

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In The Matter Of:

ORIGINAL

APPLICATION OF KENTUCKY POWER COMPANY)	
FOR APPROVAL OF ITS 2011 ENVIRONMENTAL)	
COMPLIANCE PLAN, FOR APPROVAL OF ITS)	
AMENDED ENVIRONMENTAL COST RECOVERY)	CASE NO.
SURCHARGE TARIFF, AND FOR THE GRANTING)	2001-00401
OF A CERTIFICATE OF PUBLIC CONVENIENCE)	
AND NECESSITY FOR THE CONSTRUCTION AND)	
ACQUISITION OF RELATED FACILITIES)	

VOLUME II

Transcript of Hearing before PSC
 Commissioners David L. Armstrong, Chairman, and James
 W. Gardner, Vice-Chairman, on May 1, 2012, at the
 Kentucky Public Service Commission, 211 Sower
 Boulevard, Frankfort, Kentucky 40602-0615.

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COMMISSION**

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1 COMMISSIONER ARMSTRONG: Mr. Overstreet.

2 MR. OVERSTREET: Your Honor, I believe
3 we're going to proceed with Miss Henry's witness, Dr.
4 Fisher.

5 MS. HENRY: Yeah. Dr. Fisher.

6 MR. HOWARD: And, Mr. Chairman, if we
7 have two preliminary matters that we'd like to bring
8 to your attention that are simply a matter of
9 follow-up. One of which is to the Vice Chairman's
10 request from yesterday, or shall we wait? He wanted
11 copies of certain documents.

12 COMMISSIONER GARDNER: We can do it at a
13 break is fine.

14 MR. HOWARD: Okay. And then also in
15 response to P -- or the AG Exhibit 3 we represent as
16 being directly from the Kentucky state data center.
17 That information was actually from the University of
18 Louisville that took the information from the Kentucky
19 state data center and then simply extrapolated that
20 into maps.

21 The witness at the time indicated that
22 he understood and had previously seen that, so the
23 foundation was laid. I've advised Mr. Overstreet this
24 morning. It's my understanding he has no objection --

25 MR. OVERSTREET: That's correct, Your

1 Honor.

2 MR. HOWARD: -- to that, Your Honor.
3 That's all. Thank you, Mr. Chairman.

4 COMMISSIONER ARMSTRONG: Okay. Be sworn
5 in. Solemnly swear to tell the truth, the whole
6 truth, and nothing but the truth subject to the rules
7 of perjury?

8 MR. FISHER: I do.

9 COMMISSIONER ARMSTRONG: Have a seat.
10 Speak up loud and clear.

11

12 * * *

13

14 JEREMY FISHER, called by Sierra Club,
15 having been first duly sworn, testified as follows:

16

17 DIRECT EXAMINATION

18

19 By Ms. Henry:

20

21 Q Morning. Would you please state your
22 name for the record?

23 A Jeremy Fisher.

24 Q Where do you work?

25 A I work at Synapse Energy Economics.

1 Q And what is your business address?

2 A 485 Massachusetts Avenue in Cambridge,
3 Massachusetts.

4 Q And are you the same Dr. Fisher that's
5 caused both public and confidential direct testimony
6 to be filed in this case on March 12th, 2012?

7 A I am.

8 Q On whose behalf did you submit that
9 testimony?

10 A Sierra Club.

11 Q Did you file an errata for that
12 testimony on April 12th, 2012?

13 A I did.

14 Q Did the modifications that you made in
15 that errata change your conclusions in any way?

16 A They did not.

17 Q Do you have any other modifications or
18 updates to the direct testimony that you would like to
19 articulate for the record today?

20 A Yes, I do, actually.

21 Q And would you please explain those
22 modifications or updates?

23 A Certainly. So, in general, we as an
24 organization and party have repeatedly asked of the
25 companies the calculations that support the Company's

1 fundamental Strategist analysis and their fundamental
2 model. And, unfortunately, the Company withheld a
3 great deal of information from us that was actually
4 quite important in the use of their capital costs
5 until Mr. Becker's rebuttal testimony, and,
6 consequently, we've redacted portions of my testimony
7 related to capital costs.

8 Q Okay. So all portions of your testimony
9 that relate to capital costs have been redacted?

10 A That is correct.

11 Q We will withdraw those. I would like to
12 mark as Exhibit Sierra Club 11 a copy of Dr. Fisher's
13 testimony with redacted portions that relate to
14 capital costs.

15 MS. GILLUM: It's 12.

16 MS. HENRY: Oh, 12. Sorry about that.

17 Q In addition to those redactions, did you
18 make any updates to this testimony?

19 A There are two additional exhibits that
20 we have updated. Those were previously existing
21 tables and charts. It is one new table and one new
22 chart that are attached to this testimony.

23 Q And did you update these tables to we --
24 to remove these undate --

25 A I'm sorry. Those were -- yes. Those

1 were updated to remove the capital cost expenditures
2 component. So those now reflect our changes and
3 assumptions and modifications without capital cost
4 component.

