

1 Indianapolis, Indiana
2 June 21, 2007
3 1:15 P.M. (EDT)
4

5 JUDGE STORMS: Let's go ahead and
6 go back on the record.

7 I believe we are to the point for
8 the Industrial Intervenors to present their
9 case. Ms. Dodd, you may proceed.

10 MS. DODD: Yes. Pursuant to a
11 stipulation of all of the other parties, the
12 Indiana Industrial Group offers the -- Exhibit
13 1, which is the direct testimony of Nicholas
14 Phillips with attachments including NP-1.

15 Industrial Group offers Exhibit 2,
16 which is the direct testimony of Michael
17 Gorman with attachments including MPG-1.

18 The Industrial Group also offers
19 Confidential Exhibit 2, which is the -- are
20 Schedules 2 and 3 of MPG-1.

21 The Industrial Group offers
22 Exhibit 3, which is the cross-answering
23 testimony of Nicholas Phillips.

24 We also would seek leave to file
25 corrected testimony because we've discovered

1 there are one or two typos in Mr. Phillips'
2 testimony.

3 JUDGE STORMS: Okay. Is that
4 included with what you're offering with these
5 exhibits?

6 MS. DODD: Yes, that would be
7 included.

8 JUDGE STORMS: Okay, and there's
9 no objection to that from the parties as well,
10 I'm assuming.

11 Okay, is there anything further?

12 MS. DODD: Only to notify all
13 parties and the Bench that we will be filing
14 an amended Appendix A to update the members in
15 the Industrial Group in this proceeding.

16 JUDGE STORMS: Okay. Pursuant to
17 stipulation of the parties, we'll show Indiana
18 Industrial Group Exhibits 1, 2, 2-Confidential
19 and 3, including the corrected testimony
20 incorporated therein and all attachments
21 thereto, admitted into this cause.

22 MS. DODD: The Industrial Group
23 rests.

24 JUDGE STORMS: Thank you.

25

1 (INTERVENOR'S - INDUSTRIAL GROUP
2 EXHIBIT NO. 1, BEING THE PREFILED
3 DIRECT TESTIMONY OF MR. NICHOLAS
4 PHILLIPS, JR. INTERVENOR'S -
5 INDUSTRIAL GROUP EXHIBIT NO. 2,
6 BEING THE PREFILED REDACTED
7 TESTIMONY AND EXHIBIT OF MR.
8 MICHAEL P. GORMAN, AND
9 INTERVENOR'S - INDUSTRIAL GROUP
10 EXHIBIT NO. 3, BEING THE
11 CROSS-ANSWERING TESTIMONY OF MR.
12 NICHOLAS PHILLIPS, JR., ADMITTED
13 INTO EVIDENCE.)

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1 (INTERVENOR'S - INDUSTRIAL GROUP
2 EXHIBIT NO. 2 CONFIDENTIAL, BEING
3 A CONFIDENTIAL DOCUMENT, ADMITTED
4 INTO EVIDENCE ON A CONFIDENTIAL
5 BASIS.)

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1 JUDGE STORMS: We're to the
2 rebuttal phase of the proceedings, so we come
3 back to Duke to call your first rebuttal
4 witness.

5 MS. KARN: Thank you, Your Honor.
6 We call Kay Pashos.

7
8 **KAY E. PASHOS**, a witness appearing on behalf of
9 the Petitioner, having been
10 previously duly sworn, resumed the
11 Stand and testified on Rebuttal as
12 follows:

13
14 **DIRECT EXAMINATION,**

15 **QUESTIONS BY MS. KARN:**

16 Q Can you please state your name for the record?

17 A Kay Pashos.

18 Q Are you the same Kay Pashos who testified
19 previously this week in this cause?

20 A Yes, I am.

21 Q Do you have a document before you that has
22 been marked for identification purposes as
23 Petitioner's Exhibit No. 17 including
24 Sub-Exhibits 17-A through C?

25 A Yes, I do.

1 Q Does that constitute a copy of your prefiled
2 rebuttal testimony in this cause?

3 A Yes, it does.

4 Q Do you have any corrections to make to that
5 testimony?

6 A I do have one correction. It is on Page 8,
7 Line 14. Where it refers to 500 megawatts,
8 that number should actually be 700 megawatts.

9 Q Please make that change and initial in the
10 margin on the record copy.

11 A Okay, I've done that.

12 Q Ms. Pashos, are you aware that after the
13 prefiling in this case, Ms. -- the OUCC
14 witness Ms. Joan Soller filed an omitted
15 sentence in her testimony dealing with the
16 issue of the sharing of off-system sales
17 profits from the Edwardsport facility?

18 A Yes, I was here when she updated her
19 testimony, and I have seen that.

20 Q Do you have any update to make to your
21 testimony in response to that?

22 A With her clarification, I think my rebuttal
23 testimony still kind of stands or is still
24 rebuttal to that.

25 I would add that -- now that I

1 understand that they want a different
2 percentage of sharing, I think, from this
3 plant, I would add that -- the primary
4 additional thing I would add is that it's --
5 that would be, I think, probably somewhat
6 administratively burdensome to do, and that
7 this plant realistically will dispatch at the
8 bottom or near bottom of the stack for retail
9 native load, I think, virtually all the time
10 anyway.

11 Q Thank you. With that correction and those
12 clarifications or that update, if I were to
13 ask you the same questions today contained in
14 Petitioner's Exhibit No. 17, would your
15 answers be the same?

16 A Yes, they would.

17 Q And do you adopt Petitioner's Exhibit 17
18 including Sub-Exhibits 17-A through C as your
19 sworn rebuttal testimony in this cause?

20 A Yes, I do.

21 MS. KARN: Your Honor, I would
22 like to offer into evidence at this time
23 Petitioner's Exhibit No. 17 including
24 Sub-Exhibits 17-A through C.

25 JUDGE STORMS: Is there any

1 objection? If not, we'll show Petitioner's
2 Exhibit 17, with Sub-Exhibits A through C,
3 admitted into this cause.

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(PETITIONER'S EXHIBIT NO. 17,
BEING THE PREFILED REBUTTAL
TESTIMONY OF MS. KAY E. PASHOS,
WITH PETITIONER'S EXHIBIT NOS.
17-A THROUGH AND INCLUDING 17-C
ATTACHED THERETO, ADMITTED INTO
EVIDENCE.)

1 MS. KARN: Thank you, Your Honor.
2 The witness is available for
3 cross-examination.

4 JUDGE STORMS: Thank you.
5 Mr. Hartley?

6 MR. HARTLEY: No questions, Your
7 Honor.

8 JUDGE STORMS: Mr. Polk, your
9 witness.

10 MR. POLK: Thank you, Your Honor.

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13 **CROSS-EXAMINATION OF MS. KAY E. PASHOS,**

14 **QUESTIONS BY MR. POLK:**

15 Q Good afternoon, Ms. Pashos.

16 A Good afternoon.

17 Q If you could turn to Page 4 of your rebuttal
18 testimony, Lines 18 through 20, you talk about
19 how the project, being the Edwardsport IGCC
20 project, will ultimately result in a peak
21 total retail rate increase of approximately 13
22 to 16 percent depending on whether Duke Energy
23 Indiana is an 80 percent to 100 percent owner.
24 Would that 16 percent be if they were
25 100 percent owner?

1 A Yes.

2 Q And at this time, Vectren has put its request
3 on hold increasing the odds that Duke may be
4 100 percent owner at this point?

5 A Maybe. I don't think I can say whether the
6 odds have increased or decreased. They've not
7 made a definitive commitment to this plant.
8 They basically have an option to own
9 20 percent of it. Assuming we get a CPCN
10 order, et cetera, the time for them to make a
11 definitive decision up or down will be after
12 that point.

13 MR. POLK: May I approach the
14 witness, Your Honor?

15 JUDGE STORMS: Yes, you may.

16
17 (Reporter marked document for
18 identification as Intervenor's -
19 CAC Exhibit No. CX-9)
20

21 Q Now, Ms. Pashos, I just handed you what's been
22 marked for identification as CAC Cross Exhibit
23 9, which is the electric bill comparisons
24 page, Page 44 from the IURC Annual Report,
25 with the comparison of rates through July 1 of

1 2006. Is that what it appears to be to you?

2 A Yes, it does appear to be that.

3 Q Have you looked at this comparison before?

4 A I've certainly seen comparisons that the
5 Commission does on their web site, and I
6 assume this is similar to that.

7 Q All right. If you could look down to the --
8 sort of the bottom section, investor-owned
9 utilities, you'll notice second from the
10 bottom of the list, I assume for alphabetical
11 reasons, is PSI Energy d/b/a Duke Energy
12 Indiana, and for 1,000 kilowatt hour
13 consumption, the rates are -- the bill would
14 be \$89.73, and that ranks them, I think, fifth
15 highest overall among electric utilities in
16 the state.

17 Now, subject to check, and I don't
18 have a calculator to hand up to you there, but
19 a 16 percent increase on \$89.73 would be about
20 \$104.09. Would you agree with that, subject
21 to check?

22 A I'll agree, subject to check. I can't do it
23 in my head.

24 Q Okay, and that would then make them be the
25 third highest overall electric rates in the

1 state and the second highest among
2 investor-owned utilities, only a few dollars
3 behind NIPSCO; correct?

4 A Well, I don't think I would agree with that.
5 I think there's a couple of problems with
6 making that leap.

7 No. 1, this is from July, 2006.
8 Obviously, some people's rates have gone up
9 since then or are in the midst of rate cases.
10 Ours actually have gone down since last
11 summer. We had a rather volatile --
12 insignificant fuel costs going on last year,
13 and in addition, this is residential only.
14 It's not average rates, and for whatever
15 reason, we -- I think it must be some sort of
16 allocation philosophic difference maybe with
17 other utilities, but we always compare more
18 favorably on an average, an all customer
19 classes look rather than just a residential
20 look. So, for those reasons, I really can't
21 make that leap that we would be No. 3.

22 Q Well, for my client's members who are mostly
23 residential customers, they would certainly
24 view that as -- you know, regardless of what
25 the average rates are, the impact to them is

1 pretty significant from this increase.

2 Is Duke also looking towards
3 increases in rates over the next few years as
4 other environmental compliance investments
5 kick in?

6 A Certainly we're in the midst of environmental
7 compliance, and, in fact, are probably more
8 than -- definitely more than half way through
9 with the CAIR and CAMR compliance now, but
10 everyone's -- I don't dispute that a 13 to
11 16 percent rate increase is significant, and,
12 you know, it's not easy for everyone to deal
13 with, but every utility is facing these cost
14 increases. It's unfortunately not an easy
15 time to produce electricity at a low cost.

16 Q But you would agree that Duke is the only
17 other utility in the state proposing a \$2
18 billion IGCC plant at this point?

19 A We are the only plant that I'm aware of in
20 Indiana proposing an IGCC plant, yes.

21 Q If you could turn to Page 5 of your rebuttal
22 testimony, Line 3, you say, "The reality is,
23 there are no easy, cheap energy solutions
24 today."

25 Have you ever replaced any of your

1 incandescent light bulbs with compact
2 fluorescents?

3 A I have actually, quite a few of them.

4 Q Relatively easy?

5 A It's not cheap, but it is relatively easy. I
6 can change a light bulb.

7 Q I have no doubt you can do a whole lot more
8 than that and very well.

9 Now, when you said it's not cheap,
10 you're referring to the initial investment in
11 the light bulb; correct?

12 A Right. There is a higher first cost or
13 initial cost to compact fluorescents.

14 Q All right, and they do last significantly
15 longer than incandescent light bulbs?

16 A That is my understanding and certainly my hope
17 since I've just installed a whole bunch them
18 in my new house.

19 Q Has that been your experience so far?

20 A Well, actually, a couple of them went out. I
21 think they must have been defective, but I
22 know they are supposed to last longer.

23 Q I hope you got your money back or at least got
24 replacement bulbs, and over time, since they
25 use less energy, they should be less expensive

1 to operate; correct?

2 A Yes.

3 Q Okay. So, in fact, over the long run, they
4 may prove to be cheaper than incandescent
5 bulbs?

6 A I actually didn't really do a big
7 cost-effective benefit analysis, but, you
8 know, I hope they are.

9 Q On Lines 9 to 10 of that page, you seem to
10 agree that burning coal produces pollutants,
11 which leads to governmental regulations and
12 expensive pollution control requirements. Is
13 that because there's something inherently
14 wrong with the pollutants that are being
15 emitted?

16 A I think everyone agrees there are impacts,
17 environmental impacts, to burning coal and
18 other fossil fuels as well, and there's
19 environmental impacts to -- and that really
20 goes to my point. There's no kind of silver
21 bullet or perfect solution. Even green power
22 solutions aren't perfect in various ways.
23 Even compact fluorescent light bulbs have
24 mercury in them. Again, there's just --
25 there's no easy answer to meeting our state's

1 and our country's energy needs in a cost
2 effective and environmentally safe manner.
3 It's just not an easy thing.

4 Q Would you agree that renewable energy, such as
5 wind and solar, is much cleaner and more
6 environmentally friendly than both coal and
7 natural gas?

8 A Yes, I believe that they have fewer emissions,
9 and, again, I think people point out
10 environmental issues with both -- with wind,
11 at least, and hydro, but I think overall,
12 people agree that they are more
13 environmentally friendly ways of producing
14 energy.

15 Q If you could turn to Page 13 of your rebuttal
16 testimony, please. There you reference the --
17 on Line 17 the use of CO2 for enhanced oil
18 recovery. What possible locations would use
19 the CO2 from the Edwardsport IGCC facility for
20 enhanced oil recovery?

21 A I don't think I or necessarily anyone can
22 answer that with precision or specificity
23 today, but it's my understanding that there is
24 potential for enhanced oil recovery in
25 southern Indiana and southern Illinois.

1 Q Has Duke done a study with respect to specific
2 locations that could be used?

3 A I believe some people at Duke have been
4 looking into it, but again, I don't think
5 we're at the stage where we know enough yet.

6 Q Okay. Would Ms. Radcliffe be someone who
7 could answer that question?

8 A I'm sure she could do a better job than I can.

9 MR. POLK: May I approach the
10 witness, Your Honor?

11 JUDGE STORMS: Yes, you may, Mr.
12 Polk.

13
14 (Reporter marked document for
15 identification as Intervenor's -
16 CAC Exhibit No. CX-10)

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18 Q Now, Ms. Pashos, I've just handed you what's
19 been marked for identification as CAC
20 Cross-Examination Exhibit 10. It is -- I will
21 represent to you that it is a response to CAC
22 Data Request 12.15 referring to your
23 testimony, but it appears to have been
24 answered by Ms. Radcliffe. I would like to
25 ask you, one, are you familiar with this

1 response?

