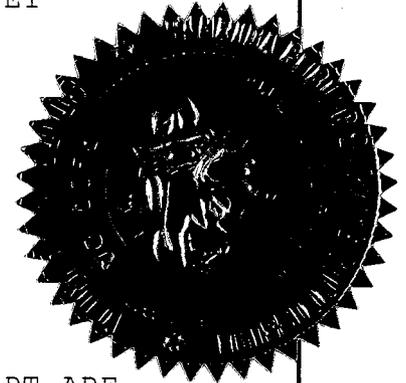


BEFORE THE  
FLORIDA PUBLIC SERVICE COMMISSION

DOCKET NO. 060038-EI

In the Matter of:

PETITION FOR ISSUANCE OF A STORM  
RECOVERY FINANCING ORDER, BY FLORIDA  
POWER & LIGHT COMPANY.



---

ELECTRONIC VERSIONS OF THIS TRANSCRIPT ARE  
A CONVENIENCE COPY ONLY AND ARE NOT  
THE OFFICIAL TRANSCRIPT OF THE HEARING,  
THE .PDF VERSION INCLUDES PREFILED TESTIMONY.

VOLUME 4  
Pages 285 through 347

PROCEEDINGS: HEARING

BEFORE: CHAIRMAN LISA POLAK EDGAR  
COMMISSIONER J. TERRY DEASON  
COMMISSIONER ISILIO ARRIAGA  
COMMISSIONER MATTHEW M. CARTER, II  
COMMISSIONER KATRINA J. TEW

DATE: Wednesday, April 19, 2006

TIME: Commenced at 3:50 p.m.  
Concluded at 5:18 p.m.

PLACE: Betty Easley Conference Center  
Room 148  
4075 Esplanade Way  
Tallahassee, Florida

REPORTED BY: LORI DEZELL  
Registered Professional Reporter

APPEARANCES: (As heretofore noted.)

DOCUMENT NUMBER-DATE

03521 APR 20 08

FPSC-COMMISSION CLERK

## I N D E X

## WITNESSES

NAME:	PAGE NO.
RICHARD E. BROWN, Ph.D.	
Cross-Examination (Continued) by Mr. McGlothlin	288
Cross-Examination by Mr. Wright	317
Cross-Examination by Mr. Kise	329
CERTIFICATE OF REPORTER	347

## EXHIBITS

NUMBER:		ID.	ADMTD.
143	Document entitled, "Tropical Cyclone Report, Hurricane Wilma 15-25, October 2005	322	

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

1  
2 (Transcript follows in sequence from  
3 Volume 3.)

4 CHAIRMAN EDGAR: We are ready to get started  
5 again. We will go back on the record. And  
6 Mr. McGlothlin --

7 MR. McGLOTHLIN: Yes.

8 CHAIRMAN EDGAR: -- you are up for continued  
9 questioning.

## CROSS-EXAMINATION (CONTINUED)

10  
11 BY MR. McGLOTHLIN:

12 Q. Dr. Brown, turn, if you will, to page 43 of  
13 the KEMA report document. Under 5.6.4, cross bracing,  
14 the first paragraph, within the description of the  
15 connection, this statement appears: "The bolt was only  
16 loaded with a shear force and the design allowed  
17 rotating of the cross brace around the bolt. This  
18 rotation ensures that the cross brace is only loaded  
19 purely on tensile or on compression."

20 Would you take a moment and describe for us  
21 nonengineers what is meant by some of these terms. For  
22 instance, loaded only on a shear force, what does that  
23 mean?

24 A. These cross braces here, if you imagine, say,  
25 a stick or a pencil, the cross braces are designed to

1 support axial load. So pushing and pulling of the  
2 pencil you wouldn't expect the pencil to break. It's  
3 not designed to take radial loads, meaning torquing the  
4 pencil. You can snap the pencil if you put a radial  
5 load on it, but if you push or pull the pencil, an axial  
6 load on the pencil, then the pencil is strong in that  
7 direction.

8           So for these tower designs, the cross braces  
9 are designed for the cross braces to be loaded axially,  
10 not radially. And so the connections are supposed to  
11 support that type of loading on the cross braces.

12           **Q.** With respect to the bolt itself, I suppose if  
13 the bolt is the source of a problem that causes a tower  
14 to collapse or fall, that suggests that either the bolt  
15 has pulled free and there's no longer a connection or  
16 that the bolt has, I think the word is, sheared, cut in  
17 two. Is that more or less the universe of possibilities  
18 in terms of how a problem with the bolt could lead to a  
19 failure of the cross brace?

20           **A.** There really could be three. If you  
21 over-tighten the bolt such that you don't have the  
22 ability of the connection of the cross brace to the  
23 bolt, if the nut is over-tightened, then you could  
24 potentially have this radial force on the cross brace  
25 which could result in a cross brace failure. So

1 over-tightening is one problem.

2           The other problem is under-tightening so you  
3 have too much play in the cross brace between the bolt  
4 and the -- and the plate.

5           And then the third would be the bolt is  
6 actually missing. In this case the cross brace could  
7 just come loose from the entire structure.

8           **Q.** Now, with respect to the design of the bolt,  
9 we're not talking about the type of bolt that attaches a  
10 license plate onto the back of a car, are we? We're  
11 talking about a substantial heavy duty bolt, maybe two  
12 inches or thereabouts in diameter?

13           **A.** For the new design they are two-inch bolts,  
14 correct.

15           **Q.** What are they for the old design?

16           **A.** I --

17           MR. MCGLOTHLIN: If the counsel doesn't object  
18 to that answer as being somehow proprietary.

19           MR. BUTLER: I don't think there's a  
20 confidentiality problem with it.

21           **A.** I believe the old design had a smaller nut.  
22 I'm not certain of the dimensions of that nut though.

23           **Q.** But still, in terms of the environment in  
24 which they would have been operating, would you agree  
25 with me that it's unlikely that high wind would cause a

1 substantial bolt to snap?

2 **A.** Unlikely?

3 **Q.** Yes.

4 **A.** I would agree that it's unlikely.

5 **Q.** Would the more likely scenario in terms of the  
6 bolt being the source of a poor connection of the cross  
7 brace leading to the tower to collapse or fall be the  
8 fact that the bolt is pulled free, is loose and has  
9 either pulled free or is no longer part of the  
10 connection?

11 **A.** No. I believe that structural failure in this  
12 case appears to have occurred both when the nut came  
13 completely loose and also when the nut was loosened such  
14 that there was too much play between the cross brace and  
15 the nut and the plate. So both of those situations  
16 appeared to result in reduction in structural strength  
17 of the structure.

18 **Q.** Okay. With respect to your new information,  
19 can you tell me which tower the locknut was found on?

20 **A.** No, I don't have the specific tower number.

21 **Q.** Or which connection at the cross brace that  
22 was involved?

23 **A.** Yeah. I would refer that to witness Jaindl.  
24 She would know the answer to that.

25 **Q.** Is she the source of your new information?

1           **A.**    Correct, yes.  I had asked her that question.  
2  I had a series of questions when I was preparing for my  
3  testimony.  That was one of the questions.

4           **Q.**    And when did you receive the new information?

5           **A.**    That particular piece of information, as I  
6  described earlier, I received yesterday after I asked  
7  her that specific question.

8           **Q.**    Tell me again the question you posed that  
9  brought that information to light?

10          **A.**    I asked her if any of the loose or missing  
11  nuts post-Wilma were on the new structure designs, and  
12  she said yes.  And then I asked what the nature of that  
13  was.  And in the course of investigating that, she  
14  determined the type of nut that was used on that  
15  structure.  That's all the information I know.

16          **Q.**    Bear with me because I didn't understand your  
17  answer.  You said that you asked her if any of the loose  
18  nuts were off the new design?

19          **A.**    If any of the loose and/or missing bolts were  
20  on the -- excuse me, the older designed structures.  I  
21  misspoke.  I'm sorry.

22          **Q.**    Okay.  And did she reply that, yes, there were  
23  loose nuts -- loose bolts on the old structures or did  
24  she specifically say one of them had a locknut on it?

25          **A.**    No.  She requested one of her employees to

1 investigate the answer to my question, and then this  
2 person came back with the answer. And then we delved  
3 into it a little bit further and she investigated the  
4 characteristics of this particular tower and it was  
5 identified, the characteristics of the nut that came  
6 loose for this tower.