5 Q And do those modifications change your
6 conclusions in any way?

7 A They do not.

8 Q If the questions that were posed in this
9 redacted direct testimony were asked again today,
10 would your answers be the same?

11 A They would.

12 Q Are you also the same Dr. Fisher who has
13 filed responses to Kentucky Power Company in the
14 Commission's data request?

15 A I am.

16 Q Do you have any modifications or updates
17 to those responses?

18 A I do not believe so.

19 Q If the questions were posed on the data
20 requests again today, would your answers be the same?

21 A Yes.

22 MS. HENRY: Thank you, Mr. Chairman. I
23 tender the witness for cross-examination.

24 COMMISSIONER ARMSTRONG: Your witness.

25 MR. OVERSTREET: Thank you, Mr.

1 Chairman.

2
3 * * *

4
5 CROSS-EXAMINATION

6
7 By Mr. Overstreet:

8
9 Q Dr. Fisher, congratulations on the birth
10 of your second child.

11 A Thank you very much, and thank you to
12 the parties and the Commission for accepting this
13 change in order.

14 Q Dr. Fisher, you're aware, aren't you,
15 sir, that Kentucky Power Company made Mark Becker
16 available to Synapse in early February so that Synapse
17 could ask any questions it had about the Company's
18 modeling?

19 A That is partially true. Mr. Becker was
20 made available to Synapse. However, he was made
21 available conditionally to be able to answer questions
22 about specific components of the Strategist model.
23 Specifically, he was made available to be able to
24 answer the portion of the model that would make it
25 run, because we were originally supplied with

1 nonworking model components. However, Mr. Becker was
2 not made available to --

3 Q Did you ever -- did -- did Synapse or
4 counsel for the Sierra Club ever request that the
5 company make Mr. Becker available to address your
6 newfou -- your concerns about the capital cost?

7 A We were not aware that Mr. Becker was
8 the correct person to ask to be made available until
9 long after the availability.

10 Q Did -- did -- did -- did Synapse or
11 counsel for the Sierra Club request who that person
12 would be?

13 A We requested all information that
14 supported Mr. Weaver's exhibits and documents, and,
15 subsequently, we would have expected that that would
16 have included information that would have come from
17 Mr. Becker and an announcement to Mr. Becker had that
18 been an important component.

19 We did talk to Mr. Becker on the phone,
20 and we actually did ask him specific questions about
21 the concerns that we have here, including capital
22 costs, and I believe Mr. Becker stated to us clearly
23 and unequivocally that he was unable to answer
24 questions beyond that which he was allowed to by the
25 order.

1 Q But -- but it was -- there was no order,
2 isn't that correct? It was a voluntary offer on
3 behalf of the --

4 A I'm sorry.

5 Q -- of the company?

6 A I'll rephrase. Thank you.

7 Q And, again, there was no request to go
8 beyond that, right?

9 A We did request on the phone, yes.

10 Q But there was no formal request that I
11 could review and -- and determine whether that would
12 be appropriate?

13 A Not that I'm aware of.

14 Q Okay. Now, you indicated in -- in
15 response to ques -- oh. By the way, are you aware --
16 you aware that counsel for the Sierra Club informed
17 Staff that all of its concerns that were raised in its
18 motion to compel have been satisfied?

19 A I believe that that was regarding the
20 Aurora analysis, but yes.

21 Q Well, the -- the -- the -- the record
22 will speak as to -- as to what the question was.

23 A Certainly.

24 Q Okay. You indicated in your discussions
25 to -- with Ms. Henry that your -- your -- your

1 conclusions had not changed as a result of -- of this
2 very substantial redaction of your previously-filed
3 testimony --

4 A Uh-huh.

5 Q -- is that accurate?

6 A That's correct.

7 Q Okay. And I'll direct your attention to
8 page 9 of your revised supplemental testimony. And
9 this is what was provided to us about 9:30 this
10 morning for the first time.

11 A Uh-huh. Yes, sir.

12 Q And on line 25, isn't it true that you
13 have redacted now the words "by fairly wide margin"?

14 A That is correct.

15 Q Thank you. Dr. Fisher, you're two in --
16 undergraduate degrees were in geology and geography?

17 A That's right.

18 Q And your master's and PhD were in
19 geological sciences?

20 A That's correct.

21 Q And I've reviewed your CV, and in
22 examining the -- the work or research you did as an
23 undergraduate, graduate student, and post graduate
24 student, none of that involve the conduct of a unit
25 disposition analysis in connection with utility

1 resource planning, did it?

2 A No. I did not do electricity planning
3 as a graduate student or post doctoral student, but I
4 did do significant amounts of modeling.

5 Q And, in fact, as -- as evidenced by your
6 CV, you looked at things such as forest mortality from
7 wind damage using satellite data?

8 A That's correct.

9 Q And --

10 A Yes.

11 Q -- you -- you looked at things such as a
12 remote sensing study to examine migratory bird
13 response to climate variability in the middle east?

