is just such a small piece of this story, at least  
7 from what I can see so far. You know you could build  
8 a hundred, -- a capacity sufficient for 100 percent of  
9 MISO needs. One could probably say that right now.  
10 But would that be a functional grid that would have  
11 100 percent wind? And I think the answer to that is  
12 clearly no, that you cannot have a grid that is 100  
13 percent wind.

14 MS. CURRAN: But we're not arguing that.

15 JUDGE TRIKOUROS: No, I understand. I'm  
16 trying to ask the question of how this relates, -- I'm  
17 trying to understand how this relates to the Seabrook  
18 decision, because you know we are clearly up against  
19 that. For example, when I looked at Dr. Makhijani's  
20 Declaration he presented, -- I think it's Section, --  
21 it's in Section 3, a few paragraphs in Section 3, one  
22 of them I know is 3.13. There were a number of  
23 outages discussed and I looked at all of them. They  
24 added up to 111 days of, -- roughly 111 days of  
25 unplanned outages over a 28 year period, so that's

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1 four days a year. That's not bad. I mean four days  
2 a year for 28 years on average is not bad. And that's  
3 what people mean about base load. But if I look at a  
4 wind resource I might see, -- you know I might see, --  
5 well I would see substantially, -- maybe 200 days a  
6 year, so how do we relate these things, that's the  
7 question?

8 MS. CURRAN: Well it's complicated. It is  
9 one of the reasons, -- we are asking for one thing,  
10 that, -- for equivalent consideration of nuclear and  
11 wind, in the sense that when there is not capacity for  
12 one source, to look at what are the resources that  
13 could make up for that in the grid. That's done now  
14 with relation to Callaway. And we're saying we want  
15 that to be done too with relation to wind, and not  
16 just rule out wind because it's intermittent.

17 For instance, -- okay, the nuclear plant  
18 goes down on an average of four days a year, but that  
19 is a very inflexible situation. When it's down, it's  
20 down. And you could consider that a lengthy period,  
21 four days out of a year, in comparison to periods of  
22 minutes for wind. But we want to see an analysis of  
23 how those things compare, and not just an assumption  
24 that Callaway is always generating electricity and we  
25 do not need to look at it in the grid, whereas wind is

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1 intermittent, we can't rely on wind.

2 We also think that the past 28 years of  
3 nuclear plant operation is not necessarily indicative  
4 of what is going to happen in the next 28 years,  
5 because of recent prolonged outages worldwide, which  
6 are described in Dr. Makhijani's Declaration. I don't  
7 think we can say right now with certainty that this  
8 kind of thing is not going to happen at Callaway.

9 JUDGE TRIKOUROS: Yes, I agree. And I do  
10 understand that what you are asking for is that wind  
11 be given a more full analysis. Not that we shut down  
12 Callaway and replace it with wind, but that we at  
13 least do the full analysis of wind as if in the  
14 same, -- in other words a Section 8 analysis of wind;  
15 not dismissing it in Section 7. I believe that that's  
16 what you're talking about?

17 MS. CURRAN: Yeah. We would call it a  
18 fair shot.

19 JUDGE TRIKOUROS: Right.

20 MS. CURRAN: Just a fair analysis that  
21 really takes a look. Because this NRC permit is  
22 something, -- it just isn't an okay, it involves a  
23 subsidy in the sense of if Ameren chooses to go  
24 forward with the operation under a renewed license it  
25 gets the protection of the Price-Anderson Act, limited

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1 liability. This confers a subsidy on Ameren to go  
2 ahead with this one alternative. And we are saying  
3 there are other alternatives that would, -- we think  
4 would be better; would not involve safety risks; would  
5 not involve generation of spent fuel that the NRC  
6 after how many years still does not know where to put  
7 it. It is still piling up at the Callaway site in the  
8 spent fuel pool. We think in light of those things it  
9 is really important to take the alternatives  
10 seriously. And here a demonstratively viable  
11 alternative has been dismissed out of hand.

12 Basically we are asking for an apples to  
13 apples fair shot; that the Environmental Report does  
14 not talk about the outages at Callaway, or how  
15 Callaway operates in a grid to compensate for those  
16 outages. If it did, then we think it would increase  
17 the attractiveness of looking at other ways of  
18 operating in the grid that could also accomplish the  
19 same end. I mean really in the end the purpose is to  
20 generate a steady source of electricity to Ameren's  
21 customers, and there is other ways to do it.

22 JUDGE TRIKOUROS: Right and I understand.  
23 And you know we would have to see clearly how this is  
24 different from the Seabrook decision.

25 MS. CURRAN: But can I explain that,

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1 because I would like to make some distinctions between  
2 this and the Seabrook Case.

3 Our understanding is the Seabrook Case was  
4 talking about a wind farm or a series of  
5 interconnected wind farms. It was not talking about  
6 Seabrook operating in a grid. It did not try to make  
7 a comparison of the Seabrook Nuclear Plant with its  
8 outages operating in a grid, to a wind alternative  
9 with its types of outages operating in a grid. It was  
10 simply the question of whether these interconnected  
11 wind farms, plus I think there was a storage  
12 component, could equate for base load power to be  
13 provided by Seabrook. And we have tried to present an  
14 alternative analysis that is more sophisticated than  
15 that frankly, that talks about how it really works in  
16 the grid.

17 JUDGE TRIKOUROS: Well I think we need, --  
18 and we will ask the Applicant to discuss this question  
19 of storage. I mean clearly the Seabrook decision  
20 rested to some extent on the fact that there were  
21 really no storage options that were viable to come on  
22 line in a short period of time. And so that was  
23 certainly important to the Seabrook decision, and we  
24 recognize that.

25 And in your case you are discussing, as I

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1 understand it, rather than fifteen or sixteen  
2 interconnected wind farms relatively locally, you are  
3 talking about the entire grid. And you are arguing  
4 storage is not required as a result of that. I  
5 believe that's what you're saying?

6 MS. CURRAN: That's correct. Distinct  
7 from the Seabrook Case we are also arguing that there  
8 are resources in the grid that can make up for the  
9 variability of wind.

10 JUDGE TRIKOUROS: Okay.

11 CHAIRMAN BOLLWERK: Anything Judge?

12 JUDGE FROEHLICH: Although they did not  
13 discuss the fact that Seabrook is connected to a grid,  
14 -- is a member of an outer TO, the backup I guess  
15 support that a grid would offer applied in Seabrook  
16 exactly the same as it would in this case. Isn't that  
17 so?

18 MS. CURRAN: In the Seabrook Case there  
19 was not a comparison of Seabrook operating in the grid  
20 with its outages to the alternative wind operating in  
21 the grid with its outages. We think we've advanced  
22 the analysis beyond what was done in the Seabrook  
23 Case.

24 JUDGE FROEHLICH: But in Seabrook I think  
25 what the Commission relied upon, or at least the catch

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1 phrase that we take from Seabrook, as well as the  
2 Davis-Besse cases, is that the alternatives to be  
3 considered have to be considered as base load  
4 resources. And then based on the 7th Circuit decision  
5 base load power is defined as, -- base load power  
6 generates energy intended to continuously produce  
7 electricity at or near full capacity with high  
8 availability. And I guess that's the test we have to  
9 apply to the alternative that Dr. Makhijani puts  
10 forward and you suggest in your Contention, is that  
11 right?

12 MS. CURRAN: We believe that no single  
13 facility could meet that test, whether it's a nuclear  
14 plant or a wind facility. So the question of  
15 what, -- as we were talking about what is the  
16 definition of base load; the consistent supply of  
17 electricity, then we believe that wind operating in  
18 the grid satisfies that requirement. So this whole  
19 idea that it has to be a single facility, that seems  
20 to us to be an artificial construct that is not, -- it  
21 is not a practical interpretation of the term base  
22 load.