7 Q. Have you seen references to what FPL describes  
8 as its asset management system?

9 A. The transmission asset management system?

10 Q. I think it's more a general -- a more general  
11 asset management system.

12 A. I am familiar with a system called Orion which  
13 is the asset management system for the transmission  
14 structures.

15 Q. I refer to the system of records that FPL uses  
16 to base future decisions for inspection frequency. Are  
17 we talking about the same asset management system?

18 A. No.

19 Q. Okay. Well, let's just assume for the purpose  
20 of the question that FPL has a record keeping system  
21 that it regards as the -- as the basis for future  
22 inspections. Would you believe that -- would you be of  
23 the opinion that the discovery of 31 transmission towers  
24 with loose or missing cross brace bolts should be the  
25 subject of an entry into that record keeping system, the

1 one that governs future inspections?

2       **A.** The question is -- I'm sorry, I'm trying to  
3 understand. You're saying that there was loose and/or  
4 missing bolts that were discovered that were not entered  
5 into this asset management system?

6       **Q.** Yes.

7       **A.** And the question is, should they have been  
8 entered into this asset management system?

9       **Q.** In your opinion.

10       **A.** In my opinion, it would be more desirable to  
11 have all of the activities associated with a specific  
12 structure or specific asset in the same database.  
13 However, it is extremely rare for utilities to have such  
14 systems that consolidate all of their activities into a  
15 single database.

16               So ideally, yes, I believe that that would be  
17 desirable. Do I think that most utilities have that  
18 systems that do this? Absolutely not.

19       **Q.** Well, in terms of whether the discovery in  
20 1998 was of sufficient significance to warrant being  
21 placed in the record keeping system that governs future  
22 inspections, do you think it was sufficient and  
23 significant to warrant being included?

24       **A.** No, I don't think that's how the process works  
25 for that particular system.

1           **Q.**    So the significance of the import of a  
2 maintenance issue has no bearing on whether it belongs  
3 in the records that govern future inspections?

4           **A.**    For this particular system, as I understand  
5 it, that's correct. The severity is not relevant to  
6 whether it gets entered into the system or not.

7           **Q.**    What would be relevant in your estimation?

8           **A.**    Whether the activities that -- whether the  
9 processes that are related to this system capture -- or  
10 they're the source for this particular type of data.

11                   For example, if their asset management system,  
12 their Orion system had scheduled a climbing inspection  
13 and that climbing inspection had resulted in the  
14 identification of the loose bolts, then yes, I would  
15 absolutely say that that result should be recorded into  
16 this system. But in this case that's not what happened.  
17 What happened was a different process identified these  
18 problems and documentation was kept according to that  
19 separate corporate process.

20           **Q.**    You mentioned something called Orion. What is  
21 that?

22           **A.**    Orion to my understanding is the database that  
23 FPL uses to keep track of their transmission structures  
24 in terms of the types of structure, the locations,  
25 maintenance activities, condition, that type of

1 information.

2 Q. Do you know whether or not the discovery of  
3 loose and missing cross brace bolts on 31 conservation  
4 corporate towers was entered into the Orion system?

5 A. No, I don't.

6 Q. You don't know?

7 A. I don't know for sure. The person that did  
8 the transmission section in the report probably knows,  
9 but I haven't asked that specific question.

10 Q. I'll turn now to KEMA's evaluation of the  
11 public inspection program. One aspect of the program  
12 that KEMA evaluated was the thermovision component.  
13 You're aware, are you not, that those inspections apply  
14 only to the feeders on FPL systems?

15 A. Yes.

16 Q. And I found the reference that I was missing a  
17 while ago. Referring to page 35 of the report, is it  
18 KEMA's estimation that some 845,000 laterals are not the  
19 subject of such visual inspections through the  
20 thermovision report? It's the third full paragraph,  
21 line 4.

22 A. Is there a question?

23 Q. I asked you to confirm that KEMA's estimate is  
24 that some 845,000 laterals are not encompassed within  
25 the thermovision visual inspection.

1 MR. BOWMAN: I'm sorry, Joe, do you mean  
2 lateral poles?

3 MR. MCGLOTHLIN: I do.

4 A. Yes, that's an estimate. 845,000 lateral  
5 poles is the number that KEMA is using as an estimate  
6 for our calculations. This includes FPL poles and  
7 nonFPL poles. So this is the entire pole population  
8 that FPL has equipment on.

9 Q. I'll refer you now to page 32 of the report.  
10 Within section 4.2 and below the little table of columns  
11 for voltage and number of feeders, this statement  
12 appears: "It shows that the average percentage of  
13 feeder poles inspected by thermovision that are  
14 effective is 0.52 percent." Do you see that statement?

15 A. Yes.

16 Q. But above that I want to refer you to another  
17 paragraph, the one that begins "for the poles." Do you  
18 see that?

19 A. Yes.

20 Q. The visual inspections reveal whether there  
21 are broken, cracked or severely deteriorated cross arms,  
22 split pole tops or conditions that would call for pole  
23 replacement," dash, "the definition of defective poles,"  
24 in quotes, "and this process." Do you see that?

25 A. Yes.

1           Q.    Now, it's true, is it not, that the limitation  
2 on a visual inspection is that a visual inspection can  
3 detect only obvious defects such as broken, cracked or  
4 severely deteriorated cross arms, et cetera, et cetera?

5           A.    Yes.

6           Q.    But would you agree with me that by defining  
7 defective poles in this process to consist only of  
8 broken, cracked or severely deteriorated cross arms, the  
9 0.52 percent failure rate is confined to the very  
10 obvious defects that the visual inspection is capable of  
11 detecting?

12          A.    Yes.

13               MR. BUTLER:  I would object to the question as  
14 being predicated on facts that aren't in the  
15 record.  Mr. McGlothlin did not read the full list  
16 of the types of conditions that were within the  
17 definition of defective poles in his question.

18               MR. MCGLOTHLIN:  Well, that's interesting.

19               CHAIRMAN EDGAR:  Mr. McGlothlin?

20               MR. MCGLOTHLIN:  Well, first of all I believe  
21 it was just answered.  But I don't know what I left  
22 out.

23               MR. BUTLER:  Let me try -- it will probably  
24 make this go faster, just express more clearly my  
25 objection.

1           Unless I missed it in your question, Joe, you  
2 just referred to broken, cracked or severely  
3 deteriorated cross arms as being what would be  
4 within the definition of defective poles in the  
5 last question that you posed, whereas the report  
6 goes on to also refer to split pole tops or  
7 conditions that would call for pole replacement.

8           MR. McGLOTHLIN: I'm perfectly happy to  
9 include that within the definition of defective  
10 poles that the KEMA report uses as the basis for  
11 the calculation of a .52 percent failure rate.

12 BY MR. McGLOTHLIN:

13           **Q**     And as modified, is your answer yes,  
14 Mr. Witness?

15           **A.**     Yes. A visual inspection can only detect  
16 problems that can be identified through visual optics.  
17 So that's the way it has to be.

18           **Q.**     And that means, for instance, that there may  
19 be poles which are deteriorating below ground level that  
20 would not be within the definition of defective poles  
21 that is used for the purposes of calculating this, this  
22 .52 percent rate?

23           **A.**     No. I think it would be in this definition,  
24 but this particular inspection would not detect that.  
25 It says conditions that would call for pole replacement.

1 Deterioration below ground line, if it's severe enough,  
2 would call for pole replacement. But this particular  
3 process would not be able to identify that.

4 **Q.** Looking at the same paragraph, wouldn't you  
5 agree that the items listed there are those which,  
6 according to your own statement or KEMA's only  
7 statement, visual inspections can reveal? It says the  
8 visual inspections reveal whether there are broken,  
9 cracked or severely deteriorated cross arms, split pole  
10 tops or conditions that would call for pole replacement.  
11 Isn't that all modified by matters that visual  
12 inspections can reveal?

13 **A.** No. I think that it's possible if a pole is  
14 leaning in the wind and rocked back and forth and part  
15 of the pole was naturally excavated and a visual  
16 inspection saw that there was below ground line  
17 deterioration where there's natural excavation that has  
18 occurred, then this process would identify this as a  
19 defective pole.

20 But it's not contested that potentially there  
21 are deterioration that can occur in poles internal or  
22 below ground line that potentially this process cannot  
23 identify. This is not contested.

24 **Q.** You're not contesting it?

25 **A.** No.