14 A Absolutely.

15 Q Thank you. And, Dr. Fisher, I think you
16 would -- you would agree that the peer review process
17 is an important means of validating methodology and
18 ensuring quality and scholarly publications?

19 A Certainly.

20 Q And on your CV, in fact, you list nine
21 peer review publications that -- that -- with -- that
22 have your name on them?

23 A I do. Yes.

24 Q And one of them dealt with phenology --

25 A That's correct.

1 Q -- or -- or -- or some of them dealt
2 with phenology. Excuse me.

3 A Yes.

4 Q And what is phenology?

5 A Phenology is the tracking of how seasons
6 change over the course of a year and how both biota of
7 fauna and trees, flora, respond to climatic signals,
8 in general.

9 Q And then others dealt with remote
10 sensing?

11 A Some dealt with remote sensing. Others
12 dealt with ecological modeling. Yes.

13 Q And then there was some with west
14 African vegetation change?

15 A I don't believe that that was published.

16 Q Okay. And then the Hurricane Katrina
17 carbon footprint work, was that published?

18 A Yes. That was a fairly simple paper.

19 Q Dr. Fisher, I'm going to ask you to
20 listen closely to my question, because I'm hoping it's
21 not convoluted, but make sure I don't -- that you
22 understand my question. Setting aside the changes
23 that you have made in your revised supplemental
24 testimony concerning off system sales --

25 A Uh-huh.

1 Q -- and future carbon pricing, is it not
2 true that Synapse did not develop and file in this
3 record any unique set of re -- modeling results?

4 A Can you rephrase that one more time just
5 for clarity?

6 Q Surely.

7 A Just make sure I've got it.

8 Q I'm asking you to set aside the -- any
9 modeling that would have involved off system sales --

10 A Uh-huh.

11 Q -- changes, and any modeling that would
12 involve changes to the company's future carbon
13 pricing.

14 A Uh-huh.

15 Q Okay. Did the -- Synapse or the Sierra
16 Club file in this proceeding any modeling of a unique
17 set of results different from those provided by the
18 company?

19 A We did not evaluate alternative options
20 not presented by the Company. That's correct.

21 Q Could I ask you to look at page 19, and
22 I -- and I apologize. It's -- this is of your -- of
23 your --

24 A That's fine.

25 Q -- testimony before this morning.

1 A Page numbers have switched slightly.

2 Q A little bit, yeah, but I don't -- let's
3 see here.

4 A I believe that much of what would have
5 previously been page 19 is now redacted.

6 Q Yeah, and that's what I wanted to make
7 sure. And -- and, again, I'm -- I'm looking at the
8 version that you -- page 19, the version that you
9 filed before this morning, and starting on line 6,
10 there is a question that says, (Reading) In addition,
11 you indicated that the values in Strategist are
12 inconsistent with table 2 in Mr. Weaver's testimony.
13 Is this due to the same double-counting problem you
14 identified bo -- identified above? And that's been
15 redacted, hasn't it, sir?

16 A That's correct.

17 Q Okay. And then the -- on page 18 of
18 your former testimony, you testified that it was your
19 opinion at that time that the capital cost for the
20 NGCC, natural gas combined cycle, had been inflated by
21 seven percent in Mr. Weaver -- Mr. Weaver's table 2,
22 and that also has been redacted?

23 A That is redacted.

24 Q Okay.

25 A That's correct.

1 Q Make sure I was on the right page. Mr.
2 Weaver, is it not true that other utilities
3 incorporate stochastic or Monte-Carlo-based modeling
4 or made, perhaps, similar forms of risk modeling when
5 assessing long-term reserce -- resource alternatives?

6 A Other -- I'm sorry. Can you --

7 Q Sure.

8 A -- start that one over?

9 Q Isn't it true that other utilities --

10 A Uh-huh.

11 Q -- in connection with conducting
12 long-term resource modeling, incorporate stochastic or
13 Monte Carlo or similar risk-based modeling?

14 A They do.

15 Q And isn't it true that Synapse does not
16 have a license -- is not a licensed user of the Aurora
17 model?

18 A Synapse is not a licensed user of the
19 Aurora model. There are numerous models available for
20 use, and we have not had that model in our repertoire
21 as of yet.

22 Q And in connection with the Aurora
23 modeling, isn't it true that Kentucky Power Company
24 identified six risk variables in connection with that
25 modeling?

1 A That's correct.

2 Q And those were demand or load pricing,
3 coal pricing, natural gas pricing, CO2 pricing, and a
4 fixed O and -- O and M installed cost variable?

5 A That's correct.

6 Q Does that sound familiar?

7 A I'd like to double-check that.

8 Q Surely.

9 A Can you repeat the list that you had?

10 Q Surely. Demand, load pricing.

11 A Uh-huh.

12 Q Coal pricing.

13 A Uh-huh.

14 Q Natural gas pricing.

15 A Uh-huh.

16 Q CO2 pricing.

17 A Uh-huh.

18 Q And a fixed O and M installed cost
19 variable.

20 A I guess. That is correct.

21 Q Okay.

22 A Show the six you're talking about.

23 Q And, in your testimony, you've not
24 suggested that the company should have used a seventh
25 variable; is that correct?