2 A I have seen it, yes.

3 MR. POLK: Your Honor, at this
4 time, I would like to move CAC
5 Cross-Examination Exhibit 10 into the record.

6 JUDGE STORMS: Is there any
7 objection?

8 MS. KARN: No objection.

9 JUDGE STORMS: We'll show CAC
10 Cross-Examination Exhibit 10 admitted into
11 this cause.

12 Mr. Polk, did you intend to offer
13 CX-9?

14 MR. POLK: I'm sorry. Yes, Your
15 Honor, I do.

16 JUDGE STORMS: Is there any
17 objection to CX-9?

18 MS. KARN: No objection.

19 JUDGE STORMS: We'll show CAC
20 Cross-Examination Exhibit 9 also admitted into
21 this cause.

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1 (INTERVENOR'S - CAC EXHIBIT NO.
2 CX-9, BEING A DOCUMENT ENTITLED,
3 "JURISDICTIONAL ELECTRIC UTILITY
4 RESIDENTIAL CUSTOMER BILLS (JULY
5 1, 2006) RANK BASED ON 1000 KWH OF
6 CONSUMPTION", AND INTERVENOR'S -
7 CAC EXHIBIT NO. CX-10, BEING A
8 DOCUMENT ENTITLED, "CAC, IURC
9 CAUSE NO. 43114, DATA REQUEST SET
10 NO. 12, RECEIVED: JUNE 8, 2007,
11 CAC 12.15", ADMITTED INTO
12 EVIDENCE.)

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1 MR. POLK: Your Honor, may I
2 approach the witness?

3 JUDGE STORMS: Yes, you may, Mr.
4 Polk.

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6 (Reporter marked document for
7 identification as Intervenor's -
8 CAC Exhibit No. CX-11)

9
10 **CROSS-EXAMINATION OF MS. KAY E. PASHOS,**
11 **(Continuing)**

12 **QUESTIONS BY MR. POLK: (Continuing)**

13 Q Now, Ms. Pashos, I've just handed you what's
14 been marked for identification as CAC
15 Cross-Examination Exhibit 11. Can you
16 identify that for me?

17 A Yes. It's our response to CAC Data Request
18 12.16 in this cause.

19 Q And the witnesses on this identified both you
20 and Ms. Radcliffe; correct?

21 A Yes.

22 MR. POLK: Your Honor, at this
23 time, I would like to admit CAC
24 Cross-Examination Exhibit 11.

25 JUDGE STORMS: Any objection?

1 MS. KARN: No objections.

2 JUDGE STORMS: We'll show CAC
3 CX-11 admitted into this cause.

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5 (INTERVENOR'S - CAC EXHIBIT NO.
6 CX-11, BEING A DOCUMENT ENTITLED,
7 "CAC, IURC CAUSE NO. 43114, DATA
8 REQUEST SET NO. 12, RECEIVED:
9 JUNE 8, 2007, CAC 12.16", ADMITTED
10 INTO EVIDENCE.)

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1 MR. POLK: Your Honor, may I
2 approach the witness?

3 JUDGE STORMS: Yes, you may, Mr.
4 Polk.

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6 (Reporter marked document for
7 identification as Intervenor's -
8 CAC Exhibit No. CX-12)

9
10 **CROSS-EXAMINATION OF MS. KAY E. PASHOS,**
11 **(Continuing)**

12 **QUESTIONS BY MR. POLK: (Continuing)**

13 Q Ms. Pashos, I've handed you what's been marked
14 for identification as CAC Cross-Examination
15 Exhibit 12. Can you identify that document
16 for me?

17 A Yes. That is Duke Energy Indiana's response
18 to CAC Data Request 12.18 in this cause.

19 Q And this response seems to be sponsored solely
20 by you.

21 A Yes, it seems to be.

22 Q All right, but I expect you've also relied on
23 the advice and guidance of counsel and other
24 folks.

25 A Absolutely.

1 Q Absolutely. Are you familiar with this? Have
2 you taken a chance to read through this again?

3 A I have read it.

4 Q All right. In the request, we refer you to
5 Page 13, Line 14 through Page 14, Line 38 of
6 your rebuttal testimony, and then it asks a
7 question: "Assuming Duke satisfactorily
8 completes the analyses describe (sic) in these
9 testimonies -- of you and Ms. Radcliffe --
10 what additional requirements, if any, would it
11 require to start partial capture of CO2
12 emissions at the Edwardsport facility?" I
13 would like to go through those.

14 In order to move forward with
15 partial capture and sequestration in
16 anticipation of future CO2 regs, you would
17 need to seek IURC approval of those
18 activities; correct?

19 A Yes.

20 Q And you would want appropriate rate treatment
21 of the costs associated with those activities
22 as well?

23 A Yes.

24 Q Would that appropriate rate treatment include
25 the same forms of relief you're requesting in

1 this proceeding; namely, CWIP, SB 29, enhanced
2 ROE, those types of things?

3 A We certainly haven't discussed that. I would
4 venture to say it would be the same or
5 similar.

6 Q Okay. I think your response also makes moving
7 forward premised on some additional
8 assumptions including that the analyses
9 conclude that carbon capture and sequestration
10 or enhanced oil recovery are feasible;
11 correct?

12 A Yes.

13 Q And that the estimated costs are reasonable;
14 correct?

15 A Yes.

16 Q And also assumes further that all regulatory
17 approvals have been addressed; correct?

18 A Yes.

19 Q And those would be environmental regulatory
20 approvals?

21 A I think I was referring to this Commission's
22 regulatory approvals, but -- as well as
23 environmental permitting is mentioned next.

24 Q All right, and all liability issues have been
25 addressed?

1 A I said liability issues have been addressed.

2 Q Can you tell me what issues those would be?

3 A I think there's a bit of an unknown about how
4 the potential liability -- should the CO2 not
5 stay underground for 100 years or whatever,
6 you know, what are the potential ramifications
7 of that, again, liability-wise, and that's
8 really not been addressed because the idea of
9 carbon sequestration is still pretty new, and
10 we would want to have some constructive
11 framework in place to move forward.

12 Q Okay, and moving forward would also be
13 conditioned on Duke Energy Indiana acquiring
14 the necessary land; correct?

15 A Right, and that's another -- maybe it's not
16 that much of an unknown, but a bit of an
17 unknown to me as to what land rights are
18 necessary -- would be necessary for Duke
19 Indiana to acquire in order to sequester
20 carbon underground.

21 Q Would you need to require surface land,
22 surface property?

23 A I don't know the answer to that.

24 Q Would you need to acquire underground property
25 rights?

1 A It seems to me that that's a possibility.

2 Q Would you need to acquire rights-of-way and
3 transportation rights to move the CO2?

4 A I think it depends on how far you're
5 transporting it, but that's a possibility.

6 MR. POLK: Your Honor, at this
7 time, I would like to move into the record CAC
8 Cross-Examination Exhibit 12.

9 JUDGE STORMS: Any objection?

10 MS. KARN: No objection.

11 JUDGE STORMS: We'll show CAC
12 Cross-Examination Exhibit 12 admitted into
13 this cause.

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15 (INTERVENOR'S - CAC EXHIBIT NO.
16 CX-12, BEING A DOCUMENT ENTITLED,
17 "CAC, IURC CAUSE NO. 43114, DATA
18 REQUEST SET NO. 12, RECEIVED:
19 JUNE 8, 2007, CAC 12.18", ADMITTED
20 INTO EVIDENCE.)

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1 **CROSS-EXAMINATION OF MS. KAY E. PASHOS,**

2 **(Continuing)**

3 **QUESTIONS BY MR. POLK: (Continuing)**

4 Q Okay. On Page 13, lines -- that bullet on
5 Line 21 and following, you talk about the
6 DOE's Phase II carbon sequestration program
7 and submitting a proposal to DOE. Has Duke
8 submitted that proposal yet?

9 A Yes, I believe so, and Ms. Radcliffe can
10 provide more detail on that.

11 Q Okay. Is Duke willing to make a commitment to
12 the study of carbon sequestration whether it
13 gets a DOE Phase II grant or not?

14 A I think what we lay out here is that, subject
15 to the framework being established and the
16 approvals and that sort of thing and all the
17 things that we just talked about being in
18 place, I think we are willing to move forward
19 even if we don't get that DOE grant. I think
20 for a whole bunch of reasons, it would be a
21 good thing if we are a participant in the DOE
22 program, but if we don't, we're still prepared
23 to study and -- with, again, all of the other,
24 you know, conditions that I think are
25 necessary for us to prudently move forward, we

1 would be prepared to do that even if we're not
2 fortunate enough to get the DOE grant.

3 Q Okay. Down at the bottom of Page 14, close to
4 the bottom, Lines 37 through 39, you indicate
5 a commitment to meet periodically with the
6 OUCC, IWF and CATF to update them on the
7 progress on the above activities, namely the
8 studies dealing with sequestration.

9 Does that mean Duke is unwilling
10 to meet with other parties not listed or with
11 the Commission Staff?

12 A No, not at all. Those were just the three
13 parties that in their testimony in this case
14 expressed a strong interest in us moving
15 forward with carbon capture and sequestration
16 activities at Edwardsport.

17 Q Okay. Is there a party to this proceeding
18 that hasn't expressed a strong interest in at
19 least the outcome of the studies of
20 sequestration?

21 A The way I read the testimony was that the
22 OUCC, the Wildlife Federation and the Clean
23 Air Task Force were very interested in carbon
24 capture and sequestration in connection with
25 the Edwardsport Project. I did not see that

1 level of interest on other parties, but if we
2 go forward with this, we'll obviously be
3 filing for Commission approvals, and everyone
4 will have the opportunity to get back in this
5 hearing room and discuss all of this.

6 Q Would you agree that a collaborative process
7 of meeting before getting into the hearing
8 room with the different interested parties
9 could expedite things and help smooth out the
10 process?

11 A It might. I've been involved in
12 collaboratives that don't exactly expedite
13 things, but it might. We're not opposed to
14 talking with parties and seeing if consensus
15 can be reached.

16 Q On Page 16, Lines 10 through 11, you indicate
17 that Indiana has considerable natural
18 resources that are currently under-utilized.
19 Would you agree that wind is a natural
20 resource?

21 A I'm not sure that -- whether the General
22 Assembly was thinking about wind when they
23 said that or not. I generally think of
24 natural resources as something in the ground,
25 but they may have included wind in their

1 thinking. I don't know.

2 Q Well, water wouldn't be in the ground, but you
3 would still consider that a natural resource;
4 correct?

5 A Yes, and I think there's certainly evidence
6 both in Senate Bill 29 and in the Governor's
7 energy plan that the development of renewable
8 resources including wind or maybe especially
9 wind among renewables is something of interest
10 to the state.

11 Q And I seem to recall SB 29 included provisions
12 for renewable energy resources as well.

13 A Yes, it does.

14 Q Turning to Page 20 of your rebuttal testimony,
15 if you could. Now, there Duke appears to make
16 a concession of a reduction of 50 basis points
17 in the ROE adder that it's proposed for this
18 project. Have you determined what the rate
19 impact of that reduction would be?

20 A I can tell you what the dollar impact of the
21 150 basis points would be, but I think
22 Mr. Farmer can probably better do the
23 calculations to tell you what the rate impact
24 of that is or the rate impact of the change
25 is.

1 Q That's fair enough.

2 MR. POLK: Thank you, Ms. Pashos.

3 I have no further questions, Your Honor.

4 JUDGE STORMS: Thank you, Mr.

5 Polk. Ms. Dodd?

6 MS. DODD: Thank you, Your Honor.

7

8 **CROSS-EXAMINATION OF MS. KAY E. PASHOS,**

9 **QUESTIONS BY MS. DODD:**

10 Q Good afternoon, Ms. Pashos.

11 A Good afternoon.

12 Q On Page 4 of your rebuttal, you've discussed
13 the approximate 13 to 16 percent rate
14 increase. In fact, doesn't Mr. Farmer predict
15 an increase from 15 to 19 percent if Duke has
16 100 percent ownership of the plant?

17 A I don't think so. Let me double check my
18 notes, but I don't think so.

19 No, again, I don't think so.

20 Q You don't believe so?

21 A No. You can ask him that, but I think that,
22 again, the peak impact, even at 100 percent
23 ownership the first full year of operation
24 would be -- I show 16.1 percent estimated.

25 Q Okay. We can confirm that with Mr. Farmer

1 then on his because I believe his exhibit
2 showed something different than that, but --
3 So you wouldn't know then or you wouldn't be
4 able to agree that he predicts that the
5 industrial class will receive a 17 to
6 19 percent increase?

7 A No. I just have the average rate increase,
8 and Mr. Farmer may have the class specific
9 numbers.

10 Q Okay. The estimated rate impacts are based on
11 Duke's current estimate of the project costs;
12 is that correct?

13 A Yes.

14 Q So, that's the \$1.985 billion, that estimate?

15 A Yes. It's important to note that it's the
16 all-in costs, not just the capital costs that
17 we based our rate estimate impacts upon.

18 Q Okay. So, it would include the capital costs
19 plus the ratemaking treatment that you've
20 requested?

21 A Right.

22 Q And it also includes estimated O&M costs, too,
23 doesn't it?

24 A Yes.

25 Q So, would you agree that if the costs of the

1 project go up, that the rate impact will also
2 be greater?

3 A Assuming we come in and justify and get
4 Commission approval to recover an increase in
5 costs, yes.

6 Q Is there any doubt in your mind that you would
7 not come in and seek Commission approval for
8 additional cost recovery if the costs go up?

9 A I would be speculating, but I think most
10 likely if we felt the costs were increasing
11 but they were still reasonable, we would come
12 in and seek Commission approval of an updated
13 cost estimate.

14 Q If costs were increasing and you didn't think
15 they were reasonable, what would you do?

16 A You know, I think we would have to take a look
17 at what was causing the costs. I really can't
18 speculate on an outcome; it depends on what --
19 how much of a cost increase there might be,
20 what was causing it, whether it was outside of
21 our control, what that meant for competing
22 alternatives that still might be available. I
23 can't really prejudge, I don't think, what our
24 decisions would be in a vacuum.

25 Q What would be some of the things that you

1 would consider that would make the costs
2 unreasonable?

3 A I don't know; maybe if John Roebel had a big
4 party and spent a lot of money and charged it
5 to the project. I can't really speculate.

6 Q You're telling us that doesn't happen?

7 A I'm pretty sure it doesn't.

8 Q The comparison of the IGCC plant's cost to the
9 other alternatives, the comparison was using
10 the current estimate of the IGCC without
11 carbon capture and storage; is that correct?

12 A That's correct, and, of course, we didn't
13 estimate or include carbon capture costs for
14 any alternative technologies either.

15 Q On Page 7, Lines 14 and 15, you state that if
16 Duke had included the requested incentive
17 return in the IRP modeling, it would have --
18 it could have discouraged the IGCC project.
19 Is that because including the enhanced return
20 would have driven up the cost of the plant?