1           **Q.** Do you contest, then, the fact that there  
2 would be defective poles that would not be incorporated  
3 within the definition of defective poles in this  
4 process?

5           **A.** No. I think that there would be defective  
6 poles that potentially could not be identified by this  
7 process. But the definition is any pole that would  
8 require replacement.

9           **Q.** I'll refer you to page 84 of the report,  
10 Dr. Brown. There's a short paragraph under the caption  
11 "Quality Processes." Do you see that?

12           **A.** Yes.

13           **Q.** And the last sentence in that paragraph says,  
14 "Thirdly, the quality systems of the FPL pole inspection  
15 and treatment vendor are such that it is reasonably  
16 ensured that inspected wood poles requiring treatment or  
17 replacement are identified as such." Do you see that  
18 statement?

19           **A.** Yes.

20           **Q.** Now, the quality systems of the -- first of  
21 all, there's a reference here to the inspection and  
22 treatment vendor. We're talking here about the Osmose  
23 program, are we not?

24           **A.** Yes.

25           **Q.** And the quality systems include the

1 specifications FPL has imposed on that program,  
2 documentation that spells out the steps that the -- each  
3 inspection is to encompass such as sounding, excavating,  
4 boring and reporting; is that correct?

5       **A.** Yes. Just to be clear, the Osmose process  
6 does not require boring of every pole. It requires  
7 boring if deemed necessary. So if they do excavation  
8 and sounding and they believe that there's a reason to  
9 bore, then they will bore. But it is not done on every  
10 pole.

11               But, yes, the quality systems would include  
12 documentation of what you're going to do and then proof  
13 that you actually did do what you said you were going to  
14 do.

15       **Q.** And that proof would be the information that  
16 is generated in a report that is then placed into FPL's  
17 database? Is that one of the quality systems to which  
18 you refer?

19       **A.** Yes.

20       **Q.** And is it based -- and is the last statement,  
21 which is that the quality systems are such that it is  
22 reasonably ensured that inspected wood poles requiring  
23 treatment or replacement are identified as such, based  
24 upon the existence of the matters we've just discussed?

25       **A.** Yes.

1           **Q.** Now, this applies -- this statement applies to  
2 the Osmose program. Is it -- isn't it true that that  
3 similar statement was made by KEMA with respect to  
4 either the thermovision visual inspections or the  
5 hazardous assessments performed by workmen?

6           **A.** Yes. I will say, though, that in context,  
7 when we initially engaged Florida Power & Light to do  
8 this study, the quality processes that were going to  
9 be -- that we were going to investigate included issues  
10 related to procurement. So internal specifications for  
11 products that Florida Power & Light was going to  
12 purchase, quality systems of the vendors.

13                   So our quality auditor went to the wood pole  
14 manufacturing plant, the concrete pole manufacturing  
15 plant, and then also audited the Florida Power & Light's  
16 purchasing department. This was the initial scope of  
17 work, is are the -- is the equipment that Florida Power  
18 & Light is purchasing, can this be reasonably assumed to  
19 be high quality equipment?

20                   And the results are, yes, Florida Power &  
21 Light has outstanding quality systems internally. Our  
22 quality auditor then actually had a free afternoon and  
23 decided to do a quality audit on the Osmose program.  
24 Not because it was core to the findings of the report,  
25 in fact it was not in the original scope of work. It

1 was almost like a free audit since our quality auditor  
2 had a free afternoon.

3 And so the absence of quality audits for other  
4 processes in no way indicate that they were deficient or  
5 that they were even core to the conclusions of this  
6 report.

7 Q. By the same token then, it's true, is it not,  
8 that neither the thermovision program nor the hazardous  
9 assessment routine of workmen who are -- perform tests  
10 on poles has the extent and the degree of the quality  
11 systems that were observed with respect to the Osmose  
12 program?

13 A. I'm not certain for the thermovision program.  
14 I know that we did get good data from the thermovision  
15 program. So possibly; possibly not.

16 For the daily work activities, it is true that  
17 these are handled locally and are not -- the hazard  
18 assessment forms are not entered into a central  
19 database. This is common for utilities around the  
20 country and around the world.

21 And so these quality systems are not as  
22 audible and it's not as easy to compile the data for  
23 uses other than for what they were intended.

24 However, I will say that in terms of data, I  
25 mean, I've worked with dozen and dozens of utilities

1 around the country and around the world, and the  
2 availability of quality data at FPL is much better than  
3 almost every other utility that you can imagine. And so  
4 at least in terms of the job of a consultant in  
5 identifying how you're performing and how you're  
6 performing over time, the quality of data and the amount  
7 of data for Florida Power & Light is just outstanding.

8           In fact, the ability of people to generate  
9 arguments against Florida Power & Light is in part  
10 because they collect such good data compared to the rest  
11 of the industry. So just from my perspective, from the  
12 consultant's perspective and our ability to generate a  
13 quality report is a function of Florida Power & Light's  
14 good data collection processes. However, in the case of  
15 the hazard forms, it's a paper process.

16           **Q.** I believe at the outset of that statement,  
17 there might have been indication that the answer to my  
18 question was, no, the other programs do not have the  
19 same quality systems as the Osmose. Is that a fair  
20 statement?

21           **A.** No. I do not know for thermovision, but for  
22 the hazard assessment program, these are not entered  
23 into a common -- into a central database. The quality  
24 systems that are handled locally for the hazard  
25 assessments, I don't know the answer to that.

1           **Q.**    You don't know whether the thermovision  
2 program results in entries to the central database of  
3 the same type of information that the Osmose program  
4 generates?

5           **A.**    No, I don't know the answer.

6           **Q.**    Okay. Turn to page 34 of the KEMA report,  
7 Dr. Brown. Table 4-3 shows creosote pole inspection  
8 results from the Brevard area by Osmose in 2005.

9                   Now, is it your understanding that the Osmose  
10 program was focussed on and limited to the Brevard area  
11 in 2005?

12           **A.**    Yes, I believe this particular targeted area  
13 started in August of 2005.

14           **Q.**    It shows 1,620 inspections in 2005. Do you  
15 know whether that's the total for the -- for the year?

16           **A.**    I don't believe that's the total for the year.  
17 I believe that's the total for the Brevard area which  
18 was in 2005, from August through December, is my  
19 understanding. The decision to focus on creosote poles  
20 in Brevard occurred in August of 2005.

21           **Q.**    Did you hear earlier testimony to the effect  
22 that the number of inspections conducted by Osmose in  
23 the 2000-2001 time frame was on the order of magnitude  
24 of 28,000 inspections per year?

25           **A.**    Yes.

1           **Q.**    So would you accept that as ballpark accurate  
2 for --

3           **A.**    Subject to check.

4           **Q.**    Okay.  And you are aware, are you not, that in  
5 more recent years the total number of inspections by  
6 Osmose has been reduced to less than 10,000 in some  
7 years and more like 7,000 in the year 2004?

8           **A.**    Yes.  And I will also add that when I look at  
9 other utilities -- I've done a lot of consulting in the  
10 area of reliability programs -- and one of the biggest  
11 problems that I see at most utilities around the U.S. is  
12 the inability to transfer budgets from one reliability  
13 program to another reliability program.  They're siloed  
14 and you don't have, when one particular program is very  
15 effective and another is not, the ability to shift  
16 budgets from one program to another.

17                    So the ability of FPL to actually do  
18 zero-based budgeting in every year to determine the  
19 required budgets for each program, this is best practice  
20 in the industry and it's something that many utilities  
21 cannot achieve.

22                    And so yes, the number is lower and in my  
23 opinion, I applaud them for their ability to manage  
24 their reliability programs in this manner.

25           **Q.**    Do you know for a fact that the lower number

1 of inspections was the result of a conscious decision to  
2 shift resources elsewhere?

3       **A.** I know for a fact that reliability trended  
4 well during this time period. I also know for a fact  
5 that I did some investigation actually on other  
6 utilities and how pole failures contribute to overall  
7 customer reliability experience. And here is what I  
8 came up with, if I can find it here.

9       MR. MCGLOTHLIN: Excuse me. The pending  
10 question is whether the witness knows for a fact  
11 that the reduction in Osmose inspections resulted  
12 in a conscious decision to shift resources to other  
13 programs. And I really -- I understand the Chair's  
14 indulgence in terms of giving witnesses some  
15 leeway, but I think this is a little over the top.