1 A Not explicitly. No.

2 Q Okay. Would you agree, sir, that an
3 important element of any Monte Carlo modeling is the
4 establishment of a reasonable set of distribution
5 ranges for each of the variables?

6 A That is one important component is both
7 the reasonable range as well as the distribution which
8 those variables actually take is also a very important
9 component to that.

10 Q And with respect to both of those,
11 you've not suggested anything different than what the
12 company did?

13 A No.

14 Q Okay. And you understand, sir, that
15 Kentucky Power used the Aurora-based risk modeling to
16 determine the relative revenue requirement at risk for
17 each of the five options it modeled?

18 A That's how it's stated in Mr. Weaver's
19 testimony. However, as I state in my testimony, I
20 believe that the company went above and beyond the use
21 of the Aurora model for just the revenue at risk
22 component and both used it to look at the absolute
23 values of the -- of the model runs, even though this
24 is both denied in Mr. Weaver's testimony, rebuttal
25 testimony, as well as he stated, his exhibit shows

1 that very clearly.

2 And I believe that the company also --
3 I'm sorry. And the -- the company used the absolute
4 values of those, and the company looked at the
5 absolute values of the revenue at risk rather than
6 just the difference between the revenues at risk.

7 Q Well, if Mr. Weaver is saying in his
8 rebuttal ques -- excuse me. But -- rebuttal testimony
9 that he limited his use of that to the comparison
10 between the revenue requirement at risk, you -- you
11 wouldn't --

12 A Well --

13 Q Well, let me -- let me finish my
14 question --

15 A Yeah.

16 Q -- please.

17 A So sorry.

18 Q You -- you wouldn't object to him
19 limiting his -- his testimony to that extent, would
20 you?

21 A I suppose I would ask for some internal
22 consistency in Mr. Weaver's testimony between his
23 claim in rebuttal that it's only used for the purposes
24 of revenue at risk and a note in his direct testimony
25 that says that the absolute values of the Aurora

1 analysis suggest that Option 1 is a clear winner. And
2 although I don't have that immediate cite in front of
3 me, I can find it for you.

4 Q Well -- well, we -- we can ask Mr.
5 Weaver when --

6 A Sure.

7 Q -- he gets on the stand. And, actually,
8 could -- could you show me where -- where you believe
9 Mr. Weaver does that?

10 A Certainly. I'm sorry. It's in his
11 direct testimony. I actually don't have his direct
12 testimony in front of me at the moment.

13 Q Okay. Thank you.

14 A I apologize.

15 (Ms. Henry handed document to the
16 witness.)

17 A I found it for you.

18 Q Okay. Thank you.

19 A Weaver page 48, starting on line 3,
20 reading, (Reading) Therefore, this additional risk
21 modeling confirms that the result -- and by risk
22 modeling, I believe it refers to the Aurora analysis,
23 confirms the results and recommendations established
24 by the Strategist modeling process that determines
25 that Option 1, the Big Sandy 2 DFGD retrofit, was the

1 least cost alternative as set forth in Exhibit SCW 4.

2 The statement the least cost alternative
3 reads to me as if he is stating that the least cost
4 alternative here is, in fact, Option 1.

5 Q But if he -- if he were to clari -- if
6 he's clarified that in his rebuttal testimony, you --
7 you have no reason to doubt his veracity, do you?

8 A If that statement was withdrawn, then
9 no.

10 Q Dr. Fisher, can I get you to look at
11 your table 4, which I think is on page 37 of your
12 revised supplemental testimony?

13 A If I could have that page number again.

14 Q Thirty-seven.

15 A Thank you. Yes, sir.

16 Q Okay. And in this table 4, you report
17 to calculate the cumulative present worth of revenue
18 requirements using the Synapse low CO2 price?

19 A That's correct.

20 Q Okay. And that's for Option 1, Option
21 2, and Option 4A?

22 A That's correct.

23 Q That's not -- not for option --

24 A I'm sorry. That should be 4B.

25 Q Oh. It's 4B.

1 A I b -- I'm sorry. Double-check. Let me
2 hold that for just a moment.

3 Q Let me put my glasses on, make sure I
4 read it right.

5 A Yeah. Let me look here at one page to
6 make sure that I'm consistent. Sorry. That may be a
7 typo. No. I'm sorry. No. That's 4A. That's right.

8 Q 4A. Okay.

9 A That's correct.

10 Q And in performing this reanalysis, the
11 only thing you changed in your revised supplemental
12 testimony were the CO2 costs; is that correct?

13 A That's correct.

14 Q Okay. And you didn't change any of the
15 Company's other assumptions?

16 A That's correct.

17 Q And among those assumptions were price
18 for power?

19 A Uh-huh.

20 Q Price for natural gas?

21 (Deponent nodded head.)