23 JUDGE FROEHLICH: But in Seabrook it was  
24 an interconnected series of wind facilities, just like  
25 you're saying here, an interconnected, -- you know by

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1 the grid series of wind production.

2 MS. CURRAN: I think in Seabrook the basic  
3 thrust was that wind, -- that if you had enough wind  
4 farms they would substitute and you know provide the  
5 consistent, -- and combine the storage, that that  
6 would provide consistent electricity.

7 Our case is different. Our case says that  
8 wind, -- you can't rely on wind all the time, because  
9 there are times when wind is not available. But if  
10 you have enough generation of wind then at times when  
11 there is more wind generation than you need, or than  
12 Ameren needs, Ameren can sell it and that would back-  
13 off the need for gas generation. And then when there  
14 are times with Ameren needs that capacity because the  
15 wind is not blowing, then the gas would be available.  
16 So that there would be no net increase of reliance on  
17 gas because the, -- you know because you are buying  
18 and selling this thing, -- this energy constantly that  
19 it would even out. I'm sorry is that helpful?

20 JUDGE FROEHLICH: Well I guess it goes  
21 just a step further in that the Seabrook decision  
22 emphasizes the fact that base load power is what we  
23 are looking to substitute. Base load power, how else  
24 can you come up with this base load power? And on the  
25 MISO Grid and any other grids, wind energy is a DIR.

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1 It's a subgroup of the available resources to supply  
2 the grid. But it's different, that is why it is  
3 treated in the five minute increments twelve times an  
4 hour as opposed to the hour ahead market. But what it  
5 does not cover being a DIR, and I think Judge  
6 Trikouros approached this, is it doesn't cover things  
7 like the ancillary services, the spinning reserves,  
8 and wind would not qualify for that component that  
9 base load resources supply to the grid. Is that  
10 correct?

11 MS. CURRAN: That's why we're saying that  
12 nuclear never provides spinning reserves. So you know  
13 we are asking give it a fair comparison and don't  
14 assume that nuclear provides things that it doesn't.  
15 Nuclear is a completely inflexible resource, it's all  
16 or nothing. We are asking for a candid assessment of  
17 that in comparison with this wind alternative and the  
18 grid.

19 JUDGE FROEHLICH: In fact, I think you're  
20 asking for a very, very flexible resource to  
21 substitute for this inflexible resource, is that  
22 correct?

23 MS. CURRAN: Yes. And those flexible  
24 resources exist on the grid and we've said what they  
25 are. Thank you.

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1 JUDGE FROEHLICH: Thank you.

2 CHAIRMAN BOLLWERK: All right, let's turn  
3 to the Applicant.

4 MR. LEWIS: Let me start with the first  
5 question you asked, because I don't believe I heard  
6 the Coalition answer it and it is probably the most  
7 important question. That question was with reference  
8 to the Seabrook and the Seabrook's instruction that  
9 environmental impact need only discuss those  
10 alternatives that will bring about the ends of the  
11 proposed action, what does that mean?

12 The case law is pretty clear, and it is  
13 cited in both our Answer and the staff's Answer, that  
14 what that means is that the Agency should respect the  
15 Applicant's goals and the Applicant's preferences.  
16 And in fact, if you go to the City of Burlington Case  
17 on which the Commission's precedent is based that case  
18 says that Congress expected agencies to consider the  
19 applicant's wants. And Congress did not expect  
20 agencies to determine for the applicant what the goal  
21 of the applicant's proposed action should be.

22 This is a very important principle because  
23 it means on a private proposal here the applicant is  
24 defining why he is seeking federal approval, and  
25 identifying what he is trying to accomplish. And that

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1 is entitled to respect. And here, what we basically  
2 have is a Contention that says ignore what Ameren  
3 wants and let's look at a completely different  
4 alternative that does not meet those goals.

5 What Ameren's Environmental Report says is  
6 that our proposed action, -- this is in Section 3 of  
7 the ER, is intended to provide or assure a source of  
8 base load power. And the only alternatives that we  
9 believe are reasonable are those that provide that  
10 base load power. And I'll get into what does base  
11 load power mean in awhile. But we have indicated  
12 that, -- and we do, -- our view is completely in line  
13 with the Seabrook instruction that base load power  
14 refers to, -- base load power generates energy and  
15 continuously produces electricity at or near full  
16 capacity with high availability. So it is something  
17 that is very reliable and operates very continuously.  
18 And those are the fundamental characteristics. And in  
19 our Environmental Report we characterize base load  
20 capacity as plants that operate at around a 90 percent  
21 capacity factor. We clearly indicated that that is  
22 what we are looking at.

23 This is also not you know an unreasonable  
24 want. Again, Ameren is a franchised public utility.  
25 It has an obligation to provide reliable, efficient

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1 power to its customers. It's a load-serving entity  
2 too, under the MISO. It has a load, and that load has  
3 characteristics as all loads do for a utility. A big  
4 part of it does not vary. There is a certain amount  
5 of power 365 days of the year that has to be provided  
6 because it's the base load. And to satisfy that base  
7 load a utility will build a large plant that is highly  
8 reliable and highly available, that is going to  
9 operate for years, day in and day out, and has  
10 economies of scale. That is why you build a large  
11 nuclear plant and you're willing to make the capital  
12 investment because it is a long term, continuous,  
13 highly reliable resource.

14 Above that there is regular fluctuations  
15 and some of that is predictable when you have cycling  
16 units that are used regularly, but they come on and  
17 off. They are sometimes called Intermediate Capacity.  
18 And above that you have you know the variation in  
19 demand and you have peaking units. And it is very  
20 important to balance this, because you have to at all  
21 times match the demand with the generating capacity or  
22 your system is unstable and it is going to crash. So  
23 you have to monitor it very, very closely.

24 You also like having this large base load  
25 capacity for reliability purposes near your load.

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1 That way you don't have to worry about transmission  
2 interruptions. You again, get the maximum efficiency.  
3 And so utilities you know plan their system that way.  
4 If you start trying to substitute wind power for base  
5 load capacity you are adding variability to the  
6 system, and that has to be compensated. And it is  
7 tricky to compensate. You know even if you are  
8 relying on a lot of wind it is going to vary. And as  
9 it varies in order to maintain the stability of your  
10 system you're going to have to ramp up you know some  
11 quick response resource to govern that variability.  
12 And the more wind you have the greater the ramp up  
13 range is and the faster the ramp up time is. You know  
14 these are things that utilities consider very, very  
15 carefully in their planning, and so does MISO.

16 So the idea that well we will just rely on  
17 you know many thousand megawatts of winds to  
18 substitute for a base load plant totally ignores you  
19 know why the utilities structure their systems this  
20 way. Why do they have large, very efficient, very  
21 reliable base load plants near their load? They do it  
22 for reliability. They do it for efficiency.

23 Just with regard to efficiency there was  
24 an observation that Ameren buys 102 megawatts, -- or  
25 buys wind power. It's in the Environmental Report

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1 that we buy 102 megawatts of wind power and we have  
2 some renewable goals. You know that power that we buy  
3 is purchased at around \$69.00 per megawatt hour, which  
4 is about 6.9 cents per kilowatt hour, compared to the  
5 cost of producing power with Callaway that's down  
6 around 1.5 cents per kilowatt hour. So yes, we could  
7 also buy wind, we would not want to at that price.

8           You also have the transmission issue.  
9 You know if you're relying on wind spread out over a  
10 large area you're going to have to transmit that  
11 power, and that's another challenge. And it could be  
12 coming from different places at different times. All  
13 of that is a challenge that is eliminated when you are  
14 able to have a large, reliable, efficient base load  
15 plant near your load. And so our goal and our purpose  
16 is not frivolous.

17           It is clear here that the Petitioners are  
18 trying to redefine the, -- our goal and our end. In  
19 their reply for example, they said the goal of the  
20 proposed action is to provide a sufficient energy  
21 supply to substitute for the Callaway Plant. Well the  
22 goal of our proposal is not to substitute for the  
23 Callaway Plant. Our goal is to continue to provide  
24 base load power as the Callaway Plant can provide.