21 A My point there is that if you include the
22 enhanced ROE, the incentive, and if it is
23 large enough to make a competing alternative
24 more cost effective, we see that as kind of
25 defeating the purpose of Senate Bill 29 to

1 encourage those specific technologies.

2 We also, leading up to this,
3 obviously, have a philosophical position that
4 including specific ratemaking in the economic
5 resource analysis is really not the best way
6 to go because it can really point you in
7 directions based just on ratemaking when we
8 want to make more of a pure economic
9 comparison.

10 Q So, is that a yes to the question?

11 A Well, it's a restatement. Again, I didn't say
12 would; I said could, and I explained why.

13 Q Okay. On Pages 8 and 9, you discuss the
14 benefits of an IGCC plant over pulverized coal
15 plants. In light of these benefits -- Well,
16 let me rephrase.

17 Despite the benefits that you
18 perceive of the IGCC plant, didn't Duke North
19 Carolina choose to construct a new pulverized
20 coal plant in North Carolina?

21 A Yes, they are, I believe, proceeding with kind
22 of an advanced super critical pulverized coal
23 plant unit in the Carolinas.

24 Q In fact, I believe it's set out in
25 Petitioner's Redirect Exhibit 1 that in North

1 Carolina -- Do you need that in front of you?

2 A I don't know which one that is.

3 Q It's the portion of the transcript from the
4 hearing of January 18, 2007 in North Carolina.

5 A Okay. I haven't seen that.

6 MS. DODD: May I approach?

7 JUDGE STORMS: Yes, you may.

8 Please proceed.

9 MS. DODD: Thank you.

10 Q Based on that excerpt from the testimony, it
11 appears that the IGCC option was eliminated
12 basically at the early stage of the IRP
13 modeling in the North Carolina case; is that
14 true?

15 A I can't really state that with certainty
16 myself. This looks to be not a Duke witness's
17 testimony, and I wasn't involved in the
18 hearings here or anything, but the question
19 certainly implies that IGCC was screened but
20 not taken to the final stage of analysis in
21 North Carolina.

22 Q Thank you.

23

24 MS. DODD: May I approach?

25 JUDGE STORMS: Yes. Ms. Dodd,

1 just for clarification, can you describe the
2 document that you provided to the witness? We
3 don't have a copy up here. Can you indicate
4 whether it's previously been admitted?
5 Please, if you can, walk through that.

6 MS. DODD: Yes.

7 Q (Ms. Dodd Continuing) Ms. Pashos, the exhibit
8 you were looking at was Petitioner's Redirect
9 Exhibit 1; is that correct?

10 A I believe it was marked that way, yes.

11 MS. DODD: I believe that was
12 admitted during the redirect examination of
13 Mr. Rose.

14 JUDGE STORMS: Thank you.

15 Q On Page 11, Line 1 --

16 A Yes.

17 Q -- you state in recognition of the increasing
18 retail rate environment, you were -- Duke is
19 voluntarily reducing its request from a 200
20 basis point ROE to 150 basis points. Do you
21 agree that increasing energy rates are a
22 concern?

23 A Absolutely.

24 Q Is there a concern that Duke's electric rates
25 will not be competitive with other utilities,

1 Indiana utilities, or other areas of the
2 country?

3 A It's a concern, but our rates are -- even with
4 the rate increases we've had over the last few
5 years, and everyone else is experiencing those
6 same forces generally, and our rates remain
7 very competitive regionally and nationally,
8 but it is a concern as something we, you know,
9 discuss internally, and it's a goal of ours to
10 remain competitive.

11 Q And you say you remain low -- I'm sorry, could
12 you -- I don't want to misstate what you just
13 said.

14 A I think I said our rates remain today -- even
15 today, after several years of this increasing
16 cost environment, our rates remain competitive
17 both regionally and nationally.

18 Q Okay, and upon what do you base that?

19 A The way we track it is from the energy -- DOE
20 Energy Information Administration. I think
21 they have the most complete and up-to-date
22 data, so that's generally how we compare it
23 and track that information.

24 Q Okay. Do you know where you rate currently?

25 A I know we're about 15 percent below the

1 regional average retail electric rate and
2 still about, I think, 28 percent or so below
3 the national average retail electric rate.

4 Q Do you know where you rate for industrial
5 rates?

6 A I don't know off the top of my head, no.

7 Q But that would be in that same report?

8 A Yes. They show it overall and by major
9 customer class.

10 MS. DODD: May I approach?

11 JUDGE STORMS: Yes, you may.

12

13 (Reporter marked document for
14 identification as Intervenor's -
15 Industrial Group Exhibit No. CX-1)

16

17 JUDGE STORMS: Please proceed.

18

19 Q Ms. Pashos, I've handed you what's been marked
20 for identification purposes as Industrial
21 Group's Cross-Examination Exhibit 1, and I
22 believe it consists of four pages. On Page 2
23 is the Energy Information Administration
24 title, and it's the office energy --
25 statistics from the U.S. government. Is this

1 the report you were referring to?

2 A Yes, it does appear to be. I mean, there are
3 different reports for month and for
4 year-to-date and that sort of thing, but this
5 is generally the information that we use.

6 Q All right, and then I'll represent to you that
7 the first page is just a re-listing of all of
8 the states in the order in which they fall
9 that was comprised from the actual data on
10 Pages 2 and 3. Subject to check, would you
11 agree with that compilation?

12 A Subject to check, yes, but again, I would
13 point out that this appears to be a report for
14 one month, March, 2007.

15 MS. DODD: I would move for the
16 admission of Industrial Group's
17 Cross-Examination Exhibit 1.

18 JUDGE STORMS: Is there any
19 objection?

20 MS. KARN: No objection.

21 MR. HARTLEY: Your Honor, can I
22 just ask a quick clarifying question?

23 JUDGE STORMS: Yes, you may.

24 MR. HARTLEY: Page 1 is a
25 reordering of the column under industrial

1 March, '07; is that right?

2 MS. DODD: That is correct.

3 MR. HARTLEY: No objection.

4 JUDGE STORMS: We'll show
5 Industrial Group's Exhibit CX-1 admitted into
6 this cause.

7
8 (INTERVENOR'S - IIG EXHIBIT NO.
9 CX-1, BEING A FOUR-PAGE DOCUMENT
10 ENTITLED, "AVERAGE RETAIL PRICE
11 OF ELECTRICITY - INDUSTRIAL",
12 ADMITTED INTO EVIDENCE.)

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1 **CROSS-EXAMINATION OF MS. KAY E. PASHOS,**

2 **(Continuing)**

3 **QUESTIONS BY MS. DODD: (Continuing)**

4 Q I was tempted to test your geographical
5 knowledge to have you identify which -- where
6 Indiana fell for those states that are located
7 east of the Mississippi, but --

8 A I will flunk that test.

9 Q -- in the interest of time, if you would
10 accept my representation, subject to check,
11 that Indiana is seventh on this list of states
12 east of the Mississippi.

13 A I have to accept it subject to check because I
14 can't possibly figure that out on my own
15 quickly, but when you say seventh, are you
16 going from highest to lowest like this is and
17 out of how many states --

18 Q Right, going from lowest to highest.

19 A Okay.

20 Q So it would be seventh of all of those states
21 east of the Mississippi.

22 A I have no reason to dispute that, but I can't
23 really verify it.

24 Q Okay.

25 A Again, this is from one month, March of '07,

1 and you're talking about Indiana as a whole,
2 right, not a company-specific ranking?

3 Q I understand that.

4 On Page 11, Lines 5 to 8, you
5 discuss the depreciation study for the IGCC
6 plant, and you say it will be presented. Do
7 you plan on presenting that to the Commission
8 in a docketed proceeding?

9 A Yes, and we contemplated not just doing it and
10 implementing it but actually filing it for --
11 I think it probably would be a docketed
12 proceeding for other parties to weigh in on
13 and that sort of thing.

14 Q At the bottom of Page 11 and over to Page 12,
15 you discuss the ongoing review of the project
16 by the Commission, and I think we touched on
17 that briefly a little earlier in our
18 discussion. Are you aware of any instances
19 when the Commission has denied an increase in
20 project costs in an environmental compliance
21 project?

22 A I'm really only probably familiar enough to
23 answer that for Duke Indiana and PSI because I
24 haven't followed all the other companies
25 usually beyond the initial orders, but my

1 recollection is the only really significant
2 time -- we only had one instance where we had
3 to come in and justify it, and it's my
4 recollection it was with the cost of SCRs
5 under the NOx SIP Call, and the Commission did
6 approve that; they found that the cost
7 increases, I think, were reasonable and that
8 sort of thing. That's the only instance that
9 I recall going through that process and any --
10 for any material item.

11 Q Okay, and when you say it was the only time
12 you had to come in and justify the increase,
13 are you saying that's the only time that
14 you've had a cost increase in an environmental
15 project?

16 A It's the only time I remember there being a
17 material cost increase. There might have been
18 little things here and again. Like in our
19 current environmental compliance plan, I think
20 there are some projects where we're a little
21 bit over our estimates; others were under, and
22 I think the bottom line is that we're still
23 kind of under budget and on schedule, but I
24 know there are minor changes because these are
25 estimates, and things do shift around from

1 time to time, but again, the only material
2 circumstance I remember is with the SCRs a few
3 years ago.

4 Q And -- I'm sorry.

5 A I'm done.

6 Q And in that proceeding, was that during a
7 summary proceeding, or was that a full
8 evidentiary proceeding where all parties could
9 file testimony and challenge the increased
10 cost?

11 A I believe it was the latter.

12 Q If the Commission were to deny an updated cost
13 estimate, would Duke discontinue the project?

14 A Again, there's so many other factors that
15 would need to be addressed before -- I can't
16 prejudge that decision at all.

17 Q Do you know when would be the first up-to-date
18 that the Commission would be reviewing, what
19 the time period would be for that?

20 A For this project?

21 Q For this project, I'm sorry.

22 A I don't really know how we've handled it in
23 the past. It's usually -- assuming, again, we
24 receive a CPCN order granting a CPCN for this
25 project, I think we usually file a case for

1 the ratemaking treatment, and, you know, kind
2 of periodically update the Commission on the
3 status at least at six-month intervals.
4 That's just kind of my best guess at this
5 point.

6 Q If after say a year of proceeding with the
7 project and if the costs had materially
8 increased, and for whatever reason, the
9 Commission found that the costs were not
10 prudently incurred, at that time, do you think
11 Duke would discontinue the project?

12 MS. KARN: Your Honor, I'm going
13 to object that it calls for speculation.

14 JUDGE STORMS: Response?

15 MS. DODD: She's testified there
16 would be a lot of factors involved. She could
17 answer the same way, or we can explore what
18 factors would be involved, but I think that
19 she is in a policy making position with Duke,
20 and it's within an area that she could at
21 least provide some insight on.

22 JUDGE STORMS: I'll overrule the
23 objection and allow the witness to answer to
24 the extent she's able to.

25 A Can you repeat the question?

1 Q (Ms. Dodd Continuing) Let's say that you
2 were -- you get the CPCN and you've come in
3 for a six-month review and you come in in
4 another six months so the project would have
5 been under construction -- or maybe not under
6 construction, but you would have been
7 proceeding with the project for over a year.
8 Under that, would you anticipate you would
9 have spent some of the estimated costs by that
10 time?

11 A I expect that, as our testimony reflects here,
12 Mr. Zupan, if we get a CPCN order from the
13 Commission, he will issue the full notice to
14 proceed to get the project underway soon after
15 that, so we will be -- you know, we have
16 incurred some expenses already, but we will be
17 incurring more expenses at that point, again
18 assuming a CPCN order.

19 Q Under those assumptions, if in your second
20 review, the Commission denied an increase in
21 project costs, would Duke discontinue the
22 project, or would you continue to go forward?

23 A First, I'd like to say that I have some policy
24 role within the Company, but I'm pretty sure
25 they're not going to let me make a decision

1 whether to cancel an IGCC project or not.

2 Secondly, again, I think there
3 would be a number of factors that would have
4 to be analyzed in terms of our load and our
5 obligations and other alternatives to meet
6 that load and how much the cost increases were
7 and all sorts of things like that.

8 Q On Page 14, Lines 12 to 13, you're discussing
9 that you would commit to take reasonable steps
10 to include infrastructure to support 15 to
11 18 percent carbon capture equipment. Is the
12 cost of the infrastructure to support that
13 carbon capture included in the current \$1.985
14 billion estimate?

15 A I don't believe it is. Mr. Zupan could
16 confirm that, and I think the idea here is
17 that there are some relatively low cost things
18 that maybe we could do in this stage of
19 engineering and design, again, if approved by
20 the Commission, that would not change the cost
21 estimate materially but would make it even
22 more kind of carbon capture ready, but Mr.
23 Zupan can expand on what types of things those
24 are.

25 Q What would you consider a material change in

1 the cost estimate?

2 A Again, that's probably a better question for
3 the engineers, but in my view, something like,
4 you know, 5 percent would be material.

5 Q 5 percent?

6 A 5 and up would be material in my mind.

7 Q On Page 16, I believe you're quoting the --
8 some of the language from Senate Bill 29.

9 A Yes.

10 Q On Line 8, ". . .Indiana is to continue to be
11 successful in attracting new businesses and
12 jobs." Would you say that attracting new
13 businesses and jobs is a goal of the General
14 Assembly, also?

15 A Absolutely.

16 Q And on Line 37, you reference economic
17 development. Would you agree that economic
18 development includes economic development in
19 all sectors of businesses, not just the coal
20 industry?

21 A Absolutely.

22 Q Looking at your testimony on Pages 18 to 19
23 and your discussion of the enhanced return, as
24 I understand your testimony, it's your
25 position that the credit quality concerns and

1 risk profiles of the Company are irrelevant to
2 the Commission's decision whether to award an
3 incentive return; is that correct?

4 A That is -- I mean, I think those issues are
5 very relevant and important in the general
6 rate setting process when you're talking about
7 setting an overall return level and financial
8 stability and that sort of thing, but when you
9 look at Senate Bill 29 as an incentive to
10 encourage a certain activity, I just don't see
11 any relationship to those issues of financial
12 necessity.

13 Q And looking at your testimony on Pages 19 and
14 20, if I understand your testimony on those
15 pages, it's your position that Duke is
16 entitled to an incentive return because it is
17 willing to try a new technology that other
18 people will pay for even if the project
19 doesn't live up to its projected potential or
20 if it ever works efficiently?

21 A I think you could say that about any capital
22 investment we make or any business makes.
23 There's not an absolute iron clad guarantee
24 that it will work exactly as contemplated, but
25 Senate Bill 29 reflects, in my mind, the

1 General Assembly's intent to encourage
2 investments by the utility sector in certain
3 types of technology including IGCC, not
4 limited entirely to IGCC, but IGCC is
5 definitely one of them, and they have
6 articulated an intent to encourage investments
7 in IGCC and certain other things through the
8 use of incentive rates of return, timely
9 recovery of costs and that sort of thing.