22 Q Price for coal?

23 A That's correct.

24 Q And I would take it you would agree,
25 sir, that if the demand for natural gas goes up, and

1 the supply doesn't change, that there is likely to be
2 a price increase?

3 A I'm going to actually let -- leave that
4 question almost in its entirety to my colleague, Mr.
5 Hornby.

6 Q And why is that?

7 A Mr. Hornby is much more of an expert on
8 natural gas pricing than I am myself, but he and I
9 have talked significantly about that question. I
10 think he is better qualified to be able to answer that
11 for you.

12 Q Is Mr. Hornby the person to ask about
13 what happens when coal demand goes down?

14 A I don't know specifically, but I'll
15 be -- I'm happy to take that question.

16 Q Surely. If coal demand were to go down,
17 and the supply were to remain the same, it's likely
18 that coal prices would drop, wouldn't it?

19 A If the absolute coal demand goes down,
20 then it's quite feasible that coal prices could drop.

21 Q And -- and is it also true that if power
22 prices go up, power demand is likely to go down?

23 A That is a far more complicated question.
24 There is the question of what intrinsically happens to
25 power demand based on the economy as a whole as well

1 as what's happening with power prices, where power
2 prices are one component to that, and then there is
3 the shock of higher power prices that could have an
4 influence or change on demand.

5 So I would not say with absolute that
6 when the prices go up, the demand goes down.

7 Q Generally goes in that direction,
8 wouldn't it?

9 A Generally, yes.

10 Q Okay. And tell me, are you a member of
11 the Sierra Club?

12 A I am not.

13 Q Okay. And are you familiar with the
14 Sierra Club's position on hydraulic fracturing as a
15 means of extracting gas?

16 A I am actually not familiar with the
17 Sierra Club's position on that currently.

18 Q Would Ms. Wilson or Mr. Hornby be a
19 better person to ask about that?

20 A I don't think we as Synapse specifically
21 track our client's positions on natural resources
22 specifically.

23 Q Well, would it su -- surprise you to
24 learn that the Sierra Club has a beyond-natural-gas
25 initiative?

1 A I am not aware of it.

2 Q Okay.

3 A Sorry.

4 MR. OVERSTREET: That's all the
5 questions I have, Your Honor.

6 MR. KURTZ: Could -- could I, Your
7 Honor?

8 COMMISSIONER ARMSTRONG: Yes.

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CROSS-EXAMINATION

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14 By Mr. Kurtz:

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16 Q I just have a question. On page 68 of
17 your revised testimony, Dr. Fisher --

18 MR. OVERSTREET: And, Mr. Kurtz, I'm
19 sorry. Is this -- by revised you mean what was
20 provided today?

21

MR. KURTZ: Yes.

22

MR. OVERSTREET: Okay.

23

24 Q I was looking at your conclusions, and I
25 want to just make sure that this is correct. On line
21, you still have the capital cost corrections.

1 Should that be redacted?

2 A And I'm sorry. Yes. That number should
3 be redacted and revised.

4 Q So should the \$470 million be changed --

5 A It's a --

6 Q -- as well?

7 A Yeah. The \$470 value ultimately should
8 result as a \$231 value. I'm sorry. That entire
9 statement should be revised -- should be redacted.
10 That entire bullet point from lines 21 to 24. Thank
11 you.

12 Q Okay. Just -- just one other -- a
13 couple other questions. Are -- are you aware that --
14 that AEP filed and then withdrew at -- at FERC a new
15 pooling agreement where energy long compa -- members
16 would sell power to their affiliates at a
17 split-the-savings basis and below market, the
18 difference between -- halfway between production cost
19 and market?

20 A Well, I'm generally aware that there was
21 a FERC filing. I think my colleague, Mr. Hornby, is
22 better qualified to answer questions regarding that
23 pooling agreement.

24 Q Okay. But let me just ask you this:
25 You -- you've -- you -- one of the big points in your

1 testimony was that the -- Mr. Weaver did not take into
2 account that Kentucky Power keeps 40 percent of the
3 profits from off system sales.

4 A Yes. Again, as postulated by Mr.
5 Hornby, I did that calculation. That's correct.

6 Q If -- if this new pool agreement was
7 approved where the energy long companies would sell to
8 their affiliates at -- at below market, would that
9 also adversely affect the economics of a situation
10 where the -- where the utility is energy long and is a
11 seller?

12 A I think you'll have to address that
13 question again, I'm sorry, to Mr. Hornby. I
14 apologize. I don't mean to be --

15 MR. KURTZ: Thank you, Mr. Chairman.
16 That's all the questions.

17 MR. HOWARD: Mr. Chairman, we just have
18 one or two --

19 COMMISSIONER ARMSTRONG: Yes.

20 MR. HOWARD: -- if I may.

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CROSS-EXAMINATION

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3 By Mr. Howard:

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5 Q Good morning, Dr. Fisher.