16       **A.** No.

17       Mr. McGlothlin, I'll respond by saying that  
18 although I find it a little embarrassing to talk  
19 about myself in the third person, but in my opinion  
20 the Chair has given latitude to the parties, the  
21 attorneys and the witnesses, and I have done that  
22 purposely.

23       However, I started this morning by asking --  
24 by noting the time frame that we have, which is  
25 directly related to the statutory framework within

1           which we are working, and asking all of the parties  
2           to be focused and concise in their questions.

3           I will raise that again and make the request  
4           that we strive for focus and concise questions and  
5           answers. And I will probably make that request  
6           again.

7           So I would ask that you keep your questions  
8           concise, and I would say again to the witness as I  
9           have said previously, if you can answer with a yes  
10          or no, please do so. You may elaborate and I will  
11          continue to allow elaborations so that you feel  
12          that you have answered the question in the way that  
13          you need to. Mr. McGlothlin.

14          MR. MCGLOTHLIN: Chairman Edgar, may I ask  
15          that you rule that any elaboration be needed in  
16          terms of the context of the question presented and  
17          not --

18                 The answer should be responsive to the  
19          questions that are asked.

20          MR. MCGLOTHLIN: Thank you very much.

21 BY MR. MCGLOTHLIN:

22           **Q.** I believe you answered no. Is that where we  
23          are?

24           **A.** I do not know for a fact that reductions in  
25          the pole inspection program resulted in corresponding

1 increases in spending in other programs.

2       **Q.** Throughout the KEMA document, when describing  
3 another component of the pole inspection processes that  
4 KEMA evaluated, the words "touch" and "touch point"  
5 occur. Did those terms originate with KEMA or were  
6 those supplied by FPL to KEMA as a description of FPL's  
7 view of what they were doing?

8       **A.** I do not know the answer to that question.  
9 The person that did the section -- the KEMA employee  
10 that was responsible for this section was the first  
11 person that I heard that term from. But where it  
12 originated, I do not know.

13       **Q.** Turn to page 35 of the KEMA document. On page  
14 35, in the second paragraph, the author of this section  
15 of the report combines three components that he refers  
16 to as 199,000 touches, 69,000 thermovision inspections,  
17 and 12,000 Osmose inspections to arrive at a total of  
18 280,000 total. Do you see that treatment?

19       **A.** Yes.

20       **Q.** And is it the intent of this paragraph or this  
21 section to communicate that on an overall basis, when  
22 one combines these components, one arrives at 280,000  
23 total inspections?

24       **A.** No.

25       **Q.** What is the intent? What is the significance

1 of the 280,000 figure?

2       **A.** The intent is to provide a general indication  
3 as to the level of activity that could allow a pole to  
4 be investigated with the possibility of identifying  
5 deterioration or other types of problems on those poles.

6       **Q.** So the word "opportunities" occurs in this  
7 document also. Is it then more accurate to say that the  
8 280,000 figure relates to total opportunities for  
9 observations of deterioration?

10       **A.** Yes. The section that you're referring to  
11 goes on to look at just the safety inspections that are  
12 required. And I believe that the safety inspections are  
13 an effective way to identify deteriorated poles. And it  
14 tries to look at the equivalent inspection frequency,  
15 just looking at the hazard assessments on the lateral  
16 pole population, which is the population of poles that  
17 would have less frequent work done on them and then also  
18 isn't subject to the thermovision program.

19               So the report tries to look at the worst case  
20 situation which would be the laterals worst case because  
21 there's fewer activities that are done on these poles  
22 and they also don't have the thermovision program, and  
23 so that is why the actual statistical analysis is done  
24 for the lateral poles, only looking at the hazard  
25 assessments.

1           **Q.**   Those estimates do not include either the  
2 visual inspections or the Osmose inspections?

3           **A.**   That's correct, they do not include those.

4           **Q.**   Okay. You would acknowledge, would you not,  
5 that by combining these three categories in arriving at  
6 a figure of 280,000, there is the appearance, at least,  
7 that the author or whoever did this arithmetic is  
8 treating these as coequal and static in terms of the  
9 quality of observations being made?

10          **A.**   I don't agree with that.

11          **Q.**   So there's no intent to treat these as -- as  
12 on the same plane of quality?

13          **A.**   Of course not. If you read the report, it's  
14 clear that the author does not consider them equal.

15          **Q.**   Okay. Now, the effort to quantify the  
16 opportunities afforded by the hazard assessment is  
17 really an exercise in probability, is it not?

18          **A.**   Correct.

19          **Q.**   And would you agree that this exercise in  
20 probability was necessitated by the fact that those  
21 hazard assessments are not maintained in a database of  
22 information that would allow one to determine factually  
23 the extent to which the hazard assessments are effective  
24 in inspecting poles?

25          **A.**   Yes.

1           **Q.**    Would you also agree that this exercise in  
2 probability is dependent upon certain assumptions?

3           **A.**    Yes.

4           **Q.**    At page 35, the author states that one such  
5 assumption is that the same pole is not touched more  
6 than once over this period. Do you see that?

7           **A.**    Yes.

8           **Q.**    And said differently, the assumption is that  
9 each, quote, touch point covers or brings in to the  
10 count a separate pole and none is duplicated with that  
11 one touch; is that correct?

12          **A.**    Excuse me for a moment while I review -- these  
13 were my personal assumptions in this section, and so I'm  
14 familiar with it. But I'd like to refamiliarize myself  
15 with it.

16                    The answer to your question is no, it does not  
17 assume that the same pole is not touched more than once  
18 in this period. The calculations allow for the fact  
19 that you're going to potentially touch multiple poles.  
20 That is precisely why this probabilistic technique is  
21 used.

22          **Q.**    There was a double negative in that answer  
23 that I'm tripping over as I try to understand your  
24 answer. The assumption is that the same pole is not  
25 touched more than once; is that correct?

1           **A.**    No, that is not correct.

2           **Q.**    Okay.

3           **A.**    The assumption is that one pole is touched per  
4 inspection.  That's a conservative assumption because  
5 oftentimes the adjacent poles would also be inspected.

6           **Q.**    Looking at the same sentence, "Third, it is  
7 assumed that each touch point is examined as a single  
8 pole."

9           **A.**    That is correct.  That is different than what  
10 you asked me to agree to.

11          **Q.**    Well, all right.  My question refers to this  
12 sentence and this assumption.

13          **A.**    Each touch point examines a single pole.  So  
14 if you have a hazard assessment on pole 12, then that  
15 would be one touch point.  If three years down the road  
16 you have another hazard assessment on pole 12, that is a  
17 separate touch point that addresses the same pole.  So  
18 the calculations do allow for the fact that certain  
19 poles will be revisited multiple times.  If not, then  
20 you could guarantee that all poles would be inspected.

21          **Q.**    Turn to page 31, if you will.  At the bottom  
22 of page 31, the author states, "These pole touch points  
23 totalled about 199,000 in 2004.  This number of touch  
24 points excludes storm-related services and each pole  
25 touch point may not be for a unique pole."

1           Is that consistent with or inconsistent with  
2 the assumption on page 35?

3           **A.**   The assumption on page 35 is conservative with  
4 respect to this.  If you go out and you're doing work on  
5 a pole, this pole is connected physically to other poles  
6 through wires.  So oftentimes the hazard assessment will  
7 look at the pole that you're going to work on and you  
8 might also do a hazard inspection on poles that are  
9 nearby.  So that these nearby poles, if they're -- if  
10 they have problems aren't going to fall on top of you.

11           And so when I made my assumptions, I assumed  
12 that you did only look at a single pole which makes the  
13 estimate conservative.  I then go on to say if I assume  
14 that the average inspection covers two poles instead of  
15 one pole, then the values change.

16           And so I come up with a range of the  
17 percentage of poles that will be inspected over a  
18 certain period of time based on the uncertainties of the  
19 assumptions, including how many poles are looked at with  
20 each hazard inspection.

21           **Q.**   And this exercise in probability quantifies  
22 the number of times, to use the author's testimony, a  
23 pole is touched, which I believe you said does not  
24 necessarily equate to an inspection but is an  
25 opportunity for observation, correct?