10 Q Do you believe it's in the Commission's
11 discretion to weigh the available incentives
12 for utilities under Senate Bill 29 against the
13 rate impact of a clean coal project that
14 ratepayers will be required to bear?

15 A I certainly think the Commission has
16 discretion in certain ways under Senate Bill
17 29.

18 For example, they have the
19 discretion to determine if a project meets the
20 criteria of the law and whether it's eligible.

21 They have the discretion to
22 determine whether the project is reasonable
23 and necessary, and I also think they have the
24 discretion to determine how much of an
25 incentive the utility should be awarded, and

1 if -- and I imagine there's a lot of factors
2 they could use to determine up to 300 basis
3 points what is appropriate. I don't think it
4 would be unreasonable of them to consider the
5 rate impact.

6 MS. DODD: Thank you. No further
7 questions.

8 JUDGE STORMS: Ms. Becker, your
9 witness.

10 MS. BECKER: Thank you, Your
11 Honor.

12

13 **CROSS-EXAMINATION OF MS. KAY E. PASHOS,**

14 **QUESTIONS BY MS. BECKER:**

15 Q I just have a few. I have a clarification on
16 Page 10 of your rebuttal. You state at Lines
17 13 through 15 ". . .having 15% to 18% CO2
18 capture and sequestration or enhanced oil
19 recovery in place at the Edwardsport IGCC
20 Plant within a relatively short time of
21 commercial start-up." Presently, when is the
22 commercial start up projected?

23 A Around the end of 2011.

24 Q So with respect to a relatively short time
25 frame, what does that mean?

1 A I was thinking within a couple of years after
2 that.

3 Q You are VP of Regulatory Policy for the
4 Company; is that right? What is your proper
5 title?

6 A Vice President of Regulatory Strategy.

7 Q What does that mean? It sounds good.

8 A I'm in charge of and involved with developing
9 regulatory strategy for Duke Energy's
10 regulated operating companies in five states,
11 and, again, my purview involves state
12 regulation.

13 Q Which states would those be?

14 A Indiana, Ohio, Kentucky, North Carolina, South
15 Carolina.

16 Q Let's turn to Ohio for a second. Is Ohio also
17 considering or doing some research as a state
18 into clean coal technology?

19 A I think there's been some activity in Ohio,
20 but I'm not terribly familiar with it.

21 Q Is Ohio a restructured state or a regulated
22 state with respect to rate regulation?

23 A For the generation side, they are
24 restructured, deregulated, whatever you want
25 to call it.

1 Q Have there been some issues with respect to
2 transitioning to market-based rates in Ohio?

3 A They've had transition plans and kind of, in
4 my view, have gone -- haven't gone the full
5 way there and seem a little reluctant to.

6 Q If this proposal were being proposed in Ohio,
7 let's say, as opposed in Indiana, who under
8 Ohio's restructuring laws would bear the
9 costs, the capital costs, of this proposal?

10 A I think that's unclear actually. I think AEP
11 proposed and got approval from the Public
12 Utility Commission of Ohio to basically put --
13 to build an IGCC plant and basically put the
14 cost as a non-by-passable wires charge, so I
15 think it's -- even though that seems
16 counterintuitive for a restructured state, I
17 think that's the decision they got from the
18 PUCO. I think it may be being appealed as
19 well, but that's why I say I think it's
20 unclear how it would be recovered.

21 At the same time, even in
22 restructured states or competitive markets,
23 obviously, at some point, your costing could
24 be reflected in your prices or you'll go out
25 of business.

1 Q On Page 4 of your rebuttal, you mention that
2 the likelihood of citing, permitting and
3 constructing a nuclear plant in Indiana would
4 realistically be much more difficult and take
5 much longer than an IGCC. Now, Duke never
6 realistically considered a nuclear plant, did
7 it?

8 A A number of years ago, they did.

9 Q Not in the latest IRP, did it, 2005 IRP?

10 A No, we haven't. I suspect with the carbon
11 situation, a lot of utilities, including maybe
12 even Duke Indiana or other Indiana utilities
13 or other Midwest utilities, will consider
14 nuclear, you know, at some point in the future
15 a little more seriously, but we have not
16 strongly considered it as an option here for a
17 number of years, and I think the time frame, I
18 think everyone would agree, would take much
19 longer to get that approved, permitted,
20 licensed, constructed and everything than an
21 IGCC plant.

22 Q Do the contracts with GE and Bechtel address
23 or provide for some form of termination in the
24 event that the IURC disallows costs?

25 A Well, we -- I don't think we have a definitive

1 agreement with GE and Bechtel yet.

2 Q We have spent a great deal of time talking
3 about enhanced ROE, so I'll talk about it
4 briefly.

5 I think you've testified, at least
6 in your rebuttal testimony, that Duke is
7 permitted by statute to request -- to make
8 this request, but isn't it also true that the
9 statutes also permit the Public and
10 Intervenors to oppose utility requests
11 generally and participate in proceedings
12 before the Commission?

13 A I think that's what we're here doing.

14 Q Is Duke South Carolina considering a nuclear
15 plant?

16 A Duke Energy Carolinas is considering, and
17 it's, I think, more than considering. They're
18 in the beginning planning stages for a nuclear
19 plant.

20 Q If the IURC grants Duke's petition for the
21 Edwardsport proposal without the enhanced ROE,
22 will Duke move forward with the project?

23 A As I stated on Monday, I can't and won't sit
24 here and tell you that -- or tell the
25 Commission that if we don't get an incentive,

1 we won't go forward with this plant, but at
2 the same time, we will certainly look at the
3 whole package of ratemaking treatment, and
4 that will be a factor in determining whether
5 to go forward.

6 Q Even if your IRP shows that it's the
7 least-cost option?

8 A We have an obligation, obviously, to balance
9 customer and investor interests. If the
10 Commission were hypothetically to say we want
11 you to build this but we're not going to
12 include it in rates, I do not think that would
13 be reasonable, No. 1. Especially I do not
14 think it would be reasonable given Senate Bill
15 29. Our prudent incurred costs need to be
16 reflected in rates.

17 Q Well, are you saying that the Commission is
18 unreasonable if they don't provide an enhanced
19 ROE?

20 A I didn't say that at all.

21 MS. BECKER: I have no further
22 questions.

23 JUDGE STORMS: Thank you. OUCC?

24 MR. HELMEN: Thank you, Your
25 Honor.

1 **CROSS-EXAMINATION OF MS. KAY E. PASHOS,**

2 **QUESTIONS BY MR. HELMEN:**

3 Q Hi there.

4 A Hello.

5 Q Welcome back.

6 A Thanks.

7 Q How many times have you been on the Stand in
8 the last two weeks?

9 A Too many.

10 Q I know. When do you get any work done?

11 A I don't.

12 Q Couple of housekeeping matters. If you could
13 turn to the bottom of Page 12, top of Page 13,
14 you're talking there about withdrawing your
15 request for interim cost recovery assurance,
16 and as I read on at the top of Page 13, I just
17 want to make sure that you're not suggesting
18 that this Commission issuing an order by
19 October 1 is a conditioned precedent to your
20 withdrawal of the sub-docket, are you?

21 A No, it's more of a respectful plea for an
22 order by October 1.

23 Q Just to make sure that I understand this, I
24 think in exchange for the other parties
25 agreeing to a fairly accelerated briefing

1 schedule, Duke agreed to withdraw its request
2 for interim relief; is that fair?

3 A Right, it's withdrawn.

4 Q So it's withdrawn? Thanks.

5 A As long as you guys live up to your end of the
6 bargain.

7 Q We'll talk about sharing that in a minute
8 here.

9 You were asked a couple of
10 questions about the North Carolina Cliffside
11 proceeding. Did you attend any of that
12 hearing?

13 A I didn't. I did not attend any of the
14 hearing, no.

15 Q Have you had a chance to read Nick Phillips'
16 testimony in this proceeding?

17 A Yes.

18 Q He discusses at length the -- that case, and
19 can you explain to me why Duke Carolina finds
20 IGCC to be "a complex and finicky piece of
21 equipment" while Duke Indiana finds it to be a
22 sound and proven technology?

23 A Well, I'm not sure that I would agree that
24 Duke Carolina has that opinion versus Duke
25 Indiana. I think, again, there was a Duke

1 Energy Carolina witness who felt that way to
2 some extent. I think there are other pieces
3 of his testimony that indicated he felt IGCC
4 was very promising and a good technology in a
5 lot of ways, too, but I think the critical
6 difference as to why there's a different view
7 is the legacy Cinergy engineers, like John
8 Roebel, Bob Moreland and Dennis Zupan, have a
9 lot of experience with IGCC through our Wabash
10 River Station as well as they have been
11 investigating through GE and Bechtel, but also
12 through talking to other vendors since, gosh,
13 2004 or before. I think quite honestly the
14 legacy Cinergy engineers, again, are more
15 familiar, and as a result, much more
16 comfortable with the reliability of IGCC
17 technology and power plants.

18 Q Is there any particular reason why IGCC
19 technology is more suited to Indiana than the
20 Carolinas?

21 A I think there are a couple of reasons why it
22 is. One, of course, we've talked a lot about
23 the potential for carbon capture and
24 sequestration, and the Indiana geology seems
25 to be promising for sequestering carbon,

1 especially in southern Indiana.

2 I think another important
3 difference is to look at the regulatory
4 framework. Clearly, Indiana -- the
5 Legislature, through the tax credit incentive
6 legislation as well as through Senate Bill 29,
7 has expressed a strong interest in encouraging
8 IGCC technology, and I don't think that
9 framework exists in North Carolina.

10 Q I read the North Carolina Commission Order
11 pretty carefully, and it seemed to make it
12 pretty clear that the people at Duke, at least
13 who testified in that case, really questioned
14 the reliability of the IGCC technology. Any
15 comment on that?

16 A Again, I -- from my understanding, it was
17 really one individual who at least somewhat
18 questioned the technology.

19 Again, he, I don't think, has the
20 history and the experience that the legacy
21 Cinergy engineers and operators do with that
22 technology, and again, there's not the
23 framework or the encouragement there. There's
24 also a lot more coal, I think, right here in
25 our backyard than in the Carolinas.

1 Q I was going to ask Mr. Moreland this because
2 he mentions it in his testimony, but I'll ask
3 you. As he referenced this Duke employee, he
4 calls him an ex-Vice President of Duke. Has
5 he been terminated since that case?

6 A He has voluntarily left to take a position, a
7 very impressive position, at TVA.

8 Q Did it have anything to do with his testimony
9 in that case?

10 A I don't know, but I'm quite sure it didn't
11 nonetheless, so -- he's a very impressive
12 person.

13 Q If you could turn to Page 13 of your rebuttal
14 testimony, at the bottom of Page 13 and
15 following on Page 14, I'm looking at your
16 proposal to this Commission and the parties
17 regarding a going-forward carbon capture and
18 sequestration study and procedure; is that
19 fair?

20 A Yes.

21 Q Okay, and as I look at this proposal and all
22 your bullet points, the phrase that really
23 jumps out at me in virtually all of them is
24 "subject to Commission approval and cost
25 recovery." In fact, in bullet points two and

1 three, you actually say that twice, and I'm
2 assuming that's just to make sure that nobody
3 thinks that Duke is intending to pay for any
4 of these costs itself; is that fair?

5 A I think it's fair that we wanted to be clear
6 about, you know, how we would go forward. I
7 think that's important to be clear about our
8 intentions. I also feel very strongly that
9 the prudently incurred costs of providing
10 electric service should be reflected in rates.

11 Q At the top of Page 15, you ask the question
12 "What approvals is Duke Energy Indiana asking
13 the Commission to make. . ." Let me ask that
14 question of you: What commitments is Duke
15 willing to make regarding carbon capture and
16 sequestration?

17 A Well, I think, again, our commitments really
18 are set out in those bullet points on Pages 13
19 and 14. I don't feel like I or we can make an
20 iron clad commitment here today because we
21 don't -- we haven't done the feasibility
22 studies. We don't have firm cost estimates,
23 and there are some other issues out there that
24 need to be addressed like land rights and
25 liability issues, things we were talking about

1 earlier. So for those reasons, we're just
2 trying to be careful and let everyone know
3 that while we think it's important to explore
4 this and to go forward, if it's feasible and
5 reasonable, we're not willing to take that
6 leap without going through the steps of the
7 feasibility studies and the estimates, et
8 cetera.

9 Q Let's talk about the feasibility study for a
10 moment. You know, as we've -- there have been
11 a lot of witnesses who have really been
12 enthusiastic about this new technology and the
13 good things that it's going to do for the
14 environment, and et cetera, and there's a
15 recognition that Duke is seeking 100 percent
16 cost recovery from ratepayers, as you are
17 entitled to do by the statute, but would Duke
18 make a commitment here today not only to go
19 forward with feasibility studies and a feed
20 study for carbon capture and sequestration but
21 to pay for those studies, have its
22 shareholders pay for those studies?

23 A I think as my testimony reflects, we're not
24 willing to make that commitment. We think
25 it's reasonable -- if it's reasonable to go

1 forward and incur these costs related to
2 developing a technology that's related
3 directly to providing utility service, we
4 think it's reasonable for those costs to be
5 reflected in rates.

6 Q Let me ask you this question then: I'm trying
7 to ask you a question that somebody in your
8 pay grade could answer. Would Duke be willing
9 to commit, No. 1, to doing the feasibility
10 studies and the feed study, but if those
11 studies lead to the conclusion that carbon
12 capture and sequestration is not feasible in
13 this spot, that Duke will pay for those
14 feasibility and feed studies?

15 A I can't sit here today and say that that's
16 agreeable to us. It's something we could talk
17 about, but our position has been and remains
18 right now at least that if we go forward with
19 this, and, you know if it's determined by the
20 Commission that it's reasonable to go forward,
21 then those types of incremental costs that are
22 directly related to those projects should be
23 reflected in our rates.

24 Q How much money has Duke spent on the initial
25 feed study, if you know?

1 A I think it's right around \$15 million, but
2 Dennis Zupan could confirm that.

3 Q Okay. One last area. It just wouldn't be
4 right if I didn't talk to you about the
5 enhanced return since everybody else has as
6 well.

7 In your testimony when you talk
8 about reducing your request, obviously, you
9 are acknowledging that the rate impact can
10 play a factor in whether an enhanced return
11 can be given; correct?

12 A I think if I were on the Commission, I would
13 certainly consider that. Again, I don't think
14 it's unreasonable to consider that.

15 Q And your proposal here, which I appreciate
16 very much that you're making, is that you are
17 reducing your request by 50 basis points.
18 Would you agree that reasonable minds could
19 think that an enhanced rate of zero would be
20 fair?

21 A That doesn't really seem enhanced.

22 Q Do you agree that the Commission has the
23 discretion and authority to grant you a zero
24 percent enhanced return?