6 A Good morning.

7 Q There was a question, if I understood,
8 that was posed to you a moment ago about coal demand,
9 and you deferred that to -- you -- you were able to
10 answer part of that question, but I think you also
11 wanted to defer to another one of your experts. Let
12 me ask you a question or two. Are you generally
13 familiar with the coal market as it is today? As in
14 supply and demand.

15 A In the general precepts, yes, and it is
16 not a market that I actively track --

17 Q Okay.

18 A -- or follow.

19 Q Are you familiar with the fact that the
20 coal exports right now are the highest that they've
21 been since 1991?

22 A Anecdotally, but it's not an area that I
23 profess professional ability in.

24 Q But you are familiar with the fact --

25 A Yes.

1 Q -- that the coal exports are the highest
2 since they have been since 1991, even --

3 A Subject to check.

4 Q -- though you don't know the details?

5 A Generally speaking and subject to check,
6 yes.

7 MR. HOWARD: That's all I have, Mr.
8 Chairman.

9 MS. BURNS: I don't have any questions
10 of this witness, Your Honor.

11 COMMISSIONER ARMSTRONG: Questions?

12 COMMISSIONER GARDNER: Yes.

13

14 * * *

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16 EXAMINATION

17

18 By Commissioner Gardner:

19

20 Q Good morning, Dr. Fisher.

21 A Good morning.

22 Q Let me ask this. You -- one of your
23 objections had to do with what you felt was
24 inconsistency in the -- as I understand it, in the
25 modeling as to allocating all of the -- the off system

1 sales to the ratepayers as opposed to a certain
2 percentage to the shareholders as it's currently done?

3 A That's correct.

4 Q Okay. Can you, in rough terms, or point
5 me where in your testimony if you did it, what that
6 dollar difference would be?

7 A I'm sorry. The dollar difference in the
8 final results?

9 Q Yes. In other --

10 A If that --

11 Q -- words, that -- what -- if they
12 use what methodology that they currently do, what
13 would the -- as opposed to what they were 100-percent
14 off system sales to the -- the consumers, what --
15 what's that dollar difference or what -- how does that
16 change the -- or reduce, I guess, the value of -- of
17 --

18 A That can both be found in our testimony,
19 in my revised supplemental. In the version that was
20 provided this morning, it's on page 18, table 1. And
21 what you'll see there is that in the first set of
22 lines, where it says company assumptions, CPW, and
23 net --

24 Q Right.

25 A -- benefit of retrofit, for example,

1 Option 4A comes in at \$78 million above Option 1 and
2 \$48 million below for option 4B. Whereas if you
3 adjust the off system sales, such as a component of it
4 is actually being allocated back to shareholders
5 instead of back to ratepayers, as intrinsically
6 assumed by the company's modeling mechanism, that
7 actually brings down the delta between all of the
8 Options 2, 3, 4A, and 4B relative to Option 1 such
9 that Option 4B is now \$81 million less expensive than
10 Option 1, and Option 4A is now \$49 million more
11 expensive instead of 78. The same thing happens with
12 Options 2 and Option 3.

13 Q So --

14 A That's --

15 Q Go ahead.

16 A Sorry. I'll note that I believe those
17 numbers are -- those final numbers for CPW are very
18 similar to those that are given by Mr. Weaver in his
19 rebuttal testimony.

20 Q So when you say adjusted off system
21 sales, that's the way it's being done now?

22 A That's our best shot understanding at
23 how it would be allocated right now if the current
24 allocation was extended. That's correct.

25 Q So the assumption line includes the 100

1 percent to the ratepayers?

2 A Not 100 percent to -- I'm sorry. Be --
3 behind the Company's assumption, the four -- the first
4 set of lines is the equivalent of if all of it were
5 going back to --

6 Q Right.

7 A -- ratepayers.

8 Q Right.

9 A And the second line is as current split
10 curves.

11 Q Right.

12 A In Mr. Weaver's testimony, this can be
13 found on page 18, rebuttal testimony table 2, and his
14 numbers, approximately, with those.

15 Q Okay. You weren't here yesterday, but
16 you probably know this. There was a lot of
17 questioning about the -- the -- that -- that the
18 Company used a depreciation of 15 years, yet the
19 modeling was 30 years, and there --

20 A Right.

21 Q -- and -- now, did I understand from
22 your answer to the question of -- of counsel for
23 Kentucky Power that you did not look at what they
24 would have done, if it had also been 15 years, what
25 the cost of these different options would have been,

1 or did you do that?

2 A I did not participate in any of that
3 analysis.

4 Q Okay. Would that change -- if they did
5 15 years for the economic life to match the
6 depreciation as opposed to 30 years for the economic
7 life in the modeling, would that change the numbers?

8 A Without seeing the analysis itself, I
9 don't think I can actually give you that answer. My
10 intuition says that it would, but I don't have an
11 analysis in front of me.