25           And in addition, you know our goal is not

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1 just energy. You know you can buy energy from a  
2 peaking unit, but that does not make it a reliable  
3 base load source. Our goal is to have reliable  
4 capacity, -- a base load efficient, reliable plant,  
5 and that has to be respected.

6 JUDGE TRIKOUROS: Let me ask you, there  
7 was a COL filed for Callaway for a new plant at some  
8 point, earlier?

9 MR. LEWIS: Yes, and then withdrawn.

10 JUDGE TRIKOUROS: What was the region of  
11 interest or the region of, -- the ROI in that COL, do  
12 you remember?

13 MR. LEWIS: I think that for alternative  
14 sites it was our service storage area.

15 MR. BOBNAR: It was basically the Missouri  
16 service area.

17 JUDGE TRIKOUROS: It's the State of  
18 Missouri?

19 MR. LEWIS: Yes.

20 JUDGE TRIKOUROS: Okay, does that have any  
21 implications with respect to this issue of the MISO  
22 Grid, that when, -- you know the only requirement then  
23 in the COL was that you look at alternatives within  
24 the region of interest, which would have been the  
25 State of Missouri, but the MISO Grid is certainly

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1 broader than that, is that correct?

2 MR. LEWIS: It is. We do have a  
3 preference for serving native load with native  
4 generation. That is reflected again, in our region of  
5 interest that was adopted in that proceeding. In  
6 addition to meeting you know MISO's reserve margins we  
7 remain a regulated public utility. We submit an  
8 Integrated Resource Plan to the State of Missouri.  
9 You know so we do have very much of an interest in our  
10 service territory and it being able to provide  
11 reliable power to our service territory, which is  
12 served by having your major generation near your major  
13 load.

14 JUDGE TRIKOUROS: If you were to do a  
15 full-blown alternatives analysis, you know a Section  
16 8, -- you know if you had concluded that wind was a  
17 viable alternative and you did a full-blown analysis  
18 of that, with respect to the whole MISO Grid, would  
19 that be a viable analysis? In other words, I'm  
20 assuming there would be a lot of issues regarding new  
21 transmission lines that would have to be considered.  
22 How would one select, -- how would you select sites  
23 for such an analysis? I'm just asking the question of  
24 could such an analysis be done as is being requested  
25 in the Contention?

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1 MR. LEWIS: We have done more analysis, --  
2 let me go back one step before I say that. I heard  
3 the statement that there was nothing in the  
4 Environmental Report, and we will take issue with  
5 that. There is actually quite extensive discussion.

6 JUDGE TRIKOUROS: It was three pages or  
7 some two, --

8 MR. LEWIS: It was in two different places  
9 actually, and one section was about three or four  
10 pages, -- and I think we had five pages altogether,  
11 but it was not insignificant. A lot of it was  
12 focusing though on our goal; can we use wind to  
13 provide you know a reliable base load source? And so  
14 we focused on that. You know if we did a full  
15 analysis I would still think a lot of the emphasis  
16 would be on that analysis. You know trying to use  
17 wind from eight states is going to give you the same  
18 sort of reliability that you get from having a large  
19 base load plant near your load. And I think the  
20 answer would be no.

21 We actually addressed that issue though.  
22 You know what the Missouri Coalition here is  
23 advocating is not that different from the  
24 interconnected wind farm scenario that we looked, --  
25 the interconnected wind farm simply means that you

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1 have a lot of wind farms that are connected together  
2 by transmission, which is another name for a grid,  
3 that are in areas sufficiently remote that you can  
4 count on the wind blowing somewhere, some time.  
5 Basically there are synoptic wind patterns and if you  
6 can disburse them enough then you probabilistically  
7 can say well, it may not be, -- you know wind may not  
8 be blowing in Missouri, but it's probably blowing in  
9 Minnesota. If it is not blowing in Minnesota then  
10 maybe it's blowing in Illinois. And you can say well  
11 based on that you know I think there is some  
12 probability that wind is always blowing somewhere and  
13 that I can count on it through the grid.

14 We actually looked at that, -- we looked  
15 at the studies, and we looked at the reliability that  
16 you've got with that, and we said that is not  
17 equivalent to a base load plant. That is in our ER.  
18 That is basically what is being advocated here; just  
19 rely on a lot of far-flung wind farms that are  
20 connected by the grid. It really isn't any different,  
21 and in fact, our Environmental Report specifically  
22 looks at it, looks at the reliability that is  
23 achieved, and says that's not the same. That really  
24 is not challenged in our application.

25 You know if you did a further analysis you

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1 would probably start looking at all the environmental  
2 impacts of wind greater detail, but in fact, our  
3 Environmental Report also touches on that. We did  
4 actually an extremely conservative calculation,  
5 because we said okay, let's credit wind with 35  
6 percent capacity value, which is very generous. And  
7 we said okay, what is the minimum amount of wind you  
8 would therefore need with this idea to provide you  
9 know base load wind through interconnected farms?  
10 And we pointed out the huge number of acres of wind  
11 farms that you would need to do that.

12           If we had done the calculation the way Dr.  
13 Makhijani's numbers suggest we should do it, which is  
14 crediting wind at a 15 percent capacity credit, -- we  
15 put that into our Answer. You would need 8,000  
16 megawatts of wind to provide the same capacity credit  
17 that you get with your nuclear plant at that 15  
18 percent. If it's 10 well it's 10,000 megawatts. And  
19 we started looking up what sort of acres of land do  
20 you need to provide that sort of resource. It's  
21 hundreds of square miles, if I recall. It's in our  
22 Answer.

23           So you would just get a lot more of that  
24 if we did a, -- you know we could quantify a lot more  
25 impacts. We could quantify the impacts of noise,

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1 because wind farms are not quiet. We could quantify  
2 the impacts on birds, because they are not very  
3 friendly to birds. And unfortunately the best wind  
4 farms are where the best wind currents are, which is  
5 where the best rafters, which is not a good  
6 combination for, -- you know there are a lot of things  
7 we could put into a fuller analysis. We did not need  
8 to do that.

9           Instead what we did is we looked at all  
10 the different ways we could think of to try and use  
11 wind a base load resource. We determined just by  
12 itself it doesn't work because it is intermittent, so  
13 we looked at coupling it with a standby fossil plant.  
14 That way you could do it, but as we said that  
15 basically only reduces the amount of time the fossil  
16 plant is operating. And you get sort of two sets of  
17 impacts and it doesn't save you much.

18           We then looked at this interconnected wind  
19 possibility. We looked hard and we looked at the  
20 studies, and we determined you know it is not  
21 sufficiently reliable. We then looked at the storage  
22 mechanisms. Again, trying to figure out how can we  
23 make this work to produce base load power? And those  
24 storage technologies were simply not sufficiently well  
25 developed. And that's again, in our Environmental

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1 Report and in our Answer.

2 So we actually took a hard look at could  
3 you use wind to produce base load power. We have  
4 quite a lot, -- it may be only five pages, but we  
5 looked at all the different ways you could do it, and  
6 it didn't work. And we've set that forth. And what  
7 we have here basically is a contingent that says  
8 ignore all that, you know the energy is out there you  
9 know, why don't you just buy it. And you know the  
10 grid is this magical thing that you know you can buy  
11 it and that's the end of the story. It is not even  
12 the beginning of the story when you're focused on  
13 reliability and efficiency.

14 JUDGE TRIKOUROS: Right. And I guess the  
15 question is to what extent is that story adequately  
16 told in the Environmental Report? And the Intervenors  
17 are saying it is not adequately told; that it should  
18 have been analyzed further.