25 A My view, and I think I said this in the

1 environmental compliance case, my view -- and
2 the Commission certainly can decide for
3 itself, but my view is that the General
4 Assembly intended there to be incentives if
5 you meet the eligibility requirements, and if
6 the Commission finds that the project is
7 reasonable and necessary, then I think the
8 statute kind of directs the Commission to
9 award a financial incentive up to 300 basis
10 points.

11 Now, one could argue that zero or
12 one basis point is within that. My view is
13 the General Assembly intended there to be some
14 sort of meaningful incentive, but again, the
15 Commission doesn't need to tell them how to
16 interpret their statutes.

17 Q Now, there's been some discussion about Duke's
18 rates here and how -- and I don't want to be
19 judgmental about it, but you would agree that
20 Duke's rates have been increasing over the
21 past few years?

22 A Yes, and they've been volatile, too. I mean,
23 I think they're lower today than they were a
24 year ago, for example.

25 Q Well, that was the conversation we had in last

1 week's hearing, but in this week's hearing --

2 A It's still a fact.

3 Q Absolutely; absolutely it's a fact, and you

4 have representatives here who have clients who

5 know that all too well, but just to review,

6 Duke has had environmental cost recovery

7 trackers for several years, have they not?

8 A Yes, since the early 2000s, I believe.

9 Q Okay, and in 2004, Duke's revenue requirement

10 in its base rate case was increased by roughly

11 \$178 million?

12 A I remember it being 140, but I'm not sure.

13 Q And since that time, you have filed your --

14 another environmental compliance emissions

15 case, and Phase I has been approved; correct?

16 A Right, and we're well on the way to

17 implementing that.

18 Q And that's -- so those costs of over \$1

19 billion, I think, will be passed on to

20 ratepayers in the next few years?

21 A Yes, phased in.

22 Q Okay, and then in this case, if your request

23 is approved, that's another \$212 million added

24 annually to your revenue requirement?

25 A You would need to confirm those numbers with

1 Mr. Farmer. I don't think I have those
2 numbers with me.

3 Q Okay. Subject to check?

4 A What did you say again?

5 Q \$212 million.

6 A It's probably in that ballpark by the time you
7 get up to the peak year, but again, you need
8 to confirm that with Mr. Farmer.

9 Q Okay, and then Phase II of your environmental
10 compliance plan, when is that going to -- when
11 are we going to see you in for that?

12 A I think that Phase II kicks in maybe 2015, and
13 the good news is that Phase II, at least
14 preliminarily, looks to be a lot smaller than
15 Phase I in terms of compliance, but we haven't
16 really done a full-blown, thorough compliance
17 planning process for Phase II yet.

18 Q Okay, and Duke's generation fleet is over
19 90 percent coal fired; is that correct?

20 A On an energy basis, yes.

21 Q And that was the business decision of your
22 Company?

23 A Yes, and I think it's probably served all of
24 us well to have coal-fired generation in this
25 state for years.

1 Q But one of the consequences of that business
2 decision, though, is that your ratepayers have
3 to pay a lot for environmental compliance
4 technology. I'm not saying there's anything
5 wrong with it, but they have, have they not?

6 A Yes. Environmental compliance is a costly
7 process, but we have, again, good low cost,
8 low variable cost, low fuel cost plans, also.

9 Q Okay. When you show up here, though, with
10 another expensive coal-fired plant with
11 expensive pollution control equipment, don't
12 you think it's reasonable for the Commission
13 to say, okay, we'll give you that; we'll give
14 you guaranteed and regular cost recovery of
15 both capital costs and O&M; we'll look forward
16 to you coming in with future pollution control
17 technologies that your ratepayers will have to
18 pay, but we're not going to have ratepayers
19 pay for management's decision in the -- with
20 respect to an enhanced return?

21 A My view, I think, is a little different than
22 yours. I think the General Assembly's intent
23 is to provide an incentive for utilities to
24 invest in technologies such as IGCC. They
25 laid out their reasons, which are summarized

1 in my testimony, for doing that. As I said in
2 my rebuttal, I really think your quarrel is
3 more with the General Assembly than anything
4 else.

5 MR. HELMEN: Thanks. That's all I
6 have.

7 JUDGE STORMS: Thank you, Mr.
8 Helmen. Redirect?

9 MS. KARN: Thank you, Your Honor.
10
11

12 **REDIRECT EXAMINATION OF MS. KAY E. PASHOS,**
13 **QUESTIONS BY MS. KARN:**

14 Q I want to follow up on a couple of questions
15 from Mr. Polk.

16 You were speaking with him about
17 the peak rate increase of 16 percent
18 associated with the plant. What time is that
19 increase expected? What year is that increase
20 expected to be?

21 A Again, I think that's the first full year of
22 commercial operation which is estimated to be
23 2012.

24 Q In your opinion, do you think by the year
25 2012, the other utilities in the Midwest and

1 the region and the United States generally
2 might also have cost increases during that
3 time?

4 A I think it's likely, especially as there are a
5 number of -- the rate case activity has
6 certainly increased in the last year or so in
7 Indiana and elsewhere.

8 Q When you were speaking with, I think it was,
9 Ms. Dodd about the rate impact, I think you
10 mentioned that it includes the all-in costs
11 including the capital depreciation and O&M
12 costs of our ratemaking request in this case;
13 is that right?

14 A Yes.

15 Q Do you know whether that rate impact analysis
16 also takes credit for or includes any
17 potential savings from fuel or emission
18 allowances?

19 A No. I think it's Mr. Farmer's testimony that
20 explains that we did not try to quantify the
21 fuel and emission allowance savings that will
22 result from deployment of the IGCC technology
23 at Edwardsport.

24 Q When you were talking with Mr. Helmen about
25 some testimony in the Cliffside proceeding

1 from Witness McCollum who used to be with Duke
2 Energy Indiana, you mentioned that there was
3 other testimony in that case that you're
4 familiar with by Mr. McCollum that was
5 favorable to IGCC projects. Do you recall
6 that?

7 A Yes.

8 MS. KARN: Your Honor, can I
9 approach?

10 JUDGE STORMS: Yes, you may.

11

12 (Reporter marked document for
13 identification as Petitioner's
14 Exhibit No. Redirect 2)

15

16 Q Will you take a look at this, and I'll
17 describe on the first page that this is a
18 portion of the transcript from the Cliffside
19 proceeding. It's the testimony of Bill
20 McCollum, which is shown on Page 2 there. The
21 part that I wanted you to turn to is on Page
22 163.

23 A Yes.

24 Q And beginning there around Line 13, there's a
25 discussion, and the witness speaking at that

1 point as purported to be in the Table of
2 Contents is Mr. McCollum. Can you take a --
3 go ahead and read starting at Line 13 through
4 the next page, Page 164, ending around Line 7?
5 A Okay, and I would just point out that the
6 lead-in to this talks about -- he's talking
7 about to switch from their super critical
8 pulverized coal project to an IGCC project in
9 the Carolinas would probably mean a two-year
10 delay in getting something on line, and then
11 he continues and says, "And I guess there's
12 the sense in a number of the questions and all
13 this discussion about disagreement of specific
14 numbers, or ranges of numbers between me and
15 someone else, that, you know, somehow we're
16 not trying to really pursue and don't like
17 IGCC or whatever, and nothing could be further
18 from the truth. We're working as hard as we
19 can to make the IGCC project at Edwardsport
20 work, to make it economical, find a way to
21 show that you can build a -- you can make a
22 scaled up plan of a 600 MW level work and be
23 economical, but my sense is that if we're
24 going to do this, we're going to scale it up
25 and we're going to make the IGCC plant work at

1 a 600 MW level and be the right thing
2 economically for our customers, that the way
3 to do that is to prosecute the first project
4 at the place where you have the best
5 opportunity to be successful with it, and
6 that's Edwardsport. It's not really North
7 Carolina."

8 Q Thank you.

9 MS. KARN: Your Honor, at this
10 time, I would like to request admission into
11 evidence of Petitioner's Redirect Examination
12 Exhibit 2.

13 JUDGE STORMS: Any objection? If
14 not, we'll show Petitioner's Redirect 2
15 admitted into this cause.

16
17 (PETITIONER'S EXHIBIT NO. REDIRECT
18 2, BEING A FOUR-PAGE DOCUMENT
19 CONSISTING OF A PORTION OF THE
20 TRANSCRIPT TAKEN IN DOCKET NO.
21 E-7, SUB 790, TAKEN ON JANUARY 17,
22 2007 IN RALEIGH, NORTH CAROLINA,
23 ADMITTED INTO EVIDENCE.)

24
25

1 REDIRECT EXAMINATION OF MS. KAY E. PASHOS,

2 (Continuing)

3 QUESTIONS BY MS. KARN: (Continuing)

4 Q One more area. When you were talking with Mr.
5 Polk about CFLs, it occurred to me that there
6 may be some similarities between CFLs and the
7 IGCC plant in this case, and let's see if you
8 can go there with me.

9 You indicated that CFLs have a
10 high initial cost, but over their useful
11 lives, you and Mr. Polk, I think, agreed that
12 they might be a cost-effective option for your
13 lighting needs. Do you see any similarities
14 with that and with the IGCC plant?

15 A That's kind of a cute question.

16 Yes. I mean, it's the -- in the
17 sense that it's the long term and over the
18 long term that we've examined IGCC and feel
19 that it's an economic and robust plan. It's
20 not going to be the most cost effective thing
21 if you look at it in one year, but when you
22 look at it over a 20-year period and over the
23 long term especially with the uncertainties
24 out there in terms of carbon regulation and
25 other uncertainties, we do think it's the best

1 option, just like I felt like CFLs are the
2 best option for me.

3 Q Thank you.

4 MS. KARN: Thank you, Your Honor.
5 That's all that I have.

6 JUDGE STORMS: Ms. Pashos, thank
7 you very much for your testimony. You are
8 excused.

9
10 Let's take about a 15-minute
11 break.

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18 (WITNESS KAY E. PASHOS EXCUSED ON REBUTTAL)

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25 (HEARING IN RECESS UNTIL 3:00 P.M., SAME DAY)

1 JUDGE STORMS: Let's go ahead and
2 go back on the record.

3 Petitioner, you may call your next
4 witness.

5 MR. DuMOND: Petitioner calls
6 Ms. Darlene Radcliffe.

7 JUDGE STORMS: Ms. Radcliffe, have
8 you been previously sworn?

9 MS. RADCLIFFE: No.

10 JUDGE STORMS: Would you please
11 raise your right hand?

12

13 (OATH DULY ADMINISTERED TO ONE PERSON)

14

15 (Reporter marked documents for
16 identification as Petitioner's
17 Exhibit Nos. 21, 22 and 22-A)

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1 **DARLENE S. RADCLIFFE**, a witness appearing on
2 behalf of the Petitioner,
3 having been first duly
4 sworn, testified on
5 Rebuttal as follows:

7 DIRECT EXAMINATION,

8 QUESTIONS BY MR. DuMOND:

9 Q Please state your name for the record.

10 A Darlene Radcliffe.

11 Q Will you identify your employer and your
12 position with that employer?

13 A Duke Energy, Director of Environmental
14 Technology and Fuel Policy.

15 Q You have a document before you that has been
16 marked for identification purposes as
17 Petitioner's Exhibit No. 11 -- 21. Is that a
18 copy of your prefiled rebuttal testimony in
19 this cause?

20 A Yes.

21 Q Do you have any changes or corrections to that
22 testimony?

23 A No.

24 Q If I were to ask you the same questions set
25 forth in that testimony, would your answers be

1 the same?

2 A Yes.

3 Q Do you adopt Petitioner's Exhibit 21 as your
4 sworn testimony in this cause?

5 A Yes.

6 Q Okay.

7 MR. DuMOND: Your Honor,
8 Petitioner moves to admit into evidence
9 Petitioner's Exhibit 21.

10 JUDGE STORMS: Is there any
11 objection?

12 If not, we'll show Petitioner's
13 Exhibit 21 admitted into this cause.

14

15 (PETITIONER'S EXHIBIT NO. 21,
16 BEING THE PREFILED REBUTTAL
17 TESTIMONY OF MS. DARLENE S.
18 RADCLIFFE, ADMITTED INTO
19 EVIDENCE.)

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1 MR. DuMOND: Your Honor, Ms.
2 Radcliffe is available for cross-examination.

3 JUDGE STORMS: Thank you.
4 Mr. Hartley, your witness.

5 MR. HARTLEY: Thank you, Your
6 Honor.

7

8 **CROSS-EXAMINATION OF MS. DARLENE S. RADCLIFFE,**
9 **QUESTIONS BY MR. HARTLEY:**

10 Q Ms. Radcliffe, on Page 6 of your testimony,
11 just so I understand this process, the
12 proposal of Duke that you talk about here
13 submitting for the Phase III project, all of
14 the proposals from any participant in the
15 Midwest Regional Carbon Sequestration
16 Partnership gets aggregated into one thing
17 from Battelle that gets submitted to the DOE;
18 is that correct?

19 A Yes.

20 Q And what is the status of Duke's submission to
21 become part of that document?

22 A The Battelle Research Institute submitted the
23 document on June 12th.

24 Q So, you've already put yours into Battelle;
25 Battelle has already aggregated it, and it's

1 already gone to the DOE?

2 A That's correct. Originally, they had been due
3 June 5th, and they asked for a one-week
4 extension to include some additional
5 information, so it was actually submitted on
6 June 12th.

7 Q And then at the end of that page, you indicate
8 that Duke anticipates that the Department of
9 Energy will announce the award winners by the
10 Fall --

11 A Correct.

12 Q -- and I just want to make sure I understand
13 what by Fall means. September 21st is the
14 first day of Fall. Do you mean you expect an
15 answer from the DOE by September 21st?

16 A I anticipate an answer by Fall, which is the
17 indication that I'm being given from DOE via
18 Battelle at this point that they need some
19 time to be able to look at the proposals.

20 Q So you really mean in the Fall?

21 A In the Fall.

22 Q Okay. Thank you.

23 MR. HARTLEY: That's all.

24 JUDGE STORMS: Mr. Polk, your
25 witness.

1 MR. POLK: Thank you, Your Honor.

2

3

4 **CROSS-EXAMINATION OF MS. DARLENE S. RADCLIFFE,**

5 **QUESTIONS BY MR. POLK:**

6 Q Good afternoon, Ms. Radcliffe.

7 A Good afternoon.

8 Q On Page 1 of your testimony, you indicate you

9 went to Miami University. Which Miami

10 University was that?

11 A The one in Oxford, Ohio.

12 Q Okay. Now, you've indicated that the

13 sequestration pilot at East Bend will be

14 10,000 tons of CO2 being injected.

15 A That's correct.

16 Q And over what period of time will that

17 injection take place?

18 A That will take place over a 12- to 18-month

19 period.