12 Q And that the Company, as far as you
13 know, did not do that modeling on 15-year economic
14 life?

15 A No, they did not.

16 Q Okay.

17 A I'll note that, further, it actually
18 would have been very difficult for us. I think my
19 colleague, Rachel Wilson, can speak to this better
20 than I can, but very difficult for us to replicate and
21 change how the model did that depreciation based on
22 the way that they did what are called end effects, and
23 that's just a component of how the Strategist model
24 actually runs, but it's another area in which
25 additional costs were put into the fixed O and M

1 category that we had --

2 THE REPORTER: Were put into the fixed
3 --

4 A I'm sorry. The fixed operations and
5 maintenance category that we were not able to audit
6 and replicate directly. But, again, Mrs. Wilson can
7 speak to that more thoroughly than I can.

8 Q Okay. I was going to ask some questions
9 about the -- the two models modeling and the
10 difference in those, but first I've got to understand
11 what happened this morning.

12 A Uh-huh.

13 Q So tell me what the issue -- what
14 happened so I understand what's redacted, yet there's
15 some reference to -- help -- help me understand what
16 the issue was with respect to capital costs that arose
17 this morning that required you to file a different set
18 of testimony with the redacted -- and does redacted
19 mean that what is redacted is confidential or does it
20 mean that it's not valid?

21 MR. OVERSTREET: That -- may I ask a
22 question? Because I was going to follow up that based
23 on what Mr. Kurtz asked.

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CROSS-EXAMINATION

1
2
3 By Mr. Overstreet:

4
5 Q Dr. Fisher, your intent on redacting is
6 not to make it confidential?

7 A That is correct.

8 Q It's to remove that testimony from the
9 record of this proceeding?

10 A That's correct.

11 COMMISSIONER GARDNER: Okay. Thank you.

12
13 * * *

REEXAMINATION

14
15
16
17 By Commissioner Gardner:

18
19 Q Okay. So -- and -- and I wondered about
20 that since you made reference to what was removed,
21 and -- and -- okay. All right.

22 MR. OVERSTREET: I just wanted to
23 confirm --

24 COMMISSIONER GARDNER: And --

25 MR. OVERSTREET: -- my understanding.

1 COMMISSIONER GARDNER: And I appreciate
2 that.

3 Q So tell me -- okay. Back to my
4 question. So what -- what -- what happened with
5 respect to capital costs, and what did that do?

6 A Yeah. So the capital cost issue is that
7 in the standard mechanism for modeling and Strategist,
8 and, again, for the details of this, I'd refer you to
9 Mrs. Wilson, but the Strategist model calculates
10 capital costs in one of its -- or calculates the way
11 that capital costs should be treated in one component
12 of the model.

13 When you reviewed the Company's detailed
14 analysis that was provided after our motion to compel,
15 we received information that indicated to us that the
16 capital costs had been calculated outside of the
17 Strategist model itself. They had actually done it in
18 an Excel worksheet outside of that component.

19 Q And then plugged it in?

20 A And then they had run through a set --
21 series of calculations and plugged that into Mr.
22 Weaver's Exhibit 4 or the --

23 Q Okay.

24 A -- equivalent of Exhibit 4. And in
25 reviewing where the Company had gotten their numbers

1 from, we ended up at a little bit of a black box. It
2 stops at one component where there are just a series
3 of capital costs, potential numbers. And to the best
4 that we're able to understand and trace back, and
5 without additional clarification from the Company or
6 any modification, we saw that the capital expenditures
7 for the FGD looked very low, much lower than we
8 otherwise would have expected.

9 And, consequently, the numbers for the
10 all -- alternative options in natural gas combined
11 cycles, whether now or sometime in the future, looked
12 inflated relative to our expectations, even after we
13 had done our own calculation of AFUDC.

14 Simultaneously with that, we had seen
15 that in the fixed operations and maintenance category
16 of their model there was an expanded cost component.
17 Basically, there are 15 years of a higher price model
18 that we wouldn't have otherwise expected to see, and
19 we didn't know where that came from, and we did
20 actually ask Mr. Becker about that on the phone, but
21 he gave what I would call a somewhat evasive answer
22 and then refused to answer additional questions.

23 So without additional information, we
24 didn't really know where to put that piece of info.
25 But when you look at the capital cost expenditures

1 themselves, it looked fundamentally correct.

2 With Mr. Becker's rebuttal testimony, he
3 explained that there were costs that were embedded in
4 the area typically known as fixed operations and
5 maintenance that were actually capital expenditures
6 from the initial dry FGD that had been put into a
7 completely separate category, and we were not given --
8 given the calculations of how that had gone in. We
9 are not given the indication that that fixed O and M
10 had gone there.

11 So without that information, we did a
12 calculation that ended up being not consistent with
13 the Company's mechanism. When Mr. Becker filed his
14 revised testimony -- or I'm sorry. Not his -- his
15 rebuttal testimony, we reviewed his math and realized
16 that the Company's mechanism unto itself, while not
17 intuitive, did at least explain the results, and so
18 that caused us to re -- strike the portions of the
19 testimony that you see today.