19 MR. LEWIS: Yeah, but I don't think they  
20 are. I don't think they are challenging what we have  
21 in the Environmental Report. They're saying you know  
22 forget base load, you should ignore our purpose (sic).  
23 You know base load means nothing you know, so let's  
24 redefine the purpose. And that is very different from  
25 saying our analysis is wrong with respect to why wind

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1 can't produce base load. They never challenged that  
2 proposition. They simply say we don't care about base  
3 load. And that fails Seabrook, because it fails to  
4 respect the purposes, the needs, the wants, the ends  
5 of our proposed action.

6 JUDGE TRIKOUROS: I mean wind is  
7 inevitable. We all know that the RPS numbers are  
8 growing. Clearly there will be a lot of wind power in  
9 the next fifteen or twenty years. And you know people  
10 really do have to seriously look at how it can be  
11 used, even to replace a nuclear plant, most certainly  
12 in a COL context, -- certainly more perhaps than in a  
13 license renewal context. But nonetheless, you know it  
14 has got to be looked at.

15 But the question for us here is, is that  
16 something viable for the licensing of, -- relicensing  
17 of Callaway in this period of time given the Davis-  
18 Besse and Seabrook decisions? And that's really the  
19 decision we have to make.

20 MR. LEWIS: And I think those decisions  
21 are very instructive. Wind is an important resource  
22 and it has its place in the energy mix, as does other  
23 types of generation. What we were saying is that  
24 Callaway fills one particular type of need, the need  
25 for a large base load plant. And what we looked at

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1 is, is wind currently developed to the point where it  
2 can substitute for that base load resource. And that  
3 is what is in our Environmental Report. And the  
4 answer is currently no.

5 You know currently the wind storage that  
6 might allow you to use eventually wind in the long run  
7 to produce base load power is not there. That is in  
8 deed exactly what the Commission ruled in Seabrook.

9 And by the way, in Seabrook the contention  
10 was not a combination of interconnected winds coupled  
11 with storage. Seabrook, the contention was that wind  
12 could be used to produce base load wind by either of  
13 two means, either by interconnected winds; and the  
14 idea is that you would have these wind farms widely  
15 dispersed up and down the east coast with a high  
16 speed, efficient transmission connection or  
17 alternatively that you could use this compressed air  
18 energy storage. And there were two different  
19 proposals on how wind could be used, and both of them  
20 were found not to be viable based on the current state  
21 of the industry and technology.

22 JUDGE TRIKOUROS: But Davis-Besse I  
23 believe, did couple the storage with the  
24 interconnected wind farms, --

25 MR. LEWIS: There was a day vault in

1       Seabrook, not in Davis-Besse.

2                   JUDGE TRIKOUROS:  -- yeah, I understand,  
3       but I'm saying that subsequent to that there was a  
4       Davis-Besse decision that was the same basic decision  
5       as Seabrook by the Commission, and it did take into  
6       account a coupling of compressed, -- at least  
7       compressed air storage with interconnected wind farms.

8                   Okay.  By the way, I just want to note  
9       that the studies that have been referenced to us as  
10      part of this proceeding seem to show that as the  
11      amount of wind generation gets more, -- you know  
12      remote wind generation, it's coupled by transmission  
13      lines, the percentage that can be attributed to base  
14      load optimizes somewhere in the 30 percent range.  And  
15      the studies that I've seen show that as you get more  
16      interconnected wind it actually goes down.  And I'm  
17      not going to pretend that I understand why that is.

18                  MR. LEWIS:  I am not aware of anything  
19      that talks about this optimization for base load, but  
20      yes, you know the capacity credit, -- as wind  
21      penetration increases the capacity credit decreases.  
22      And I'm not sure I want to try and explain it either.

23                  JUDGE TRIKOUROS:  That's fine.

24                  JUDGE FROEHLICH:  I actually just had one  
25      question and I guess it goes to the scope of the

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1 inquiry that the Company made here. To what extent or  
2 what is the significance of the fact that Ameren sits  
3 in the MISO RTO, from the perspective of studying  
4 alternatives to the Callaway Plant? How significant  
5 is it? I mean we have just heard that the difference  
6 between this case and the studies that were done in  
7 Seabrook is that here we are looking at the grid as  
8 part of it. So as you evaluate the alternatives to  
9 the renewal of Callaway, how significant in your  
10 analysis, was the fact that Ameren is part of the MISO  
11 system?

12 MR. LEWIS: Not really. I mean Seabrook  
13 was part of a grid too, and the contention in Seabrook  
14 again, on interconnected wind was that if you  
15 dispersed wind farms over a large geographic area and  
16 used you know the transmission network to transmit the  
17 power you would get some percentage that was  
18 sufficiently reliable to constitute base load. It is  
19 no different from my perspective. You know it's  
20 again, wind farms in remote locations, remote from  
21 each other, coupled by transmission. And I don't see  
22 that any different from wind farms in the MISO area,  
23 which is a big area. I think it is exactly the same  
24 scenario.

25 Let me quickly try and respond to your

1 questions. You asked is base load power defined by  
2 MISO?

3           There is no specific definition of base  
4 load power. There is a definition of a base load  
5 supply resource that is used for assigning firm  
6 transmission rights. And this is in The MISO Business  
7 Practice Manual No. 4. That definition of a base load  
8 supply resource is a generating resource that over a  
9 three year period has achieved a 50 percent capacity  
10 factor. That is really done for a different purpose  
11 though. It is used in the context of assuring firm  
12 transmission rights to an incumbent load serving  
13 entity to make sure that they have access and  
14 transmission for their generating source. And so it  
15 is a purposely low definition that encompasses not  
16 only the highly reliable plant that operates at 90  
17 percent, but you know plants that are more in the  
18 cycling range. So perhaps it would have been better  
19 if they had called it something else. But it is used  
20 for a different purpose. It is used for establishing  
21 firm transmission rights.

22           Does the MISO assign a capacity value for  
23 wind? Again, you've heard they have this generic 14.7  
24 percent effective load-carrying capacity for wind,  
25 which is used in long range planning. They also

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1 assign on a yearly basis for every wind farm, a  
2 specific capacity factor for their planning purposes.  
3 I don't think that, -- I mean those capacity factors  
4 are used for reserve margin planning. They really  
5 don't go to you know whether a resource provides the  
6 same sort of reliability as a base load plant.

7 What is the capacity factor assigned to  
8 Callaway for MISO purposes?

9 They do not assign a capacity factor. The  
10 capacity credit that is assigned by MISO to our  
11 generating resource is based on the unforced capacity,  
12 so it's basically the nameplate capacity, minus the  
13 forced outage rate. So in determining what the, --  
14 it's called the U-Cap, unforced capacity, you don't  
15 consider planned outages, they don't count. And so  
16 you're figuring out an unforced capacity of how long  
17 is it available when it is meant to be available. And  
18 if you do the math the U-Cap that has been assigned to  
19 Callaway comes up with unforced U-Cap of about 95  
20 percent. Obviously it's lower if you put plant  
21 outages in there.

22 What is the actual capacity factor for  
23 each of the past ten years?

24 I can read them to you if you would like  
25 them read into the record or tell you the range.

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1 JUDGE FROEHLICH: The range would probably  
2 do it.

3 CHAIRMAN BOLLWERK: Judge Froehlich, this  
4 is his question, so if the range goes for him, it will  
5 do it for me.

6 MR. LEWIS: Okay. From 2002 through 2011  
7 the low was 76.85 in 2004, the high was 95.88 in 2009,  
8 and most of the results are in the high eighties or  
9 low nineties. That is not of course, the U-Cap that  
10 is the capacity factor, so that takes into account  
11 both the plant outages and the forced outages.

12 Finally, you asked is wind energy treated  
13 as a dispatchable interruptible resource?

14 That categorization applies only to wind.  
15 It was a recent category that allows wind to  
16 participate in the real-time market. Previously wind  
17 couldn't in the MISO, and it requires a plant that  
18 wants to participate to become dispatchable and  
19 register as a dispatchable resource. The goal I think  
20 is eventually that all wind would be dispatchable.  
21 Currently about one-third is. Some plants are  
22 grandfathered. Plants who have long term contracts  
23 are grandfathered. Plants that were in existence  
24 prior to 2005 and don't have the capability don't have  
25 to make the modifications. But the goal here is to

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1 make wind more dispatchable.