20 Q Will that be in one location?

21 A Yes, it will.

22 Q Do you recall or are you aware of what

23 20 percent of the carbon emissions from the

24 Edwardsport plant would equal in terms of

25 tons?

1 A It's my understanding that it's somewhere
2 between 500 to 800,000 tons.

3 Q Per year?

4 A Per year.

5 Q All right, and the storage is being done in
6 the Mount Simon sandstone formation; correct?

7 A That's correct.

8 Q Is it being done -- does that mean it is not
9 being done in a saline aquifer?

10 A No, the saline aquifer is part of the Mount
11 Simon formation.

12 Q Thank you.

13 MR. POLK: I have no further
14 questions, Your Honor.

15 JUDGE STORMS: Thank you, Mr.
16 Polk.

17 Mr. Stewart, your witness.

18 MR. STEWART: Thank you, Your
19 Honor.

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1 **CROSS-EXAMINATION OF MS. DARLENE S. RADCLIFFE,**

2 **QUESTIONS BY MR. STEWART:**

3 Q Good afternoon.

4 A Good afternoon.

5 Q You discuss on Page 10 of your testimony,
6 well, 9, 10 and 11 and through that area,
7 issues relating to sequestration. Do you
8 recall that part of your testimony?

9 A Yes.

10 Q Is it true that Duke does not fully know the
11 effects of permanently storing large
12 quantities of CO2 underground at the plant?

13 A It's true that no one knows those long-term
14 effects and that Duke is a member of three of
15 the regional partnerships precisely to find
16 out what those effects are.

17 Q And there's -- I note in your testimony on
18 Page 10 that there's, among the other
19 questions, questions about the availability
20 and scope of insurance for the potential
21 liabilities as well.

22 A That's true, and it's also true that Duke is
23 participating in a World Resources Institute
24 study group to take a look at liability
25 issues, so we are being very, very proactive

1 in helping to define those issues, quantify
2 them, quantify the risk and work with some of
3 the major financial institutions, insurance
4 companies and NGOs in the United States to
5 deal with those issues, and I believe it's at
6 least one of the first attempts that has been
7 made to do so.

8 Q Notwithstanding all of that fine effort on
9 behalf of Duke, it's correct that there are
10 many uncertainties as to the legal liabilities
11 involving the long-term storage of CO₂; is
12 that right?

13 A I'm sorry; I didn't hear the very beginning of
14 the question.

15 Q Notwithstanding all of those efforts that you
16 just described that Duke is undertaking, it's
17 correct that there are many uncertainties as
18 to the legal liabilities involving the
19 long-term storage of CO₂; correct?

20 A Yes.

21 Q And Duke does not know who would be liable for
22 those legal liabilities?

23 A And that's precisely why we're involved with
24 the World Resources Institute, and that's also
25 why the FutureGen effort both in Illinois and

1 Texas on bidding on that effort have some
2 state legislation that they passed to deal
3 with liability issues, so it's a very active
4 field, much is unknown at this time, but
5 people are very actively trying to answer
6 those questions and resolve them so we can
7 move forward.

8 Q And as part of that answer, it was yes, and
9 then with an explanation of yes, you don't
10 know, and that's why you're doing all of those
11 things?

12 A That's correct.

13 Q Okay, and Duke believes that state or federal
14 legislation is needed to address liability
15 issues for CO2 sequestration?

16 A It may be.

17 MR. STEWART: Thank you.

18 JUDGE STORMS: Ms. Becker, your
19 witness.

20 MS. BECKER: No questions, Your
21 Honor.

22 JUDGE STORMS: Mr. Reed, your
23 witness.

24 MR. REED: Thank you, Your Honor.

25

1 **CROSS-EXAMINATION OF MS. DARLENE S. RADCLIFFE,**

2 **QUESTIONS BY MR. REED:**

3 Q Good afternoon, Ms. Radcliffe.

4 A Good afternoon.

5 Q Could I have you turn to Page 4 of your
6 testimony, please? I am interested in
7 particular in Lines 16 and 17. Do you have
8 that, ma'am?

9 A Yes, I do.

10 Q Thanks. Am I correct that this testimony
11 describes one of the Phase II projects?

12 A You are correct.

13 Q And were you present in the room when Ms.
14 Pashos testified?

15 A I was this afternoon. I was not earlier in
16 the week.

17 Q Actually, were you in the room perhaps when
18 OUCC Witness Smith testified?

19 A I was in the room with her testimony this
20 morning, yes.

21 Q Very good. During that conversation, Mr. Polk
22 asked Ms. Smith about the 10,000 tons of CO2
23 that would be injected in this Phase II
24 process. Were you present for that question?

25 A Yes, I was.

1 Q Ma'am, can you tell me whether or not the
2 10,000 tons of CO2 involved in the Phase II
3 project -- is that 10,000 tons injected solely
4 in 2008 or over a period of time?

5 A We hope to inject all of it in 2008, but one
6 of the important things about our
7 participation in the regional partnerships is
8 that it's very much a step-by-step process,
9 and so our injection well should go into place
10 in late 2007, and then if everything looks
11 good, and we anticipate that it will, there's
12 no testing that's been done at this point that
13 would lead us to believe otherwise, and we
14 would begin injection in 2008.

15 Q Do you know at this time whether those
16 injections would be made at a single time, or
17 would they be spread out, or are they intended
18 to be spread out, say, over a three- or four-
19 or eight-month period throughout 2008?

20 A At this time, I think that that is still to be
21 determined, but given the scope of Phase II,
22 it would end at the end of 2009, so certainly
23 we'd want to inject as much as possible in
24 2008 so we could really focus on the
25 monitoring, measurement and verification

1 process in 2009 because that's one of the very
2 important learnings that we can take from
3 Phase III and then apply to Phase -- or from
4 Phase II, excuse me, and then apply to Phase
5 III and then other projects that may be done
6 as well in the future.

7 Q And then as we move on, taking that
8 information and using it in Phase III, Mr.
9 Polk earlier asked you questions about the
10 capacity of carbon in the -- I believe you
11 said between the 500 to 800 tons per year
12 range from the Edwardsport project; is that
13 correct?

14 A Yes.

15 Q I'd like you to now turn to Page 5 of your
16 testimony, in particular, Line 6. Do you have
17 that, ma'am?

18 A Yes, I do.

19 Q Excellent. On Line 6, you talk about the
20 Phase III projects and how they will inject
21 ". . .large volumes of CO2 each year during
22 several years of injection. . ." Do you see
23 that language?

24 A Yes, I do.

25 Q Could you tell me, ma'am, what you believe the

1 DOE means when they discuss -- when they use
2 the phrase large volumes of CO2?

3 A I believe they mean one million tons over a
4 four-year period, up to -- one million tons a
5 year, I'm sorry. Up to one million tons a
6 year over a four-year period.

7 Q So that would be in line with the estimated
8 CO2 production from the Edwardsport facility?

9 A Yes, it would.

10 Q I wonder if we could turn to Page 6, please,
11 and I'm looking at Lines 8 through 12. Do you
12 have that, ma'am?

13 A Yes, I do.

14 Q In this answer, ma'am, I believe you are
15 discussing how CO2 sequestration would work as
16 part of a Phase III project, and in Line 8,
17 you discuss that you would begin sequestration
18 as soon as CO2 is captured from the plant --
19 as soon as captured CO2 from the plant is
20 available.

21 In Lines 9 through 11, though, you
22 discuss what might happen in the alternative.
23 Do you see that?

24 A Yes, I do.

25 Q And you state that Duke would either need to

1 find an alternative source of CO2 or withdraw
2 its petition. I'd like to focus on the
3 alternative source of CO2.

4 Can you tell me, ma'am, what
5 steps, if any, Duke has taken to begin a
6 search or locate an alternate source of CO2?

7 A We have just begun taking a look at the
8 feasibility of any, for example, ethanol
9 plants that may be in the area, but we just
10 have begun discussing and trying to decide if
11 there is, indeed, another source in the area.

12 Q Can you tell me, ma'am, if as part of the
13 Battelle collective, the submission for Phase
14 III projects, whether or not source --
15 alternate sources of carbon were considered
16 when that project was put forth to DOE?

17 A There was a strong emphasis by DOE in the
18 original RFP that went out in December of 2006
19 on providing an alternative source of CO2.

20 After that, DOE did issue another
21 RFP and really backed off on the idea of
22 having an alternative source of CO2, and I
23 would say that another thing that we have in
24 our favor moving forward with Phase III is we
25 would be the second project of two projects

1 that the Midwest Regional Carbon Sequestration
2 Partnership headed up by Battelle would be
3 proposing to DOE. So, the other project
4 would, in fact, start sequestration first
5 followed by our project if, indeed, our
6 project would be able to follow that route.

7 Q In Lines 11 and 12 of your testimony, ma'am,
8 you discuss how that if you can't find
9 alternative sources of CO₂, Duke has the
10 option of withdrawing its participation.

11 Do you believe that that is a
12 course of action Duke will likely take, to
13 withdraw their participation in the program?

14 A That would be a management decision, but if we
15 cannot provide a source of CO₂, it may well be
16 prohibitively expensive for the partnership to
17 be able to purchase the CO₂ that would be
18 necessary to do the carbon capture and
19 sequestration work that would be done for that
20 project.

21 Q Won't 80 percent of the costs of that project
22 be funded by DOE?

23 A Yes, but it is a cost share program, and also
24 there are only 67 -- there's only \$67 million
25 available per partnership at this point in

1 time.

2 Now, that may change as the budget
3 process for DOE moves forward, but certainly
4 there is a limit on the amount of money that
5 can be spent on the purchase of CO2.

6 Q But am I not correct that -- Let me rephrase
7 that.

8 The 20 percent that's not paid by
9 DOE, Duke would only pay a portion of that;
10 correct?

11 A That is correct because we could also use
12 in-kind services as well.

13 Q Wouldn't it be true, ma'am, though, that even
14 if Duke picked up the entire 20 percent, it
15 would still be cheaper than having Duke
16 withdraw from the project and do sequestration
17 on its own where it had to pick up 100 percent
18 of the cost?

19 A I'm sorry; can you repeat the last portion of
20 the question?

21 Q Perhaps I can rephrase.

22 A Thank you.

23 Q In this situation with the DOE, the DOE is
24 picking up 80 percent of the sequestration
25 costs, and my question to you is: If you paid

1 not just your shared portion of the
2 20 percent, but Duke picked up the entire
3 20 percent, it would still be less expensive
4 to pick up the entire 20 percent and not
5 withdraw from the Phase III project than it
6 would to pursue a sequestration project on
7 your own and pay 100 percent of the costs;
8 correct?

9 A That would partially be determined by the
10 value of the CO2.

11 Q Are you -- do you believe that the value of
12 the CO2 will exceed 80 percent of the cost of
13 the sequestration project? That seems like
14 awful expensive gas.

15 A Again, it depends on the -- on really what you
16 are assuming is going to be the price of the
17 CO2, and that would be something that we would
18 need to be in discussions about to look at
19 what our portion of the project costs would be
20 based on a certain amount of CO2 being
21 donated.

22 Q Has Duke made any preliminary analyses
23 regarding the estimated cost of purchased CO2?

24 A Very preliminary, and it's based partially,
25 too, on the purity of the CO2.

1 Q And that figure would be?

2 A I would defer that to our engineering staff.

3 Q Whom might I best ask that question to?

4 A I would ask that question to John Roebel or
5 Bob Moreland.

6 Q Thank you.

7 A At this point, I think we're looking at around
8 \$40 a ton, but I don't know if that's changed
9 or not.

10 Q Thank you, ma'am.

11 Let's assume, Ms. Radcliffe, that
12 Duke's plan for sequestration is not approved
13 as a Phase III project. In your testimony,
14 you discuss that one possible alternative for
15 the carbon might be enhanced oil recovery; is
16 that correct?

17 A That's correct.

18 Q What if enhanced oil recovery does not turn
19 out to be an economical option? What would --
20 if that's the case, does Duke have any other
21 plans to make use of the carbon from the
22 Edwardsport plant?

23 A Not currently.

24 I will add that one of the
25 benefits, again, of being part of the

1 partnership is that with the Midwest Regional
2 Carbon Sequestration Partnership, we're one of
3 over 40 organizations, NGOs and agencies that
4 are participating in that partnership, so we
5 have a wide berth of expertise that would be
6 available to us that would not be available to
7 us, of course, if we were not part of the
8 partnership. It's certainly very valuable
9 expertise, and we would be able to confer with
10 them as well.

11 Q I presume you already have availability of
12 that expertise now since you are a member.

13 A With Phase II, we certainly do. I think
14 working on a particular project certainly
15 gives you more expertise as available on a
16 project basis.

17 Q That's the same expertise that you're making
18 use of in your Kentucky plant in the Phase II
19 project; right?

20 A That's correct.

21 Q That deals with sequestration?

22 A Yes.

23 Q Okay. Even with the availability of that
24 expertise, though, Duke doesn't have an
25 alternate plan at this point?

1 A Correct.

2 Q Thank you.

3 Could we turn -- let's see. Let's
4 stay right there on Page 6. Back on Lines 8
5 and 9 where it says sequestration will take
6 place as soon as captured CO2 is available,
7 what is the time frame when carbon must be
8 produced for sequestration to conform with the
9 Phase III requirements?

10 A Right now, that would still be under
11 negotiation, and we have not been chosen as a
12 project yet. Once we are chosen as a project,
13 we would start negotiations.

14 The conversation up to this point,
15 though, has been that certainly Battelle and
16 DOE also is fully aware that we need to get
17 the plant up and operational before we would
18 be able to capture the CO2, so it would not be
19 on Day 1.

20 Q Can we move to Page 9, please, ma'am, and the
21 question and answer that run between Line 7
22 and Line 15. Do you have that, ma'am?

23 A Yes, I do.

24 Q In the answer to this question, which talks
25 about alternatives for the disposing of the

1 CO2, you say that Duke Energy Indiana could
2 consider addressing carbon sequestration using
3 CO2 from the plant on its own or as part of an
4 industry coalition. Do you see that on Lines
5 13 and 14?

6 A Yes.

7 Q Ma'am, can you tell me what Duke's current
8 plans for addressing CO2 sequestration on its
9 own are at this time?

10 A Well, certainly we have been very involved in
11 policy discussions that are ongoing with
12 regard to climate change, and that certainly
13 figures into the equation on what needs to be
14 done with the CO2. That's what I was
15 referring to with that particular statement,
16 and then also we have participated in industry
17 coalitions in the past, for example, through
18 EPRI with some of the capture technology
19 research that's going on, and I thought it was
20 certainly feasible that there may be something
21 through a similar industrial coalition that's
22 not been put together yet but purportedly
23 could be based on some past activities in that
24 same vein.

25 Q Let's talk about coalitions in a second. I

1 want to stay with your comment that says on
2 its own. I want to talk right now about what
3 Duke is doing, and if I understood your answer
4 right, they are engaged in policy discussions.