1           **A.**    No.  These refer to hazard inspections, which  
2 specifically requires the investigation for  
3 deterioration including excavation around the ground  
4 line.  So these are your poking screwdrivers in the wood  
5 to make sure it's not rotten, you're rocking the pole  
6 back and forth to make sure that it's sturdy, you're  
7 looking for external signs of rock and you're excavating  
8 and looking for below-ground signs of rot.  These are  
9 very effective at determining deterioration on poles and  
10 can be considered an effective inspection activity.

11           **Q.**    And the assumption is that each of those  
12 touches involves the performance of inspection of the  
13 caliber that you just described?

14           **A.**    Yes.

15           **Q.**    In other words --

16           **A.**    Yes.

17           **Q.**    Okay.  And is it -- never -- strike that.

18                    If I could just have a moment to see if I'm  
19 through.

20                    Would you agree with me, Dr. Brown, with  
21 respect to these hazard assessments that the assumption  
22 that each such touching of a pole derives from the  
23 practices of -- that are prescribed by FPL as opposed to  
24 any documentation you've seen that FPL enforces those  
25 requirements?

1           **A.**    If I understand your question correctly, the  
2 assumptions that I made in the report are that FPL  
3 follows its own documented processes.  But as part of  
4 the KEMA engagement, we did not audit these practices.

5           **Q.**    So you've seen no documentation that verified  
6 or validates the assumption that each such touch results  
7 in the quality inspection that is part of your  
8 assumption?

9           **A.**    Correct.  We're assuming that they do what  
10 they have documented.

11           MR. MCGLOTHLIN:  I have no further questions.

12                    Thank you, Mr. McGlothlin.

13                    Mr. Perry?

14           MR. PERRY:  I have no questions.

15                    Thank you.  Mr. Wright?

16           MR. WRIGHT:  Thank you, Madam Chairman.  I  
17 have not -- not that many.

18                                    CROSS-EXAMINATION

19 BY MR. WRIGHT:

20           **Q.**    Good afternoon, Dr. Brown.

21           **A.**    Good afternoon.

22           **Q.**    I just want to start by going over a couple of  
23 things we discussed in your deposition last month.

24                    Is it a conclusion of the KEMA study that pole  
25 breakages were approximately as would have been expected

1 in Hurricane Wilma?

2 **A.** Yes.

3 **Q.** As to the causes of pole breakage, is it the  
4 study's conclusion that tree-related and  
5 vegetation-related pole breakages were approximately as  
6 expected?

7 **A.** Yes.

8 **Q.** And the same question for debris-related  
9 breakages?

10 **A.** Yes.

11 **Q.** And the same question for wind-related  
12 breakages?

13 **A.** Yes.

14 **Q.** And, finally, the same question with regard to  
15 pole deterioration-related breakages?

16 **A.** Yes.

17 **Q.** Thank you. Would it be fair to conclude  
18 from -- from this and from the KEMA study that the pole  
19 breakage event, substation outage events and everything  
20 else you looked at, that all of these events resulted in  
21 outages of approximately the magnitude, frequency and  
22 durations actually experienced by FPL as a result of  
23 Hurricane Wilma?

24 **A.** I'm sorry, I don't understand the question.

25 **Q.** I probably left a word out.

1           Would it be fair to conclude that the breakage  
2 event that we just kind of went over resulted in outages  
3 of approximately the magnitude, frequency and durations  
4 that would have been expected from those, from  
5 Hurricane Wilma?

6           **A.**    Yes.

7           **Q.**    Thank you.  You may recall we had a discussion  
8 about knots in your deposition?

9           **A.**    Yes.  And I know the conversion factor now.

10          **Q.**    Okay.  Would you confirm to the Commission  
11 that the conversion factor is 1.150779 miles, statute  
12 miles, per nautical mile per hour?

13          **A.**    Yes, that is the conversion factor from miles  
14 per hour to knots.

15          **Q.**    Thank you.  I'd like to get -- if we could,  
16 I'd like to get that into the context of the  
17 Saffir-Simpson scale and then also into your estimates,  
18 as I recall from your deposition, of what the gust  
19 speeds are associated with the Saffir-Simpson scale.  If  
20 we could, just start with category 1.  Saffir-Simpson is  
21 74 to 95; is that right?

22          **A.**    Yes.  I don't have the actual numbers with me  
23 but I do have my graphics that I presented at the staff  
24 workshop.

25          **Q.**    Okay.

1           **A.**    And those graphics are based on the  
2 Saffir-Simpson scale numbers.

3           MR. BUTLER:  I'm sorry, Scheff, for clarity  
4 when you say 74 to 95, you're talking about statute  
5 miles per hour?

6           MR. WRIGHT:  I am, yes.

7           **Q.**    And that is how you understood the question,  
8 Dr. Brown?

9           **A.**    Yes.

10          **Q.**    And then for category 2 is 95 to 110 statute  
11 miles per hour?

12          **A.**    Yes.

13          **Q.**    And it's your -- to try to short circuit  
14 this -- it's your opinion that an appropriate adder to  
15 the sustained wind speed -- which is what we've just  
16 been discussing, correct?

17          **A.**    Correct.

18          **Q.**    -- to get to the corresponding 3 second gusts  
19 is 25 percent?

20          **A.**    Based on the literature search that I have  
21 done, the best accepted conversion factor from one  
22 minute sustained average wind speeds, which is what the  
23 Saffir-Simpson scale is supposed to be based on, and 3  
24 second gusts, which is what most construction standards  
25 and safety standards are based on, is 25 to 30 percent.

1 Those are -- that's the range of the research numbers,  
2 and so a conservative number is 25 percent based on  
3 one-minute sustained wind speeds.

4 Q. Thank you. So that just -- I just want to put  
5 numbers into the record that match from -- from your  
6 graphic. So that the gust range for category 1 storm is  
7 approximately 96 to 120 miles per hour?

8 A. Yes.

9 Q. And the gust wind speed for -- for category 2  
10 is approximately 120 to 138?

11 A. Yes. Although the literature always says that  
12 gusts are very localized phenomenon and that these  
13 averages can vary wildly. But as a general range, yes.

14 Q. Well, I was intending to discuss an estimated  
15 range of 3 second wind gusts associated with each of  
16 category 1 and category 2 as defined with the  
17 Saffir-Simpson scale. And that's what we did, right?

18 A. Yes.

19 Q. Okay. Madam Chairman, I've asked Mr. Poucher  
20 to hand Dr. Brown and the rest of the folks in the  
21 room -- I've got more if we run out -- a copy of a  
22 document titled "Tropical Cyclone Report, Hurricane  
23 Wilma 15-25, October 2005." I would ask that this be  
24 marked for identification. I believe it would be 143.

25 Yes, 143.

1 MR. WRIGHT: Thank you.

2 (Exhibit 143 marked for identification.)

3 BY MR. WRIGHT:

4 Q. And Dr. Brown, you've seen this document  
5 before, have you not?

6 A. Yes.

7 Q. And you have read it, as I understand it, from  
8 your deposition?

9 A. Yes. I would say that the KEMA report came  
10 out prior to this report being published. Right.

11 Q. Okay. And you recognize this as the report of  
12 the National Hurricane Center, the standard tropical  
13 cyclone report that they prepared following  
14 Hurricane Wilma?

15 A. Yes.

16 Q. Okay. And am I correct that KEMA did not  
17 update its report after receiving the National Hurricane  
18 Center's tropical cyclone report for Wilma?

19 A. Correct.

20 Q. Thank you. Dr. Brown, is it correct that the  
21 KEMA report does not comment on preventable versus  
22 nonpreventable tree-related damage?

23 A. I believe that there is -- this is a little  
24 bit different than our deposition, but I believe that  
25 there is one sentence that appears in the KEMA report

1 that says of the 1,742 records for the forensic  
2 analysis, there were three records that indicated  
3 preventable tree damage and, therefore, it was  
4 insignificant.

5 I actually in preparation for this revisited  
6 the actual core dataset and found that there were  
7 actually only two records that were preventable tree  
8 damage, and both of these were nonFPL poles.

9 So in terms of the data that the KEMA report  
10 was using for Hurricane Wilma, the number of recorded  
11 preventable tree failures was zero.

12 **Q.** Okay. And that was based on the reports or  
13 the information compiled by other forensic engineers,  
14 not KEMA; is that accurate?

15 **A.** Correct, yeah. The system had been restored  
16 by the time KEMA was engaged by FPL.

17 **Q.** Are you familiar with a term "expected  
18 unserved energy" or, as I believe you use a similar term  
19 in your textbook, "expected energy not served"?