2           Dispatchable wind means that if wind is  
3 providing power and suddenly the wind increases and  
4 therefore there is a rapid increase in the amount of  
5 power it is producing, you know there can be a  
6 dispatched curtailment very quickly. It does not work  
7 the other way around though, if wind is generating and  
8 all of a sudden the wind drops, and therefore your  
9 wind output drops, you know dispatchable power doesn't  
10 provide any way for you to just all of a sudden  
11 produce that added power. And therefore it is not a,  
12 -- it does not resolve all of the reliability issues  
13 of relying on wind. I think that's it.

14           JUDGE FROEHLICH: Just one quick  
15 clarification. Did you say that dispatchable  
16 interruptible DIR(s) only apply to wind in MISO?

17           MR. LEWIS: My belief is yes, the wind is  
18 the only intermittent resource that is allowable to  
19 qualify as a DIR. Am I right?

20           MR. BOBNAR: Yes.

21           MR. LEWIS: I'm told I'm right.

22           JUDGE FROEHLICH: Okay, thank you.

23           MR. LEWIS: It is in Schedule, -- in  
24 Tariff E.

25           JUDGE FROEHLICH: Right.

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1 CHAIRMAN BOLLWERK: Let me ask a timing  
2 question. How long does the staff think they need for  
3 their presentation?

4 MS. MIZUNO: Ten minutes. It depends on  
5 the questions the Board wishes to ask.

6 CHAIRMAN BOLLWERK: Okay. Let me ask you  
7 a question then, would you rather take a break after  
8 you've heard from the staff, give you a chance to take  
9 not only a break, but also prepare with Dr. Makhijani?

10 MS. CURRAN: Sure.

11 CHAIRMAN BOLLWERK: So we will do their  
12 ten minutes and then take a break and come back to you  
13 all. Will that work?

14 MS. CURRAN: Yes, that would be fine.

15 CHAIRMAN BOLLWERK: Okay. All right,  
16 let's hear from the staff.

17 MS. MIZUNO: Recognizing that the Board is  
18 familiar with our pleadings, and given the Board's  
19 instructions in its June 1 Order, I would like to  
20 respond to some of the points that have been made  
21 today, and some of the points that MCE made in its  
22 reply, and to answer the questions that the Board has  
23 asked in its Order.

24 And to that end I would say that MCE is  
25 right on a couple of points. MCE is correct when it

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1 says that the Contention seeks to have wind evaluated  
2 as an alternative to license renewal. That's correct.

3 And MCE is correct also when it says that  
4 the purpose of the staff's Environmental Impact  
5 Statement is to provide decision-makers and the public  
6 with information about the impacts of the proposed  
7 action, vis-a-vie, reasonable alternatives.

8 But MCE is wrong when it argues that wind,  
9 which is not a base load electricity power source  
10 should be considered as a reasonable alternative to  
11 license renewal for Callaway. And this is because  
12 only electricity production sources that produce base  
13 load power in an amount equal to the plant at issue,  
14 that are technologically feasible and commercially  
15 viable and timely, only those are required to be  
16 analyzed as reasonable alternatives to license renewal  
17 in a full Section 8 analysis.

18 And this is because the end of the  
19 proposed action, which is the first question that the  
20 Board has posed; what is the end of the proposed  
21 action? That end is the same end that the applicant  
22 sought in Seabrook. It is the production of base load  
23 power. And in Seabrook the Commission held an  
24 electricity source that cannot provide base load power  
25 need not be analyzed under Section 8 as a reasonable

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1 alternative to license renewal.

2 Now the Board's additional questions all  
3 focus on MISO. And Judge Trikouros asked a question  
4 about the region of interest and this sort of meshes  
5 with our position.

6 So respectfully the staff maintains its  
7 position that to focus on MISO is really to ask, -- to  
8 focus in somewhat of the wrong way. We realize that  
9 this is what MCE is trying to do, but we believe that  
10 that focus is mistaken. Because focusing on these  
11 MISO facts and figures never get you to the heart of  
12 the question. And the heart of the question is does  
13 wind qualify as base load power? And it doesn't even  
14 qualify as base load power in MISO.

15 We were not able to find a definition of  
16 base load power, -- a pure base load power definition  
17 in the MISO documents. We searched as well. We also  
18 came up with the same base load reference that  
19 Ameren's counsel found, but that is for a different  
20 and somewhat limited purpose. But if you were to look  
21 at that, that, -- even with its very, very low figure  
22 of 50 percent, -- at least 50 percent electricity  
23 production, -- or sorry capacity factor, even if you  
24 go with that very, very low figure wind and MISO does  
25 not cut it. And as MCE's counsel acknowledged, the

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1 capacity factor for wind in MISO is 14.7 percent, just  
2 shy of 15 percent. And that's what counsel gave. And  
3 that's what we found as well.

4 And another question that the Board posed  
5 that leads to the next question, which is capacity  
6 value. What is the capacity value of wind in MISO?

7 Your Honors, we had a very difficult time  
8 finding the phrase capacity value in the MISO  
9 documents. The phrase capacity value shows up on a  
10 number of occasions in Dr. Makhijani's Declaration,  
11 but MISO generally talks about capacity factors and  
12 capacity credits. And that is generally what we  
13 focused on. And that 15 percent number that counsel  
14 for MCE put forward is a capacity credit number in  
15 MISO, and I just wanted to make that clear.

16 Capacity credit has been explained to me  
17 in sort of laymen's terms and I'm hoping I get this  
18 right. It has been explained to me as the amount  
19 likely that you can count on, on the hottest day of  
20 the year when you need it most that this is the amount  
21 that this particular electricity producer will be able  
22 to give you. This is what you can depend on when you  
23 really, really need it.

24 And in MISO when they are calculating  
25 capacity credits, -- as counsel for Ameren pointed

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1 out, we found this as well, when you're calculating  
2 capacity credits for wind you're looking at capacity  
3 credits on a wind farm specific basis. So it is so  
4 flexible or rather reliant on circumstances that when  
5 it is calculated for wind, geography sighting, all of  
6 that matters an awful lot. And the wind flow I guess  
7 at that place would matter an awful lot. And so it is  
8 calculated on wind farm by wind farm basis.

9 The Judges talked about, -- Judge  
10 Trikouros asked a question about a full analysis. If  
11 you took the proposition that MCE has put forward that  
12 what you need to look at is wind plus the grid, and  
13 the question is can you actually do a full Section 8  
14 analysis of wind plus the grid? Counsel for the staff  
15 of the NRC would say no your Honors, you cannot. It  
16 really does not make any sense, because as we said in  
17 our pleading, in a very extensive footnote; so I  
18 appreciate your patience, we explained that if you do  
19 that what you're talking about is a combination  
20 alternative. You're talking about a combination  
21 alternative which includes wind, plus everything else  
22 that feeds the grid. Because as I'm sure counsel and  
23 the Judges understand, the grid actually produces  
24 nothing. The grid never produces a single bit of  
25 electricity. It allows electricity to move from point

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1 to point, from producers to consumers, but the grid  
2 itself produces nothing.

3 What produces electricity that feeds the  
4 grid are the producers that actually feed the grid.  
5 So if you're talking about wind, plus the grid, what  
6 you're actually talking about is wind, plus gas, plus  
7 coal, plus hydro, plus wind, plus nuclear. You're  
8 talking about everything that feeds that grid.

9 This is not a useful analysis for purposes  
10 of analyzing nuclear power verses wind power. And  
11 that is what we pretty much said in our pleading; that  
12 this combination alternative that MCE is putting  
13 forward would require analysis of every alternative  
14 and any alternative, regardless of whether it could  
15 produce base load power. And whether it was the kind  
16 of alternative that in fact the Board is bound by the  
17 Seabrook and Davis-Besse Commission decisions to hold  
18 to. Do your Honors have any questions?