5 A Yes.

6 Q Is it safe to say, then, that Duke is not
7 proceeding with any plans on its own to move
8 forward with a sequestration project?

9 A I wouldn't say that's entirely correct given
10 the fact that when the plant was being
11 designed, space was left in the context of
12 that design to add capture equipment when a
13 regulatory regime would be put in place or
14 when there was an opportune moment to
15 participate in something like a Phase III.

16 I would also say that we, I think,
17 would at least take -- begin to take a look at
18 any enhanced oil recovery possibilities in the
19 area. We have not done that yet, but that
20 would certainly be something the Company would
21 look at in the future.

22 Q I understand, ma'am, but that's not what this
23 question talks about. This question says
24 aside from EOR, not including enhanced oil
25 recovery, not including the Phase III, which I

1 assume means assuming we don't get the money
2 for Phase III, my question is: Under those
3 scenarios, what plans -- what steps is the
4 Company currently taking on its own, as you've
5 described here in your testimony, to prepare
6 for CO2 sequestration? Do you have another
7 project or another site?

8 A Besides the East Bend Phase II site?

9 Q Yes, ma'am.

10 A The Edwardsport Phase III, I mean, we're
11 doing -- we're certainly participating in
12 projects such as the Phase II and trying to
13 participate in Phase III, did a preliminary
14 feasibility study through the Indiana geologic
15 survey for the Edwardsport site, did all of
16 those things in preparation of really taking a
17 close look at CO2 sequestration.

18 Q Isn't it fair to say, though, ma'am, that all
19 of those actions were taken as part of the
20 coalition, as part of the MCRSP coalition, in
21 the Phase II and Phase III projects?

22 A No, actually not. The initial feasibility
23 study, although it was done as part of the
24 Midwest geological sequestration consortium,
25 it was certainly done as part of siting the

1 actual plant itself and taking a look at the
2 potential for CO2 sequestration.

3 Q I'd like to move on now to talk about the
4 second part of that answer where you talk
5 about as part of an industry coalition. You
6 had mentioned in an earlier response that that
7 coalition hadn't yet been formed.

8 A That's correct.

9 Q Can you tell me what you envision by that
10 coalition, who might be a member and how it
11 might work?

12 A As I stated a moment ago, I envision it might
13 be something similar to what EPRI has put
14 together for other initiatives such as looking
15 at some of the capture equipment like the
16 chilled ammonia capture equipment, those types
17 of activities.

18 Q Would you envision in that type of a coalition
19 the sharing -- I assume there would be some
20 kind of cost sharing involved.

21 A I would anticipate that.

22 Q And as sort of a natural result of that, it
23 would be safe to say that all the information
24 gathered from the coalition would be shared
25 equally among the members; would you envision

1 that part as of the coalition as well?

2 A Only those members that would be paying for
3 that information, and certainly, you would not
4 have the wide berth of expertise that you have
5 through the DOE partnership program.

6 Q Ma'am, can we turn to Page 10 of your
7 testimony, please, Lines 10 through 13, where
8 you were discussing with Mr. Stewart about the
9 World Resources Institute. Do you have that,
10 ma'am?

11 A Yes, I do.

12 Q I note in your testimony that that was
13 scheduled for the week of June 4, 2007, and I
14 believe you stated to Mr. Stewart that you
15 did, in fact, participate in those
16 proceedings.

17 A Yes, I did.

18 Q Can you tell me, ma'am, what is the -- what
19 came out of those meetings? What's the
20 current status?

21 A Yes. There's been a smaller working group put
22 together that will be reviewing a white paper
23 that's being put together by the World
24 Resources Institute, and we'll also be working
25 on a matrix of liability issues associated

1 with CO2 sequestration, and it's really --
2 it's also -- there will also be some common
3 definitions surrounding risk and liability put
4 together.

5 Q Ma'am, have you had an opportunity to read the
6 prefiled testimony of the Clean Air Task Force
7 and Indiana Wildlife Foundation's Witness
8 Friedmann?

9 A Yes, I have.

10 Q In that testimony, ma'am, Mr. Friedmann
11 provides some estimates for study costs for
12 carbon capture and carbon sequestration. Do
13 you recall reading those?

14 A Yes, I do.

15 Q Would you say, ma'am, that those estimates put
16 forth by Mr. Friedmann on Pages 3 and 4 of his
17 testimony are roughly in the ballpark?

18 A Yes.

19 MR. REED: Nothing further.

20 JUDGE STORMS: Thank you.

21 Redirect for this witness?

22 MR. DuMOND: We have no redirect.

23 JUDGE STORMS: Ms. Radcliffe,
24 thank you for your testimony. You're excused.

25 (WITNESS DARLENE S. RADCLIFFE EXCUSED ON REBUTTAL)

1 JUDGE STORMS: Petitioner, you may
2 call your next witness.

3 MS. KARN: Thank you, Your Honor.
4 We call James M. Lefeld.

5 JUDGE STORMS: Have you been
6 previously sworn?

7 MR. LEFELD: No, I haven't.

8 JUDGE STORMS: No? Please raise
9 your right hand to be sworn.

10

11 (OATH DULY ADMINISTERED TO ONE PERSON)

12

13 **JAMES M. LEFELD**, a witness appearing on behalf of
14 the Petitioner, having been
15 first duly sworn, testified on
16 Rebuttal as follows:

17

18 **DIRECT EXAMINATION,**

19 **QUESTIONS BY MS. KARN:**

20 Q Could you please state your name and spell
21 your last name for the record?

22 A Jim Lefeld, L-e-f-e-l-d.

23 Q By whom are you employed and in what capacity?

24 A Duke Energy, and I'm the Director of
25 Alternative Energy.

1 Q Do you have a document in front of you that
2 has been marked as Petitioner's Exhibit No.
3 22?

4 A Yes.

5 Q Does that include a Sub-Exhibit No. 22-A?

6 A Yes.

7 Q Is this a copy of your prefiled rebuttal
8 testimony in this proceeding?

9 A Yes, it is.

10 Q Do you have any changes or corrections to make
11 to this testimony?

12 A No.

13 Q If I were to ask you the same questions today,
14 would your answers be the same?

15 A Yes.

16 Q Do you adopt Petitioner's Exhibit No. 22
17 including Sub-Exhibit 22-A as your sworn
18 rebuttal testimony in this cause?

19 A Yes.

20 MS. KARN: Your Honor, Petitioner
21 offers into evidence Petitioner's Exhibit No.
22 22 including Sub-Exhibit 22-A.

23 JUDGE STORMS: Is there any
24 objection? We'll show Petitioner's Exhibit 22
25 and Sub-Exhibit 22-A admitted into this cause.

1 MS. KARN: Thank you, Your Honor.
2
3 (PETITIONER'S EXHIBIT NO. 22,
4 BEING THE PREFILED REBUTTAL
5 TESTIMONY OF MR. JAMES M. LEFELD,
6 WITH PETITIONER'S EXHIBIT NO. 22-A
7 ATTACHED THERETO, ADMITTED INTO
8 EVIDENCE.)
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1 MS. KARN: The witness is
2 available for cross-examination.

3 JUDGE STORMS: Thank you.
4 Mr. Hartley?

5 MR. HARTLEY: Thank you, Your
6 Honor.

7

8 **CROSS-EXAMINATION OF MR. JAMES M. LEFELD,**

9 **QUESTION BY MR. HARTLEY:**

10 Q Mr. Lefeld, with the current technology for
11 wind generation and its use in the State of
12 Indiana, can you ever -- can you conceive of
13 wind generation being suitable for base load
14 capacity for a utility?

15 A The wind characteristics in the State of
16 Indiana really are not conducive to supporting
17 wind turbine equipment in a base load
18 capacity.

19 MR. HARTLEY: Thank you.

20 JUDGE STORMS: Mr. Polk, your
21 witness.

22 MR. POLK: Thank you, Your Honor.

23

24

25

1 **CROSS-EXAMINATION OF MR. JAMES M. LEFELD,**

2 **QUESTIONS BY MR. POLK:**

3 Q Mr. Lefeld, on Page 2 of your rebuttal
4 testimony, you -- Line 20, you critique the
5 usefulness of technical potential. Does that
6 mean assessments of technical -- of what's
7 technically achievable are never useful in any
8 way?

9 A From the standpoint that I believe we need to
10 be facing more of commercial or near-term
11 applications of a particular power technology,
12 my experience has been you want to be careful
13 with the number of volume of applicability of
14 that particular technology. The estimates can
15 be done in such a way that it ignores many
16 common barriers to even reaching that level of
17 deployment.

18 Q I think on Page 3, you even -- at Line 9, you
19 even go on to characterize it as mismanaging
20 the expectations.

21 Are you aware in this proceeding
22 that Duke has provided -- or Duke witnesses
23 and witnesses for Clean Air Task Force and the
24 OUCC have testified to the technical potential
25 of sequestration of carbon? Would your

1 critiques equally apply to technical potential
2 for sequestration and carbon capture?

3 A I'm not familiar with the technical estimates
4 of carbon sequestration estimates.

5 I guess what I was really
6 referring to was my personal experience in the
7 mid '90s when I began working with fuel cells
8 and the technical estimates for their
9 application in the automotive industry
10 basically over ten years ago, and to this day,
11 there's still not a fuel cell automobile on
12 the road.

13 Q So your critique is of technical potential
14 assessments generally, technical potential
15 assessments of wind power only or technical
16 potential assessments of fuel cells?

17 A It's probably a little bit into the fuel
18 cells, and I believe you want to be careful;
19 I'm a big supporter of wind, and I just don't
20 want to get ahead of ourselves here.

21 Q While there may not be any fuel cells -- or
22 not many of them on the road, there are lots
23 of wind turbines up; correct?

24 A That is correct. There are a lot more today
25 than there were ten years ago, yes.

1 JUDGE STORMS: Mr. Lefeld, can I
2 have you pull your microphone just a bit
3 closer, please? Thank you.

4 Q Now, on Page 7, the Q & A starting at Line 8
5 there, you find Mr. Biewald's criticism that
6 Duke Energy did not provide certain
7 information puzzling to you by pointing out
8 that Mr. Fagan referred to the renewable RFPs
9 in his testimony.

10 Are you aware of whether Duke
11 provided the purchased power agreements with
12 the Benton County Wind Farm as requested?

13 A I believe we did supply the PPA on a redacted
14 version.

15 Q A redacted version?

16 A I believe we did.

17 Q Did it include prices?

18 A No.

19 Q So, in fact, Mr. Biewald's criticism that
20 certain information was not provided is
21 correct, isn't it?

22 A I thought he was referring to -- I believe it
23 was Exhibit 3.17 where we provided the six
24 prices that came through the bid process.
25 That's where I thought he was referring to.

1 Q Did Duke file the purchased power agreement
2 with the Commission?

3 A Yes.

4 Q And yet it's refused to provide the prices to
5 the parties to this proceeding?

6 A I believe our counsel has approached the
7 counsel of the developer and asked for
8 additional consideration. I don't believe
9 that -- and I know that that consideration has
10 not been granted at this time.

11 Q Now, Mr. Lefeld, would you agree that even
12 with the questions you have about assessments
13 of technical potential, that it provides a
14 good starting point for an exploration of what
15 the commercial potential might be?

16 A I would say the Indiana Tall Tower study that
17 was completed actually provided probably the
18 start of wind exploration in the State of
19 Indiana better than this document prepared by
20 Dennis Elliot of NREL, the National Renewable
21 Energy Laboratory.

22 Q Are you referring to the State of Indiana Wind
23 Power Resource Assessment prepared by Kevin
24 Walter?

25 A No, I'm referring to the document that Dennis

1 Elliot prepared that Mr. Fagan referred to in
2 his testimony.

3 Q Okay. Are you saying that the State of
4 Indiana Wind Power Resource Assessment
5 prepared for Cinergy Corp. in December of 2005
6 is not an accurate assessment of the potential
7 for wind power in Indiana?

8 A It is another data point that we can look at
9 in our evaluation of wind in the State of
10 Indiana.

11 Q Do you consider it a valid data point?

12 A I would consider it -- it was based quite a
13 bit on the Indiana Department of Commerce Tall
14 Tower study, and I would say it's a good data
15 point.

16 Q Okay. Do you recall how many megawatts of
17 power -- of wind power it indicated was the
18 potential for Benton County?

19 A That I do not remember.

20 Q Does 1,000 megawatts sound about right?

21 A For Benton County?

22 Q For Benton and Newton County alone.

23 A That would seem high, but I don't doubt you if
24 that's what Kevin wrote in there.

25 Q Given that the consultant that prepared this

1 report for Duke --

2 A Excuse me. He was an intern working on his
3 Ph.D candidate.

4 Q Okay. How would you estimate what the -- and
5 here I'm looking for what process you would
6 you through. What process would you use to
7 estimate what the commercial potential for
8 wind power in Indiana is?

9 A To estimate the commercial wind power for
10 Indiana, or for any state for that matter, I
11 guess I would look at the resource available
12 equating that to the speed of the wind, the
13 time of the wind.

14 I would look at the costs of your
15 equipment, installation of your equipment, any
16 environmental issues that would need to be
17 addressed, transmission access issues, and
18 then I would want to know the response of the
19 community that you were proposing to put this
20 equipment into.

21 Q Are most wind projects developed by
22 investor-owned utilities to your knowledge?

23 A I believe that we're now beginning to see a
24 trend in the last 12 to 24 months that more
25 projects are being at least owned by

1 utilities; whether they're developing or doing
2 turnkeys, I couldn't comment.

3 Q Would you agree then that expressions of
4 interest in actually constructing wind farms
5 could be another measure of their commercial
6 potential?

7 A I would say it would definitely demonstrate an
8 interest in the wind potential.

9 Q Would you agree that nobody would express an
10 interest if they didn't think it was
11 commercially viable?

12 A I think they would express an interest to
13 investigate if it is a commercially viable
14 project, yes.

15 Q If it is or is not?

16 A They would need to investigate it to determine
17 if it is commercially viable or not.

18 Q Are you familiar with that report from Duke?

19 A Yes, I am.

20 Q Okay. That report would be the State of
21 Indiana Wind Power Resource Assessment?

22 A Correct.

23 Q Do you recall their discussion of a wind
24 project near Bowling Green, Ohio?

25 A Could you repeat the question?

1 Q Do you recall the discussion in this report
2 about a wind project near Bowling Green, Ohio?

3 A Yes.

4 Q Bowling Green is close to your heart, isn't
5 it? Isn't that where you got your degree?

6 A Yes, that's where I went to school.

7 Q And do you recall what capacity number they
8 came up with for the Bowling Green project?

9 A That capacity factor was estimated by us based
10 on the best available information that Kevin
11 could find. They were not very forthcoming in
12 the estimates in their capacity factor, their
13 yearly capacity factor.