20 **A.** Yes.

21 **Q.** And is that -- could you describe that for us  
22 briefly?

23 **A.** Expected energy not served or energy --  
24 unserved energy is typically the measure that is used  
25 when doing capacity planning for generation. So you'll

1 look at the number of generators that you have on your  
2 system and you'll look at the expected demand of all of  
3 your customers in aggregates for each hour of the year.  
4 And you'll look at things like forced generator outages  
5 and scheduled generator outages, and you'll do a  
6 probabilistic assessment to look at the number of hours  
7 per year or the probability over ten years that the  
8 amount of generation that you have in your system will  
9 not be able to meet the demand of your customers. And  
10 if you aggregate the energy that you expect to exceed  
11 your ability to produce, then this is defined as the  
12 expected energy not served.

13 Q. Thank you. And will you agree that while it  
14 is not common, there are some utilities in the  
15 United States that use expected unserved energy analysis  
16 to at least rank distribution programs or options?

17 A. A few do. It's not common.

18 Q. And among those that do are some in California  
19 and Mid American Energy?

20 A. Correct.

21 Q. Thank you. Are you familiar with -- with  
22 literature that goes on and assigns values based on the  
23 customer's value of experiencing outages to the expected  
24 unserved energy as an analytical tool?

25 A. Yes. In fact, in the book that I published, I

1 have done an extensive literature survey on the customer  
2 value of unserved energy. It's not my own surveys that  
3 I've done. I'm complying research that other peoples  
4 have done and they're based on typically customer  
5 surveys.

6 Q. Thank you. What -- what time period did you  
7 do your survey?

8 MR. BUTLER: Excuse me, I'm going to object to  
9 this line of questioning. I've let it go on for a  
10 little while. It came up in the deposition. I  
11 allowed it there because it was discovery and  
12 wanted to allow Mr. Wright opportunity to do -- you  
13 know, cast a wide net.

14 But here I don't think that what he is asking  
15 about has any reference to anything in either  
16 Mr. -- or Dr. Brown's testimony or the attached  
17 KEMA report. And I believe it's really beyond the  
18 scope of cross-examination.

19 Mr. Wright?

20 MR. WRIGHT: Well, I believe it ultimately  
21 goes to -- to FPL's overall program and what they  
22 do. And Ms. Williams testified earlier that FPL  
23 does not do any value studies and I think it's fair  
24 to probe this with Dr. Brown.

25 All right. Mr. Butler, I note your

1 objection. Mr. Wright, I'm going to allow it, but  
2 at the risk of being too repetitive, I'm going to  
3 ask again concise and focused --

4 MR. WRIGHT: I -- Madam Chairman, I am so  
5 endeavoring.

6 BY MR. WRIGHT:

7 Q. So I think -- I think you're allowed to answer  
8 my first question which was what was the time period of  
9 the literature search that you did.

10 A. My book was published I believe in 2003. And  
11 so it would have included all of the research up until  
12 2003.

13 Q. Thank you. And in general terms can you give  
14 the commissioners an idea of what the values cited in  
15 that literature were?

16 A. Based on customer surveys, residential costs  
17 of unserved energy range from about a dollar per  
18 kilowatt hour -- or per kilowatt interrupted to about  
19 \$10 per interrupted kilowatt hour.

20 My personal opinion is that if you actually  
21 ask the customers to pay for programs that would improve  
22 their reliability such that these numbers would imply  
23 cost-effective program, that very few customers would  
24 actually stand by the numbers that they report in the  
25 survey, and this includes industrial customers as well.

1           I have many stories of utilities going to  
2 customers with reliability problems using actual costs  
3 of loss production numbers, and you offer to perform  
4 reliability work that would, presumably based on these  
5 factories' numbers, would have a payback of six months  
6 or nine months. And almost always the factories will  
7 refuse to pay for those reliability improvements. So I  
8 really personally don't place a lot of value in all of  
9 these customer surveys that have been done.

10           **Q.** With that understanding, do you have a  
11 corresponding number or typical number or range of  
12 values for commercial and industrial customers?

13           **A.** Maybe \$30 per kilowatt hour.

14           **Q.** Thank you. Am I correct that your study, the  
15 KEMA study, did not evaluate conductor failures but only  
16 pole failures?

17           **A.** Correct.

18           **Q.** Thank you. Following up on a couple of  
19 questions that Mr. McGlothlin asked you, I believe that  
20 in discussing the entry of data regarding bolts and  
21 things like that into transmission management database  
22 things, I wrote down that you said most utilities do not  
23 have such information; is that accurate?

24           **A.** That's right. Most utilities, their systems,  
25 their maintenance management systems, would not be able

1 to have things down to the bolt level.

2 Q. Thank you. And my question is, then, do some  
3 utilities have the information down to that level?

4 A. I am not aware of any.

5 Q. Okay. In response to some questioning by  
6 Mr. McGlothlin, I believe you made the statement that  
7 FPL's reliability trended well over the last few years.  
8 Is that an accurate characterization so far?

9 A. Yes.

10 Q. Was that excluding the hurricanes?

11 A. Excluding the hurricanes.

12 Q. You also discussed briefly with Mr. McGlothlin  
13 issues relating to spending on reliability programs. Do  
14 you know FPL's total spending on all of its distribution  
15 reliability programs, say, during any time period ending  
16 in 2005?

17 A. No. The KEMA engagement did not look at any  
18 budgetary figures.

19 Q. Thank you. I think that I have one more  
20 question and it is this: You've conducted a survey of  
21 utilities as part of your study?

22 A. Yes.

23 Q. And I think you addressed -- you surveyed nine  
24 utilities -- you sent a bunch of surveys and got  
25 responses from nine; is that right?

1           **A.**    Correct.

2           **Q.**    And my final question for you then is, do you  
3 endeavor to survey any public service commissions or  
4 utilities commissions or similar agencies within the  
5 same variables?

6           **A.**    No.

7           MR. WRIGHT:  Thank you, that's all I have.

8                    Thank you, Mr. Wright.

9           Mr. Kise?

10           MR. KISE:  Thank you, Madam Chair.  I think I  
11 can be done in the 15 minutes that we have left.

12                    I was hoping that that was the case.

13           MR. KISE:  I think I can do it.

14                                CROSS-EXAMINATION

15 BY MR. KISE:

16           **Q.**    Good afternoon, almost good evening,

17 Dr. Brown.  I just have a few questions.

18                    First let me direct you to page 3.  It's just  
19 a clarification on your report, page 3 of the KEMA  
20 report in the beginning of the first full paragraph  
21 there.  KEMA -- you see where I'm reading, "KEMA's  
22 investigation concludes" in the beginning of that first  
23 full paragraph on that page, executive summary.  Do you  
24 see where I am?

25           **A.**    Yes.

1           **Q.**    "KEMA's investigation concludes transmission  
2 substations, et cetera, during Wilma performed as  
3 expected and in accordance with FPL standards."

4                    First, when you say as expected, as expected  
5 by whom?

6           **A.**    This is expected -- as expected based on how  
7 they performed based on prior hurricanes. And so we  
8 were able to again, based on the data that FPL has  
9 collected as far back as Andrew, the exposed area, the  
10 number of poles that were exposed to hurricane force  
11 winds and the hurricane category in this case, and then  
12 we were able to look at the relationship of -- for  
13 Florida Power & Light damaged poles versus hurricane  
14 size and strength. And if we had used all of the data  
15 points without Wilma in it predicted how many poles  
16 would have failed during Wilma, it would have been  
17 pretty much dead-on.

18           **Q.**    And that was based, if I'm understanding your  
19 answer, that was based on data that FPL provided to you,  
20 correct?

21           **A.**    Correct.

22           **Q.**    Okay. And the last part of the sentence, "In  
23 accordance with FPL standards," that -- that is as it  
24 says, just in accordance with the way FPL has adopted  
25 its own standards, not in accordance with any other

1 standards?

2       **A.** Exactly. FPL, as I mentioned before, they  
3 build their system much stronger than most utilities in  
4 the U.S. And so if they actually built their system to  
5 standards that most utilities build to in the U.S., then  
6 you would have expected many more pole failures during  
7 Hurricane Wilma. So it was as expected given their  
8 design standards, but if they had design standards that  
9 were typical, failures would have been much more.

10       **Q.** Typical of utilities throughout the U.S.?

11       **A.** Correct.