19 JUDGE TRIKOUROS: No, I don't think so.

20 JUDGE FROEHLICH: I don't think so.

21 CHAIRMAN BOLLWERK: All right, we will go  
22 ahead and then, -- thank you very much. Let's take a  
23 break. I now have about five 'til one, let's take a  
24 break until around one o'clock and we'll come back and  
25 finish up with your reply and then we will be

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1 basically done, other than a few administrative  
2 details.

3 *[Whereupon, at 12:55 p.m. the hearing was*  
4 *recessed, to reconvene this same day at 1:00 p.m.]*

5 CHAIRMAN BOLLWERK: If we could go back on  
6 the record please? All right, we just finished the  
7 break and I think we're in the home stretch here.  
8 Before you give your full reply I just want to ask one  
9 question.

10 We've heard from staff counsel sort of  
11 this is really not a, -- if it were Section 8, it's  
12 really not a Section 8 analysis. It's really not a  
13 question of analyzing wind, but analyzing everything.  
14 That's probably not what you've asked for, but it does  
15 seem to suggest that. What response do you have to  
16 that?

17 MS. CURRAN: I'm not sure I understand the  
18 question?

19 CHAIRMAN BOLLWERK: Well, if I understood  
20 her argument, -- go ahead, I'll let you, --

21 JUDGE TRIKOUROS: Well, I will try to  
22 embellish it. As I understood the comment, when you  
23 talk about wind power in conjunction with the grid,  
24 which was the basis of your premise in your  
25 Contention, you really are talking about wind in

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1 combination with the other energy sources on the grid.  
2 And in order to do a proper alternatives analysis you  
3 would have to look at it as if it were a combination  
4 option, you know such as wind plus solar, plus  
5 storage, you know and all these combinations are  
6 looked at, wind plus natural gas you know et cetera.  
7 When you bring in the grid you really are doing sort  
8 of a super combination analysis. That was the  
9 statement made by the NRC staff counsel.

10 MS. CURRAN: This gets back to our request  
11 for an apples to apples analysis. It assumes that  
12 nuclear operates outside the grid; your question, and  
13 that looking at any other alternative would be, --  
14 that included the grid would be far afield. So what  
15 we're saying is nuclear has outages. You could not  
16 rely exclusively on nuclear without having outages.  
17 You must look at nuclear in the context of the grid.  
18 And therefore you must look at alternatives in the  
19 context of the grid. We are asking for consideration  
20 of the wind alternative in the context of the grid.  
21 Does that, --

22 JUDGE TRIKOUROS: Well you know I think it  
23 is an interesting comment that nuclear is not 100  
24 percent available either, but it is 90 plus percent  
25 available. I think the, -- strictly speaking to do

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1 apples and apples, one would have to look at a nuclear  
2 plant operating 90 percent of the time, plus the grid  
3 replacing it 10 percent of the time. And a series of  
4 wind turbines operating 15 or 20 percent of the time,  
5 or 30 percent of the time, depending on what you could  
6 justify, plus 70 percent of the time looking at the  
7 rest coming from the grid. And you know if the entire  
8 grid were natural gas for example, other than that  
9 wind, it would be a fairly simple thing to do. But  
10 that might illustrate the way it would have to be  
11 done. You would have to look at 30 percent wind, plus  
12 70 percent natural gas as a combo. And the other, --  
13 in the nuclear case it would be 90 percent nuclear,  
14 plus 10 percent natural gas. But that's the comment  
15 that was, -- so do you disagree with what you heard?

16 MS. CURRAN: Yes. Yeah, we disagree and  
17 let me explain. First I want to talk about this  
18 concept of, -- okay, so I just want to talk about the  
19 capacity factor. We know from what Mr. Lewis said  
20 that in 2004 Callaway operated at about 75 percent  
21 capacity factor, -- 76 percent capacity factor. We  
22 know in France the capacity factor is 80 percent.  
23 Coal, which is called base load is often between 60  
24 and 70 percent, and we know that the best resources  
25 for wind say 50 percent. So there's a, -- it is not

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1 such an extreme comparison.

2 In 2004 Callaway needed the grid for three  
3 months. So, --

4 JUDGE TRIKOUROS: Would you repeat that?  
5 I'm sorry what did you say?

6 MS. CURRAN: In 2004 Callaway needed the  
7 grid for three months. And in Dr. Makhijani's  
8 Declaration we demonstrated that in recent years  
9 nuclear can have outages, prolonged outages. So we  
10 have provided evidence that nuclear can have prolonged  
11 outages; that there is a real potential in the future  
12 that nuclear will not be as reliable as is claimed by  
13 Ameren.

14 But we are not saying, -- you know we are  
15 not saying that nuclear is frivolous. We're just  
16 saying that it has to be compared realistically with  
17 other options, -- with wind, in a way that, -- in the  
18 same kinds of considerations that apply to Ameren's  
19 reliance on nuclear to serve what they, -- you know  
20 this concept of base load, of being able to provide a  
21 consistent supply of electricity over a reliable  
22 period of time, that involves reliance on the grid.

23 So why are we precluded from advocating  
24 the wind alternative when it is the same basic concept  
25 of the grid must compensate for the outages of this

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1 technology. And the technology itself is viable, it's  
2 commercially feasible.

3 JUDGE FROEHLICH: Can I ask one question?  
4 Staff counsel Mizuno in her talk said the grid doesn't  
5 really supply any energy it comes from different  
6 generation sources. So when you just say to us that  
7 Ameren had to rely on the grid for three months, did  
8 they rely on the grid are you saying, or did they rely  
9 on their other generation resources?

10 MS. CURRAN: When we say grid we mean  
11 other generation sources through the same transmission  
12 network.

13 JUDGE FROEHLICH: Right. But I mean in  
14 the real world, if we are comparing apples to apples  
15 you know what would Ameren do if one of its base load  
16 units went down? It would look to, -- I guess within  
17 its other generation sources for something to swap in  
18 there. It's not coming from really the amorphous grid  
19 or from Minnesota. It's probably coming from some  
20 coal plant that had been you know out of service or  
21 perhaps a natural gas generator that they owned. Is  
22 that right?

23 MS. CURRAN: Not if it were unplanned  
24 outages, they would be purchasing power.

25 JUDGE FROEHLICH: Okay. And the three

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1 month example that you used was that primarily planned  
2 or unplanned?

3 MS. CURRAN: We would assume that was  
4 unplanned.

5 MR. LEWIS: That's not, --

6 MS. CURRAN: That's not right? We would  
7 have to study the specific case, but in general  
8 electrons are not just moving within Ameren's specific  
9 service territory.

10 JUDGE FROEHLICH: Agreed.

11 MS. CURRAN: Whenever you have outages you  
12 have to consider the reliability of power supply  
13 within the entire grid. The grid is a way of  
14 maintaining stability of power supply.

15 Now what we are saying is the structure  
16 exists to provide the stability that I think Mr. Lewis  
17 was saying Ameren desires. That is what the grid  
18 does. And you know that is a modern development  
19 that's happened, the establishment of these grids,  
20 where there is a great variety of energy sources that  
21 are available for, -- to be sold and purchased. And  
22 that it is a much more fluid situation than what was  
23 assumed when Callaway was licensed.

24 I would like to just read something. One  
25 of the topics of discussion here is the comparison of

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1 this case to the Seabrook case. At page 48 in the  
2 slip opinion the Commission described the fact that  
3 the Board admitted the Contention, but restricted its  
4 scope. And the Commission says, "*Concluding that all*  
5 *supporting facts focus exclusively on wind power*  
6 *generation the Board limited Beyond Nuclear's*  
7 *Contention to just that form of renewable energy.*"

8 So that Contention was quite narrow I  
9 think, though there was a real distinction between  
10 that Contention and the Contention that is being  
11 presented here.