14 Q What estimate did you come up with?

15 A I thought it was in the low 20s.

16 Q 22.2 percent?

17 A Right, which is possible for that project
18 based on what I learned of what transpired
19 there.

20 Q That was Class 2 wind?

21 A That's how the -- I believe at least the
22 50-meter maps would clarify it. I'm not sure
23 about the 100 meters, but it's a very wide
24 open area that gets a lot of wind off of Lake
25 Erie.

1 Q Okay. Let's see if we can move on through
2 some of these.

3 Are the wind patterns better in
4 Illinois than in Indiana?

5 A In my opinion and based on maps that I've
6 seen, I would say they are, yes.

7 Q Are those areas in or adjacent to the Midwest
8 Independent System Operator?

9 A I'm not familiar enough with the map and the
10 layout between MISO and PJM to comment on
11 that.

12 Q Okay. In your experience, are you aware of
13 whether coal plants ever experience forced
14 outages?

15 A Do coal plants experience forced outages?

16 Q Yes, sir.

17 A Planned or unplanned?

18 Q Yes, sir.

19 A Yes, I'm sure they do; they're mechanical
20 equipment.

21 Q Okay. Would a relatively new coal plant
22 technology experience forced outages?

23 A I would have to defer that to the engineers.
24 It's been quite awhile since I've handled any
25 data on coal plants.

1 Q But your experience with coal plants is that
2 they generally do undergo outages; some are
3 planned; some are unplanned; some are forced?

4 A Yes.

5 Q So, reliability is really a matter of degree,
6 isn't it?

7 A I would say reliability is a combination of
8 availability and dependability, yes.

9 Q Now, in your rebuttal testimony, Exhibit 22-A,
10 you present wind data that corresponds to the
11 Goodland Tall Tower data in Mr. Fagan's
12 Exhibit RMF-7; correct?

13 A Yes.

14 Q And the data in your Exhibit 22-A is the same
15 data that is used in Mr. Fagan's Exhibit RMF-6
16 to show average annual wind capacity factors?

17 A I believe it is. It should be data taken from
18 the same site number, 9003, in the Indiana
19 Department of Commerce Tall Tower study just
20 broken down by seasons.

21 Q It's throwing me off by getting some direct
22 answers here. It's a lot quicker than I
23 expected to get to them, so I am going to try
24 to go through --

25 MS. KARN: Can I move to strike

1 the comments from counsel?

2 JUDGE STORMS: I'm not going to
3 strike the comments. I appreciate quicker
4 questions as well, though, Mr. Polk.

5 Q (Mr. Polk Continuing) When you refer to
6 stagnant summer days in your testimony and the
7 low capacity, that's referring to the Goodland
8 annual average speed of 7.7 meters per second;
9 is that correct?

10 A I believe that reference was in my testimony
11 filed for the purchased power arrangement for
12 the Benton County Wind Farm, and I believe
13 that was more of a generic comment about a
14 typical Indiana summer day, not necessarily
15 making a reference to this particular exhibit,
16 which was not presented in that case.

17 Q Okay, but you are relying on the data from the
18 Indiana Tall Tower locations?

19 A Yes.

20 Q Okay.

21 MR. POLK: May I approach the
22 witness, Your Honor?

23 JUDGE STORMS: Yes, you may.

24 Q This is Exhibit RMF-7. Can you tell me what
25 the capacity factors at the Goodland Station

1 are listed there?

2 A The -- are you talking about estimated?

3 Q Yes.

4 A The estimated wind speeds -- or, I'm sorry,
5 the Goodland speed based on a 90-meter
6 measurement capacity factor at Goodland per
7 Dennis Elliot of the NREL presentation at
8 90-meter height, he estimates a 42 percent
9 capacity factor. At 50 meters, he predicts a
10 32 percent capacity factor.

11 Q Thank you, and that's based on the same data
12 you were relying on; correct?

13 A Most -- Yes, I would say the capacity factors
14 which represent an average for the entire year
15 and not necessarily for any month of that year
16 is what Dennis has estimated using a hub
17 height of 90 meters and using, I believe, a GE
18 SLE load profile curve.

19 Q 90 meters is not unreasonable for a hub
20 height, is it?

21 A Today's general industry is using 80 meters.

22 Q When you say general, is that the -- is that
23 an average of what's installed currently, or
24 is that an average of what's being constructed
25 currently?

1 A That is the average of what's being

2 constructed currently. It's kind of the GE

3 workhorse in this country.

4 Q Is Duke using a wind forecasting system for

5 the Benton Wind Farm?

6 A The -- I believe that Duke has taken into

7 consideration the wind profile of the Benton

8 wind county farm as it looks at its operations

9 for the power system.

10 Q Can you tell me what state of development the

11 Benton County Wind Farm currently is in?

12 A The Benton County Wind Farm is scheduled to

13 begin construction in July or August of this

14 year. The estimated commercial operation date

15 is April or May.

16 Q Do you know if Duke intends to use a wind

17 forecasting system for predicting the power

18 from Benton County Wind Farm once it's up and

19 running?

20 A What type of wind forecasting system are you

21 envisioning here?

22 Q One that would help the Company determine what

23 type of power output it will be receiving from

24 the wind plants.

25 A At this point, I'm not aware of any that we're

1 predicting, but I do believe we will be
2 working with the operators to get a day ahead
3 forecast of what they plan to operate at.

4 Q In Cause No. 43097, the Benton County
5 purchased power agreement, you testified that
6 the wind PPA is a reasonable and necessary
7 addition to Duke Energy Indiana's portfolio of
8 resources.

9 Do you still think it was a
10 reasonable addition?

11 A I believe -- I still believe that it is a
12 reasonable addition to our supply.

13 Q Would another 100-megawatt wind PPA with
14 similar economics also be a reasonable
15 addition to Duke's portfolio?

16 A I would need to run that particular
17 arrangement through the current STRATEGIST
18 model before I could answer that question.

19 Q If it had the same economics, given the
20 Company's current portfolio of generation
21 resources, would you expect the same result
22 from another 100 megawatts of wind?

23 A With the exact same economics?

24 Q Substantially the same. I'm not sure you
25 could get exactly the same, but if somebody

1 came to you with the same agreement for
2 another 100-megawatt wind farm, would you do
3 it?

4 A I would sure be anxious to run it through our
5 model, yes.

6 Q Do you agree that wind farms in Indiana help
7 foster economic development and job creation?

8 A The Benton County Wind Farm will create
9 approximately eight permanent jobs in the
10 Benton County area.

11 There will be additional land
12 payments made, you know, to the area
13 landowners whether they're farmers in the area
14 or absentee landowners living elsewhere. I
15 believe that an economist would tell you that
16 it definitely would add to the economy in the
17 area.

18 Q Okay. Now, you state that the \$48 per
19 megawatt hour mid-range price Mr. Fagan uses
20 is unrealistic.

21 Can you tell me whether the Benton
22 County Wind Farm comes in above or below that
23 number?

24 A The \$48 that Mr. Fagan brought out in his
25 testimony, I believe, was a 2005 levelized

1 cost, and the bids we received in Indiana were
2 above those numbers.

3 Q That doesn't tell me whether the purchased
4 power agreement actually resulted in a price
5 higher or lower than that number.

6 MS. KARN: Your Honor, the
7 purchased power agreement price is
8 confidential, so I'm not sure how much more
9 the witness can say.

10 JUDGE STORMS: I don't know how he
11 can answer that question without revealing the
12 confidential information, Mr. Polk.

13 MR. POLK: I asked for a
14 relative -- whether it was higher or lower
15 without getting into the specific price.

16 JUDGE STORMS: Is that the extent
17 of your question, or is this going to be an
18 initial question, and then we're going to
19 close in in an effort to --

20 MR. POLK: I commit that that will
21 be the extent of the question with respect to
22 the price on the wind farm.

23 JUDGE STORMS: Is there still an
24 objection on that basis?

25 MS. KARN: I think that's fine,

1 Your Honor.

2 JUDGE STORMS: Okay. Please
3 proceed.

4 A It was higher.

5 JUDGE STORMS: Any further
6 questions, Mr. Polk?

7 MR. POLK: I'm looking to see if
8 there are any questions I need to ask and how
9 many can be eliminated at this point.

10 Q Thank you, Mr. Lefeld.

11 MR. POLK: I have no further
12 questions for this witness, Your Honor.

13 JUDGE STORMS: Thank you, Mr.
14 Polk. Ms. Dodd, your witness.

15 MS. DODD: No questions.

16 MS. BECKER: No cross, Your Honor.

17 JUDGE STORMS: Thank you. Mr.
18 Reed, your witness.

19 MR. REED: Thank you, Your Honor.

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1 **CROSS-EXAMINATION OF MR. JAMES M. LEFELD,**

2 **QUESTIONS BY MR. REED:**

3 Q Good afternoon, Mr. Lefeld.

4 On Page 6 of your testimony, I see
5 you quoting some of your own testimony from
6 the Benton County case; is that correct?

7 A Lines 1 through 30?

8 Q Yes.

9 A That is correct.

10 Q Sir, did you have an opportunity to review the
11 final order in that Benton County case?

12 A I believe so.

13 Q Am I correct, sir, that in the Benton County
14 case, there were some reporting requirements
15 where Duke will report the megawatts, megawatt
16 hours, equivalent forced outage rates and
17 those kind of things?

18 A I was well aware that we were reporting the
19 kilowatt hours; I wasn't aware of the others,
20 but --

21 Q Do you believe that a reporting mechanism
22 similar to the Benton County mechanism,
23 whatever that may be, with respect to actual
24 operations at the Edwardsport plant might be
25 helpful?

1 MS. KARN: Your Honor, I'm going
2 to object to this as beyond the scope of Mr.
3 Lefeld's direct testimony. He deals really
4 only with the wind issue.

5 JUDGE STORMS: Response?

6 MR. REED: Your Honor, Mr. Lefeld
7 discusses extensively his testimony in the
8 Benton County wind case and goes so far as to
9 demonstrate why some of the things he said in
10 the Benton County case were taken out of
11 context by the other witnesses. I'm simply
12 exploring with him some other elements of that
13 case.

14 JUDGE STORMS: I'll overrule the
15 objection and allow the witness to answer.

16 A Could you repeat the question?

17 Q (Mr. Reed Continuing) Absolutely.

18 Do you think it would be helpful
19 if similar reporting requirements that were
20 put forth in the Benton County case were also
21 applied here to the Edwardsport case, and that
22 Duke would be required to report the actual
23 operations of the Edwardsport plant, its
24 megawatts, megawatt hours, its forced outages,
25 that kind of information?

1 A I guess I am really not that familiar with
2 IGCC plants and what is pertinent and valuable
3 to the learning experience of operating one
4 and to gauging its performance.

5 If I had some time to investigate
6 and learn more about the equipment, you know,
7 what you do need to know and monitor for
8 efficient operation, I could probably answer
9 that question much better.

10 Q Do you really think that there's a big
11 difference in wanting to understand how
12 effective a wind turbine is relative to how
13 effective an IGCC plant is?

14 A I think I would say that both -- any piece of
15 operating equipment, you would probably be
16 interested in knowing what it's doing.

17 Q Including how often it doesn't work.

18 A Well, I think you'll know that.

19 Q Thank you, Mr. Lefeld.

20 MR. REED: Your Honor, I have no
21 further questions.

22 JUDGE STORMS: Thank you,
23 Mr. Reed. Redirect for this witness?

24 MS. KARN: Thank you, Your Honor.

25

1 REDIRECT EXAMINATION OF MR. JAMES M. LEFELD,

2 QUESTIONS BY MS. KARN:

3 Q You were talking earlier with Mr. Polk about
4 commercial viability of wind, and you had a
5 discussion about whether an expression of
6 interest in wind led to commercial viability,
7 and my question is: Is an expression of
8 interest in wind enough to determine whether a
9 project is commercially viable?

10 A I would not believe so.

11 Q In your opinion, are there good reasons to
12 protect the confidentiality of wind purchased
13 price agreements or purchased power agreements
14 pricing particularly from a developer's point
15 of view?

16 A Clearly from the developer and the industry
17 practice -- developers, that's very much in
18 their -- in the interest of the wind industry.

19 Q Notwithstanding that, do you know whether Duke
20 made multiple efforts to attempt to get the
21 owners of the Benton County Wind Farm to
22 release the confidential information
23 specifically to counsel for the CAC in this
24 cause?

25 A It's my understanding, and I also saw part of

1 the e-mails that there was a significant
2 amount of effort on our -- by our counsel to
3 do that.

4 Q You were discussing with Mr. Polk whether if
5 you could get another wind PPA at the same
6 pricing, what would you do, and I think you
7 said wisely that you'd run the model to help
8 you determine what to do, but do you believe
9 that today you could get similar pricing as
10 you got in the pricing for the Benton County
11 wind project?

12 A I do not believe that we could even do that.

13 Q You were discussing with Mr. Polk some -- an
14 exhibit in Mr. Fagan's testimony and some
15 capacity factors. Do you recall that?

16 A Oh, what they were talking about was the
17 capacity factor for this wind at certain
18 heights, and the capacity factor is the
19 generation of that energy on an as available
20 basis; meaning that the energy is most likely
21 coming during the evening hours through the
22 early morning and really isn't there or found
23 to be there too much during the daytime hours
24 especially during the summer months. It has
25 nothing to do with capacity contribution at

1 the time of system peak, the term we're used
2 to working with.

3 Q So on Page 5 of your testimony, if you turn to
4 that for a minute, at the beginning there,
5 specifically, I guess, Lines 5 through 7 when
6 you're talking about 15 percent of the
7 nameplate rated capacity, there are you
8 talking about the capacity factor or the
9 capacity that would be available at peak?

10 A That is the capacity that would be available
11 as a supply to meet peak during that summer
12 hour.

13 Q When you were discussing with Mr. Reed
14 reporting requirements for the IGCC project,
15 in your opinion, is there a better witness in
16 Duke Energy Indiana's case to ask those
17 questions to?

18 A Yes, there are probably a couple of better
19 witnesses right here in the room that can
20 answer that question.

21 Q Thank you. Would you agree that at certain
22 times, the capacity that a wind turbine
23 actually contributes at the peak could well be
24 something close to zero?

25 A Absolutely.

1 MS. KARN: That's all I have, Your
2 Honor. Thank you.

3 JUDGE STORMS: Thank you, Ms.
4 Karn.

5 Mr. Lefeld, thank you very much
6 for your testimony. You are excused.

7 Let's go ahead and recess for
8 today. We'll start up again tomorrow morning
9 at 9:00 A.M.

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16 (WITNESS JAMES M. LEFELD EXCUSED ON REBUTTAL)

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22 (HEARING IN RECESS UNTIL TO JUNE 22, 2007

23 AT 9:00 A.M. (EDT) IN ROOM 222 OF

24 THE NATIONAL CITY CENTER,

25 INDIANAPOLIS, INDIANA)