12       **Q.** Okay. But you would agree with me that most  
13 utilities throughout the U.S. are not in Florida?  
14 Simple proposition, they're not in Florida, right?

15       **A.** Correct.

16       **Q.** They're not in a state as prone to hurricanes  
17 as Florida, right?

18       **A.** Correct. However, in our survey we asked  
19 utilities that are in hurricane-prone areas what design  
20 standards they build to. Of the nine respondents, only  
21 one other utility's also built to stronger standards  
22 than required by safety standards. So even in Florida,  
23 most build to the minimum safety standards.

24       **Q.** And -- I'm sorry.

25       **A.** I'm done.

1 Q. And that one was located where?

2 A. In Florida.

3 Q. The one you referred to that builds to higher  
4 standards was actually located in Florida?

5 A. Also in Florida.

6 Q. Also in Florida. Was it an investor-owned  
7 utility to your knowledge?

8 A. I do not recall who --

9 Q. Do you know the name of --

10 A. -- the utility.

11 Q. Do you know the name of that utility?

12 A. The survey -- we did the survey under a  
13 confidentiality agreement.

14 Q. Fair enough. Fair enough.

15 On that same page moving down towards the  
16 section on transmission performance, just another point  
17 of clarification. Do you see where I am on transmission  
18 performance on page 3?

19 A. Yes.

20 Q. The second full sentence there, "These  
21 facilities met the required design codes at the time of  
22 installation." Do you see where I'm reading?

23 A. Yes.

24 Q. Okay. "These facilities met the required  
25 design codes at the time of installation but different

1 from current designs in place now at FPL. This was the  
2 primary contributing factor for these failures."

3 My question is -- or a couple of questions on  
4 that. At the time of installation, do you know what the  
5 time of installation was? At what time are you  
6 referring to, meaning the time of installation? What  
7 year?

8 A. I would have to defer that to witness Jaindl.  
9 She'll know the answer to all of those questions.

10 Q. Fair enough. And "differ from current designs  
11 in place now at FPL," when you say now, you mean as of  
12 essentially as we're sitting here today?

13 A. Roughly at least in the last decade. They  
14 don't put any single wood pole unguide structures in the  
15 ground at lower setting depths than they currently do  
16 now. So it is true that it is not the design standard  
17 now, but it hasn't been the design standard for many  
18 years as well.

19 Q. But was it the design standard in 2004?

20 A. In 2004?

21 Q. Was -- in other words, the current designs in  
22 place at FPL, would that encompass 2004?

23 A. I don't know.

24 Q. Okay. Do you know --

25 A. It's likely that the current design standards

1 were -- are similar today to what they were in 2004.

2 Q. Okay. And those would be different than from  
3 the ones that you're referring to that met the required  
4 design codes at time of installation in that sentence?

5 A. Correct. These would have been installed 20  
6 years ago or more.

7 Q. Okay. And that was, in fact, as you say here,  
8 the primary contributing factor for those failures?

9 A. Correct.

10 Q. So then had they been updated as of 2004 to  
11 meet the then current standards, it's likely that they  
12 wouldn't have failed, correct?

13 A. That's correct.

14 Q. Okay. Moving over to page 4 of the report  
15 under distribution performance, in the first full  
16 sentence there you reference "FPL gathered extensive  
17 forensic data on Wilma pole failures." Do you see where  
18 I'm reading?

19 A. Yes.

20 Q. And then your conclusions are drawn there,  
21 "based on this data." Do you see that?

22 A. Yes.

23 Q. Now, is it fair to say that your entire study  
24 with respect to distribution performance, pole  
25 maintenance, transmission performance and substation

1 performance, quality processes and distribution  
2 standards, all of that is based on data provided to you  
3 or conclusions drawn from data provided to you by FPL,  
4 right?

5 **A.** Most of it.

6 **Q.** Okay. What would be the exceptions to that?

7 **A.** We did audits to vendors that provide material  
8 to FPL; we did site inspections where we gathered  
9 firsthand information; we inspected the pole retention  
10 yard to verify whether the statistics that were provided  
11 were congruent with what we saw in the pole graveyard.

12 But in terms of the statistical analysis, the  
13 analyses that are based on numbers, those numbers were  
14 provided to us exclusively by FPL.

15 **Q.** Okay. And the site inspections, let me just  
16 ask you one follow-up on that. The site inspections,  
17 what are you referring to? Looking at actual poles,  
18 looking at actual transmission facilities, looking at  
19 bolts? What type of site inspection are you talking  
20 about?

21 **A.** Yes, all of that.

22 **Q.** All of the above?

23 **A.** Yes.

24 **Q.** And all of that was conducted  
25 post-Hurricane Wilma?

1           **A.**    Correct.

2           **Q.**    Okay.  None of the information in your  
3 study -- or nothing that you did -- strike all of that.

4                    You didn't undertake any study prior to the  
5 start of the 2004 hurricane season, correct?

6           **A.**    Correct.

7           **Q.**    You did not undertake any study prior to the  
8 start of the 2005 hurricane season, correct?

9           **A.**    Correct.

10          **Q.**    You did not undertake any analysis of the  
11 infrastructure status, meaning poles, transmission  
12 facilities, et cetera, prior to the start of the 2004  
13 hurricane season, correct?

14          **A.**    Correct.

15          **Q.**    You did not undertake any such analysis of  
16 infrastructure prior to the start of the 2005 hurricane  
17 season, correct?

18          **A.**    You mean were we engaged with Florida Power &  
19 Light prior to these dates?

20          **Q.**    Were you engaged to undertake an analysis of  
21 these things that are included in your report,  
22 distribution performance, transmission performance, pole  
23 maintenance, et cetera, prior to the start of the 2005  
24 hurricane season which would have been June 1, 2005?

25          **A.**    No.

1           **Q.**    Okay.  So then you have no way sitting here to  
2 determine the exact state of repair, the exact  
3 conditions that existed prior to the start of the 2004  
4 hurricane season, correct?

5           **A.**    Correct.

6           **Q.**    And you have no way to do that with respect to  
7 prior to the start of the 2005 hurricane season,  
8 correct?

9           **A.**    Correct.

10          **Q.**    Your study is drawing conclusions based on  
11 data provided to you all done post-Hurricane Wilma,  
12 correct?

13          **A.**    All of our analysis was done  
14 post-Hurricane Wilma.  The data that was collected by  
15 FPL, a lot of it was collected prior to Wilma.

16          **Q.**    Certainly.  But it was data collected by FPL,  
17 correct?

18          **A.**    Correct, yes.

19          **Q.**    And you do not know whether FPL undertook any  
20 additional preventative measures, preventative  
21 maintenance measures prior to the start of the 2004  
22 hurricane season, right?

23          **A.**    Correct.

24          **Q.**    And you don't know -- the same would be true  
25 prior to the start of the 2005 hurricane season, right?

1           **A.**    Correct.

2           **Q.**    One thing I want to clarify in your prior  
3 testimony, if I could, earlier in response to a  
4 question. I think you stated at least in sum and  
5 substance that you had a high degree of confidence that  
6 there was not a loose bolt problem in 2003; is that  
7 right?

8           **A.**    That's correct.

9           **Q.**    Okay. And that was based on FPL data,  
10 correct?

11          **A.**    Correct. Data that we did not have, that KEMA  
12 did not have when we wrote this report.

13          **Q.**    Okay. And that was also based obviously,  
14 responding to the other question, that's all based on  
15 post-Wilma inspections?

16          **A.**    Correct.

17          **Q.**    Okay. But now I think you also agreed with  
18 the examiner that there were, I think, 30 failed  
19 transmission facilities and there were loose bolts  
20 found; is that right?

21          **A.**    Post-Wilma?

22          **Q.**    Post-Wilma.

23          **A.**    Correct.

24          **Q.**    Okay. Now, if you had a high degree of  
25 confidence there wasn't a loose bolt problem in 2003,

1 how do you explain all of those loose bolts that were  
2 found?

3       **A.** My best guess, I don't know is the quick -- is  
4 the question.

5       **Q.** That will do.

6       **A.** That will do?

7       **Q.** Unless the chair wants to indulge your answer.

8       **A.** Shall I speculate?

9       **Q.** No, I would not. I'm not asking for  
10 speculation.

11               I think you've answered the question. Thank  
12 you.

13       **A.** I don't know.

14       **Q.** Thank you.