12 I just want to make a couple more points.

13 CHAIRMAN BOLLWERK: All right.

14 MS. CURRAN: First of all, I think Mr.  
15 Lewis said that Ameren's choice of an alternative  
16 needs to be respected, and he cited the, -- I think  
17 the Buesie Case (phonetic). And it's certainly true  
18 that the Agency gives special weight to applicant's  
19 preference. But it can't be the case that the  
20 applicant's preference rules; that if the applicant  
21 does not want to consider alternatives it doesn't have  
22 to. NEPA requires the consideration of a reasonable  
23 array of alternatives, and after all, this is the  
24 NRC's responsibility to license this reactor. Are we  
25 saying before, -- to confer certain subsidies on it to

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1 allow the generation of spent fuel with no known means  
2 of disposing of it?

3           There are a number of things that happen  
4 with the issuance of a permit that aren't just  
5 private, they're public. This is a Government  
6 decision to allow certain risks and impacts to be  
7 imposed on the public and only with the issuance of a  
8 federal permit can this happen. So to say that this  
9 entire decision is exclusively within the purview of  
10 Ameren is not correct.

11           If an alternative is reasonable then it  
12 needs to be discussed. Ameren's choice of  
13 alternatives may be deferred to, but if an alternative  
14 is reasonable we think that the law requires that it  
15 must be addressed.

16           Finally, I would like to talk about the  
17 relationship between capacity factor and base load.  
18 The idea that we can have, -- that we can use the  
19 average annual capacity factor to define base load is  
20 mistaken. Base load from the point of view of, --  
21 wait a minute, strike that. Base load from the point  
22 of view of reliable energy supply relates to the order  
23 in which it is dispatched, and not an average annual  
24 capacity factor. That's why MISO doesn't give  
25 capacity factors, because they are irrelevant.

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1           Consumer supply has to be much more  
2 reliable than the availability of any individual  
3 source. You know that's something that is  
4 demonstrated, -- has been demonstrated in our  
5 evidence, and also what's been said here today, that  
6 other sources are necessary in order to achieve that  
7 reliability of consumer supply. The idea that the  
8 continued operation of Callaway is the only way that  
9 that can be achieved is simply not credible, it's not  
10 reasonable.

11           Well I would just like to point out that  
12 Germany is planning to replace its nuclear plants with  
13 renewables in the next ten years. So you know we are  
14 in a world that's changing. And that's part of our  
15 purpose here today, is to use NEPA to force  
16 consideration of the changing environment of energy  
17 production; that there are ways to produce energy that  
18 have less serious impacts and that are commercially  
19 viable that are being used now, and that are advancing  
20 relatively quickly. We want to make sure that the  
21 Callaway license renewal decision is fully up to date  
22 and not in the past somewhere.

23           And then finally we want to make sure that  
24 the unreliability of nuclear, as has been demonstrated  
25 in recent years, is also taken into account in

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1 weighing those alternatives. Thank you.

2 CHAIRMAN BOLLWERK: Okay.

3 MR. LEWIS: May I offer two very focused  
4 points?

5 CHAIRMAN BOLLWERK: As long as Ms. Curran  
6 gets the last word; very focused.

7 MR. LEWIS: Yes, that's fair. The 2004  
8 capacity factor should not be assumed to be an  
9 unplanned outage. There was a planned condenser  
10 replacement during a scheduled outage in 2004.

11 Ms. Mizuno I think indicated that the  
12 capacity credit in MISO is calculated based on the  
13 worst peak. Just a clarification of that, I believe  
14 the capacity credit is calculated based on a one year  
15 average. There is a calculation that MISO does on  
16 what is the available capacity from wind during the  
17 worst peak, and I will provide references as other  
18 parties are doing, but it's basically 7 percent of the  
19 capacity during peak times. And that is one of the  
20 aspects of wind is that during peak when the air is  
21 very hot and also stagnant then the wind actually  
22 contributes the least.

23 CHAIRMAN BOLLWERK: All right. Let me  
24 turn to Ms. Mizuno. I was about to say do you have  
25 anything you want to say about that and then we'll go

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1 back to Ms. Curran?

2 MS. MIZUNO: No. Actually I have  
3 something not to say about what counsel for Ameren  
4 just said, about explaining where you can find  
5 capacity factor numbers. Capacity factor numbers for  
6 Callaway; at least as far as the NRC calculated them  
7 based on just the amount of megawatts produced verses  
8 the faceplate, that's all in The Information Digest.  
9 The Information Digest however, those numbers only go  
10 back eight years, so you are going to have to grab a  
11 couple of old Information Digests to get your full ten  
12 years. But the capacity factor is all public and has  
13 been out there ever since, --

14 CHAIRMAN BOLLWERK: I probably have ten  
15 years sitting in my office, so that's probably, --

16 MS. MIZUNO: I think you're all set, your  
17 Honor.

18 CHAIRMAN BOLLWERK: Right. All right, Ms.  
19 Curran, anything you want to say about either of those  
20 two items?

21 MS. CURRAN: No.

22 CHAIRMAN BOLLWERK: Any questions, Judge  
23 Trikouros?

24 JUDGE TRIKOUROS: No.

25 CHAIRMAN BOLLWERK: Let me just ask one.

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1 There wasn't much said in Dr. Makhijani's Affidavit  
2 about transmission, and it seems to me that that's an  
3 important, -- I mean we have to find that the, -- this  
4 is technically feasible and commercially viable, and  
5 somehow all of this has to be put together and  
6 transmission becomes an important part of it. How can  
7 we make that sort of finding without any information  
8 from you all about the transmission; what it is going  
9 to cost and what that entails?

10 MS. CURRAN: Judge Bollwerk, there is such  
11 a large amount of wind generation that is now being  
12 planned in the eastern interconnect, what we are  
13 talking about is a relatively small fraction of that.  
14 And as far as we know transmission is a standard part  
15 of the planning for that, so that it is not, -- you  
16 know this is in process. It is part of the system  
17 that is being planned. You know what we are talking  
18 about is we're telling you that this is being planned;  
19 that this capacity is being built; that Ameren can  
20 take advantage of this and that, -- we didn't think  
21 there was a separate independent need to address  
22 transmission costs.

23 CHAIRMAN BOLLWERK: All right, any  
24 questions that brings to, -- one last question. MISO,  
25 how many nuclear reactors are within MISO, if anyone

1 knows?

2 JUDGE FROEHLICH: Eleven.

3 CHAIRMAN BOLLWERK: Eleven?

4 JUDGE FROEHLICH: I think.

5 CHAIRMAN BOLLWERK: All right. All right,  
6 I'm hearing eleven, is that, --

7 MR. LEWIS: It's eleven.

8 CHAIRMAN BOLLWERK: Okay. The question I  
9 have is this, the argument you are making here is  
10 relative to Callaway, and all right, we replace  
11 Callaway with wind. And then we move to the next one  
12 and replace that one with wind, and it's sort of like  
13 a game of Jingle, you keep pulling the pegs out, when  
14 do you have problems keeping the stack in place, I  
15 guess that's my question? Does this apply to every  
16 reactor? I recognize you're only doing it in the  
17 context of Callaway, but that's the first step, where  
18 do we go in the future?

19 MS. CURRAN: We think that over time all  
20 nuclear and fossil fuel plants can be replaced with  
21 renewables with proper planning. But of course, what  
22 we are dealing with today is Callaway, our analysis  
23 did not, -- we did not try to do the entire array of  
24 nuclear plants in the MISO service area. And you know  
25 we are not suggesting that it could be done in the

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1 next ten to fifteen years. You know we just have not  
2 done that analysis.

3 CHAIRMAN BOLLWERK: All right, any other  
4 questions then? Judge Trikouros.

5 JUDGE TRIKOUROS: You mentioned Germany,  
6 I did just happen recently to see an article that said  
7 the largest aluminum plant that Germany just shut  
8 down, the electricity prices were too high to sustain.  
9 I don't know if you want to comment on that, but, --

10 MS. CURRAN: We do know that the spot  
11 prices for electricity in Germany are lower than they  
12 were a year ago. So you know we don't know about that  
13 particular decision, but those prices have come down.

14 CHAIRMAN BOLLWERK: All right, I think at  
15 this point then if there is nothing else from any of  
16 the participants and the Board having no more  
17 questions, I think we have concluded our oral  
18 argument.

19 MR. LEWIS: Judge Bollwerk?

20 CHAIRMAN BOLLWERK: Yes.

21 MR. LEWIS: When should the parties submit  
22 their references?

23 CHAIRMAN BOLLWERK: That's where we're  
24 going to. That's where we're headed right now.

25 MR. LEWIS: Okay.

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1 CHAIRMAN BOLLWERK: That's no problem. We  
2 have a couple of administrative items to deal with.  
3 There were if I counted them correctly, four items I  
4 think that the Petitioners are going to provide us  
5 with, and I will go over them briefly; a MISO glossary  
6 citation, the citation to FERC Chairman Wellington, --

7 JUDGE FROEHLICH: Wellinghoff.

8 CHAIRMAN BOLLWERK: -- Wellinghoff's 2009  
9 statement I believe it was. The 2011 decision by FERC  
10 and also a MISO reference regarding must run. Does  
11 that sound about right?

12 MS. CURRAN: Yes.

13 CHAIRMAN BOLLWERK: Okay. And we have one  
14 also citation from the Applicant. I'm thinking by  
15 February 5th, which is five days from now, is that  
16 enough time for everybody?

17 MR. LEWIS: February 5th?

18 CHAIRMAN BOLLWERK: I'm sorry did I say  
19 February? I'm sorry that's not right. I've got the  
20 wrong month. June 5<sup>th</sup>, -- June 12th which is five  
21 days from now. Sorry. Is that acceptable? No  
22 problem?

23 *(No audible response)*

24 CHAIRMAN BOLLWERK: Okay, just go ahead  
25 and file it in the regular way, a letter or whatever

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1 you think is appropriate. Again, June 12th.

2 A couple of other items just very briefly,  
3 in terms of scheduling matters and discovery matters,  
4 if the Missouri Coalition is found to have standing  
5 and one or more of its Contentions is admitted, in  
6 setting a 10 CFR Section 2.332(d) schedule for the  
7 proceeding the Board will need to make an assessment  
8 about future filing dates and any evidentiary hearing  
9 based on the status of the staff's review schedule.

10 The most recent licensing review schedule  
11 for the proceeding posted on the NRC website indicates  
12 that the staff's Safety Evaluation Report, or SER,  
13 will be issued with open items in April of 2013 and  
14 then final in September of 2013. And a Supplemental  
15 Environmental Impact Statement, or SEIS, would be  
16 issued in draft in February of 2013 and in final form  
17 in September of 2013. Any reason that that schedule  
18 at this point, -- now we will ask this question again  
19 before we make a schedule, but has anything changed  
20 about that schedule that you're aware of?

21 MS. MIZUNO: As far as we know right now  
22 your Honor, all those dates on the NRC website are  
23 right.

24 CHAIRMAN BOLLWERK: Okay. Okay again,  
25 things change and we will ask you again, but I just

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1 wanted to see if that's where we are right now.

2 Let me also mention that consistent with  
3 the existing provisions of Section 2.309(i), the Board  
4 will be endeavoring to issue a decision on the matters  
5 of standing and Contention admissibility during July  
6 of 2012.

7 If the hearing is granted the parties  
8 should be aware that the Board is likely to convene a  
9 Pre-Hearing Conference regarding future scheduling  
10 fairly promptly after that. And probably some time in  
11 July or early August of 2012, just for your  
12 information.

13 Also assuming a hearing is granted the  
14 participants should be aware that the general  
15 discovery provisions under Section 2.336, including  
16 the need for the staff to provide a hearing file, will  
17 be activated regardless of whether there is any Board  
18 Order or party discovery request.

19 Also relative to general discovery the  
20 participants may wish to discuss whether they want to  
21 prepare and produce privilege logs or waive such logs,  
22 again if this case were to go to that stage. So that  
23 is something to think about in the interim.

24 At this point, I think, -- I know that we  
25 were talking among ourselves at the last break. We

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1 felt this was an extremely interesting and useful oral  
2 argument. All the counsel gave us a lot of  
3 information, a lot of your views very well presented.  
4 We appreciate very much the effort you went into. We  
5 gave you some questions at the last minute; I think  
6 three days is, -- well, maybe over the weekend, but  
7 pretty near the end of the proceeding, or at least  
8 before we held this argument, and I think you were  
9 well prepared. We do appreciate that. You brought a  
10 lot of information to us. We have a lot to think  
11 about here. There are a lot of interesting issues  
12 here and they have to be given very careful  
13 consideration. So we do appreciate the efforts of  
14 counsel in bringing that information to us and I think  
15 the argument was one of the better ones that I've been  
16 to, frankly. So we do appreciate your efforts.

17 In terms of thank yous, William Woods  
18 University has done a great job here with this room.  
19 They allowed us to use the Aldridge Lounge here in the  
20 Aldridge Recreation Center and we appreciate that.  
21 Sean Spears (phonetic), of the University's  
22 Information Technology staff helped us ensure that the  
23 audio system we used today was fully functional, and  
24 I think it worked just great. I felt like I was back  
25 dealing with some of the folks at the NRC that we have

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1 used for years, and our IT staff at ASLBP, and  
2 everything worked just great. So we really appreciate  
3 Sean's efforts.

4 Also Brenda Foster, the University's  
5 administrative staff, who was really instrumental in  
6 trying to, -- in making this available to us, making  
7 all the arrangements that were necessary, we very much  
8 appreciate her efforts as well.

9 I also want to say thank you to Karen  
10 Skidmore (phonetic), of the NRC Security Office, and  
11 the members of the Callaway County Sheriff's  
12 Department who were here with us today to provide  
13 security for the proceeding which is always important.

14 Laurie Uselding (phonetic), of the NRC  
15 Region 4 OPA staff who is here, provided any  
16 assistance that we needed. Back in Rockville, ASLBP  
17 IT specialist Jud Licker (phonetic), worked with Sean  
18 to make this set up here work just fine.

19 I want to thank our Law Clerk Matt Flyntz,  
20 who was the timekeeper here, although we didn't really  
21 keep the time very carefully. We sort of wanted to  
22 get the views, but he was right there with telling me  
23 when your time had expired, even though I didn't say  
24 anything to anybody about that.

25 And last, but not least Sarah Culler

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1 (phonetic), the Panel's administrative staff, for  
2 finding us this excellent venue and for taking care of  
3 all the mere details to get the Board to Fulton and to  
4 make sure everything proceeded smoothly while we were  
5 here. Sarah, we really appreciate your efforts. I  
6 think this was a good venue, a good proceeding. We  
7 also appreciate the efforts of the court reporter.  
8 Hopefully we did not cause too much trouble for you,  
9 but if you need any information let us know, we will  
10 be glad to help out.

11 All right, at this point, Judge Froehlich,  
12 anything?

13 JUDGE FROEHLICH: I have nothing further.

14 CHAIRMAN BOLLWERK: Thank you. Judge  
15 Trikouros?

16 JUDGE TRIKOUROS: No.

17 CHAIRMAN BOLLWERK: Again, we thank you  
18 very much for your efforts here. We are sorry we kept  
19 you a little longer than lunchtime, but now you're  
20 done for the day and you can all go out and enjoy the  
21 afternoon and the evening. Again, thank you very much  
22 and we stand adjourned.

23 [Whereupon, at 1:30 p.m. the hearing was  
24 adjourned.]

25