15               On page -- while we're on that subject, excuse  
16 me, while we're on that subject of bolts, you indicated  
17 that you received some new information yesterday; is  
18 that right?

19       **A.** Correct.

20       **Q.** And that was information relative to bolt  
21 failures?

22       **A.** A variety of things. I went through the KEMA  
23 report and all of the documents that I was probably  
24 going to be asked about and I took notes for additional  
25 clarification and information that I wanted FPL to

1 provide me, and part of this resulted in information  
2 about bolts that were found, bolt issues that were found  
3 post-Wilma.

4 Q. Okay. And you asked other questions during  
5 the preparation for your testimony, is that what I'm  
6 understanding you to be saying?

7 A. I -- yes, yes.

8 Q. Okay. And what types of things were you  
9 asking about?

10 A. Just very specific questions such as if we  
11 knew that 31 towers had failed post-Wilma. A follow-up  
12 question would be what was the breakdown for new design  
13 versus old design. These types of deeper questions than  
14 I was able to glean from re-reading the KEMA report.

15 Q. And did FPL provide responses to all of your  
16 questions?

17 A. Yes.

18 Q. And did they provide those responses in  
19 writing?

20 A. No.

21 Q. It was all verbal?

22 A. Verbal. I wrote them down as we gathered the  
23 information.

24 Q. You wrote them down?

25 A. Yes.

1           **Q.**    You kept notes as to the responses to all your  
2 questions?

3           **A.**    Yes.

4           **Q.**    You kept notes to all of FPL's responses to  
5 your questions, right?

6           **A.**    No, not all of them.

7           **Q.**    Okay. How many of them?

8           **A.**    I'm not certain.

9           **Q.**    Do you have those notes?

10          **A.**    I have these notes right here.

11          **Q.**    And are those notes indicative of the  
12 responses that FPL gave to your questions?

13          **A.**    These notes include my notes going through the  
14 report that I wanted to be able to quickly review, and  
15 then some of their responses are included on there.

16          **Q.**    Okay. And they only provided you information  
17 that you requested, right?

18          **A.**    Correct.

19          **Q.**    You don't know what information FPL has not  
20 provided you, right?

21          **A.**    Correct.

22          **Q.**    You have not, yourself, searched all available  
23 information in FPL in performing your analysis, right?

24          **A.**    Correct.

25          **Q.**    You obviously had to rely on them to answer

1 your questions with data that they provided to you,  
2 right?

3       **A.** Correct. However, I will say -- and I said  
4 this in my deposition -- FPL was very forthcoming with  
5 the data. We would continually ask for additional data  
6 where we felt there were gaps, and they were quite  
7 accommodating. The amount and quality of data that they  
8 had was very good. And from my perspective as a  
9 consultant, I would say that they were about as helpful  
10 as they could be with providing good data and complete  
11 data to us.

12       **Q.** But I think you just said there's no way for  
13 you to know -- it's impossible for you to know what  
14 information they did not give you?

15       **A.** Correct.

16       **Q.** Okay. Turning briefly to page 31 of your  
17 report, down at the bottom there it references this  
18 Osmose inspection plan. The last -- the second to the  
19 last paragraph beginning in August of 2005; do you see  
20 where I'm referring?

21       **A.** Yes.

22       **Q.** Okay. And it indicates in sum and substance  
23 the conclusion to be drawn from that is there was a  
24 substantially higher than industry average failure rate  
25 based on that -- those inspections, right?

1           **A.**    For this particular area?

2           **Q.**    Right, for that particular area.

3           **A.**    Correct.

4           **Q.**    Okay.  And you do not know if, in fact, the  
5 poles that failed in Wilma, for example, were subjected  
6 to this Osmose testing prior to Hurricane Wilma, do you?

7           **A.**    No.

8           **Q.**    Okay.  And this indicates that FPL here was  
9 specifically targeting areas with older pole population;  
10 is that right?

11          **A.**    Yes.  And in those areas only looking at the  
12 creosote poles.

13          **Q.**    Right.  And do you know how it is that FPL  
14 went about identifying which populations -- which poles  
15 were older as opposed to the newer ones?  How they went  
16 about determining -- if they're targeting areas with  
17 older pole population, how did they go about doing that?

18          **A.**    I could speculate but I don't want to.

19          **Q.**    I don't want you to do that.

20                    Moving over quickly to page 34 of your  
21 resource -- well, let me ask you one question on the  
22 older pole.  Is it fair to say FPL based on the  
23 conclusion that they were targeting older pole  
24 populations, is it fair to conclude at least based on  
25 information you've been given that they had some manner

1 of determining which poles were older as opposed to  
2 which ones were newer, right?

3 **A.** Yes.

4 **Q.** Okay. Turning to page 34 again. I'm sorry.

5 Mr. Kise, I'm going to break in. I had said  
6 earlier that we would be breaking for the day at --  
7 let me finish -- at 5:15, and we will be in a few  
8 minutes.

9 So I will give you the option of stopping at  
10 this point and beginning in the morning or two to  
11 three more minutes.

12 MR. KISE: I think I can do it in two or three  
13 more minutes.

14 BY MR. KISE:

15 **Q.** Just on page 4 there, Dr. Brown, the inability  
16 to make conclusions on the condition of different types  
17 of poles at the bottom there, do you see that?

18 **A.** Yes.

19 **Q.** And it indicates that the current inspection  
20 program is not designed to collect data on the entire  
21 population of poles. Do you see where I'm reading?

22 **A.** Yes.

23 **Q.** But it would be possible to collect that data,  
24 right?

25 **A.** Yes.

1 Q. But they just haven't done it, right?

2 A. Recently they've made requests to augment the  
3 Osmose program to collect this type of data. So not  
4 only is it possible, but FPL is pursuing that.

5 Q. Now?

6 A. Now.

7 Q. Okay. The last question I have for you,  
8 Dr. Brown, is how much money have you been paid by FPL  
9 for all of your work?

10 A. Me personally?

11 Q. Your firm. I don't know how you -- I don't  
12 know how you -- you bill them. How much -- I don't want  
13 to ask all the foundational questions. How much money  
14 have you or entities connected with you collected for --

15 A. I'm paid on salary by KEMA.

16 Q. Do you know how much KEMA has been paid for  
17 this?

18 A. And I know that the -- for this report, the  
19 not to exceed contract value for this report was  
20 \$170,000 for labor. I'm not sure how much of that not  
21 to exceed value was billed to FPL. And then as an  
22 additional item on that contract was my expert witness  
23 testimony which is time and material basis.

24 Q. Based on an hourly rate?

25 A. Based on an hourly rate.

1 Q. Which is?

2 A. I believe it's 290 an hour. I'm not sure.

3 MR. KISE: Thank you, Dr. Brown.

4 Thank you, Mr. Kise. For my organizational  
5 purposes, can you tell me, Captain Williams, will  
6 you have questions on cross for this witness?

7 CAPTAIN WILLIAMS: We will not,  
8 Madam Chairman.

9 Thank you, sir. And Mr. Twomey?

10 MR. TWOMEY: Do not.

11 You do not? Thank you very much.

12 Okay. Will Staff have questions on --

13 MS. BRUBAKER: Staff will have just one or two  
14 very brief questions.

15 Okay. Then we will pick up tomorrow with  
16 the Staff questions on cross. We will begin with  
17 you again, Dr. Brown, in the morning and then of  
18 course we will go to redirect.

19 We will begin tomorrow morning at 9:00 a.m.  
20 here in this room. I do intend to go later  
21 tomorrow, so please plan accordingly.

22 And with that, we are in break until nine  
23 o'clock tomorrow morning. Thank you all.

24 \* \* \*

25

1 CERTIFICATE OF REPORTER  
2  
3  
45 STATE OF FLORIDA )  
6 COUNTY OF LEON )  
78 I, LORI DEZELL, RPR, CCR, certify that I was  
9 authorized to and did stenographically report the  
10 proceedings herein, and that the transcript is a true  
11 and complete record of my stenographic notes.12 I further certify that I am not a relative,  
13 employee, attorney or counsel of any of the parties, nor  
14 am I a relative or employee of any of the parties'  
15 attorney or counsel connected with the action, nor am I  
16 financially interested in the action.17 WITNESS my hand and official seal this 20th  
18 day of April, 2006.  
1920   
21 \_\_\_\_\_22 LORI DEZELL, RPR, CCR  
23  
24  
25