20 Q Okay. Does it -- does it -- well, for
21 example, I'm going to try to figure out the page
22 numbers here. So, basically, the -- that whole
23 section, section five dealing with capital expenses
24 and carrying costs, is what was redacted, because
25 that's not valid anymore given the information that

1 Mr. Becker gave you in rebuttal?

2 A That's correct.

3 Q Okay. And what -- and did it -- in
4 trying to understand the question from counsel, did --
5 did that -- was -- was your objection in number five
6 quantified, and, therefore -- or was it just saying we
7 can't figure it out, so we don't know, and if it was
8 quantified, then -- then I'd like to -- to follow up
9 on what Mr. Overstreet said the reduction of the gap,
10 then --

11 A Uh-huh.

12 Q -- between the different options. Is --
13 does -- does my question make sense? First of all,
14 let me -- let me break it down. Did -- so what I
15 understand is you removed the -- the Strategist --
16 your -- your -- your objection five or paragraph 5,
17 that whole multi-page section dealing with capital
18 expenses and carrying costs, you removed that?

19 A Uh-huh.

20 Q Is that correct?

21 A I believe that's correct. Yes.

22 Q And other than cap -- that -- that
23 heading, capital expenses and carrying costs, did
24 it -- did it -- did you also -- was there any other
25 major section that was deleted?

1 (Witness shook head.)

2 Q No. Okay.

3 A No. There are original other references
4 to the capital cost component that --

5 Q Right.

6 A -- have been also struck, as Mr.
7 Overstreet -- or I'm sorry. As one of the other
8 counsels pointed out, there was an additional strike
9 that needed to occur in our conclusions, but it's only
10 when we're referring to the capital cost component.

11 Q Okay. Not -- so, then -- so it wasn't
12 though -- the ne -- the carrying -- excuse me. The
13 capital expenses and carrying costs, there wasn't a
14 number that you then ran through everything else that
15 then you had to modify conclusions?

16 A No. When we -- when we had gone through
17 our analysis, we basically ran through three types of
18 adjustments that we thought were fundamentally
19 necessary to the Company's run, including change or
20 adjustment to the capital cost mechanism that they had
21 used, the allocation of off system sales, and the
22 carbon dioxide price assumed by the Company.

23 And in both the discovery response -- or
24 in our analysis, as well as the discovery response
25 that we supplied to the Company and other parties, we

1 had basically looked at all combinations and
2 permutations of those capital costs, off-system sales,
3 and CO2 prices.

4 And so what we have done is, from this
5 testimony that's filed here today, we have removed the
6 components of those that refer to the capital cost and
7 the numbers associated with the adjustment to that
8 capital cost as well.

9 Q So then that would -- it changed the
10 overall --

11 A That does change the overall result, but
12 it does not change our conclusions.

13 Q Okay. It makes the number closer than
14 it would have been?

15 A Yes.

16 Q Okay.

17 A That's correct.

18 Q The -- now I'd like to ask some
19 questions to -- more general questions about
20 Strategist and Aurora. The -- were you familiar with
21 the Strategist modeling before your retention in this
22 case?

23 A Yes.

24 Q Okay. And, likewise, were you familiar
25 with Aurora modeling before this case?

1 A No.

2 Q Okay. Tell me -- just describe, if you
3 would, the -- the difference in Strategist in Aurora,
4 why the Company did two different types of modeling
5 and what they hoped to accomplish. And -- and I
6 realize Mr. Overstreet may have asked you some of
7 those questions about variables and absolute value or
8 not, but if you could help me understand the
9 difference in those two.

10 A Sure. So, to my understanding, what the
11 Company did is run -- the Strategist model, and,
12 again, my colleague Rachel Wilson can speak to this
13 more thoroughly than I can, but the Strategist model
14 is designed to look at a future build out given a
15 number of options and alternatives that could be built
16 under a particular set of what the Company refers to
17 as commodity prices and their forecasts for demand.

18 The Strategist model used in its optimal
19 form chooses the best set of build-out options,
20 whether they be new plants or changes to existing
21 plants, that could fill out a future portfolio out to
22 some end period, and then shows you what the price of
23 that would be, and, again, in its optimally used form
24 would show you alternatives to that and what the price
25 differences would be between those particular

1 mechanisms.

2 And as the Company stated, it's a
3 discreet model in that intrinsically it uses a fixed
4 set of prices for natural gas and fuels and CO2 prices
5 and O and M and other components and then makes its
6 decisions based on those fixed prices.

7 And so as the Company, I would say
8 started to do here, one way of approaching Strategist
9 such that it can get a sense of the uncertainty in
10 your future is to run it with various sensitivities.

11 It's our contention that the
12 sensitivities used by the Company, in looking at
13 future build-out scenarios, were not necessarily
14 adequate, but had they been adequate, Strategist is
15 equipped to be able to then look at a future range of
16 options and tell you how likely your future is to be a
17 decent one.

18 What the Company has done with the
19 Aurora analysis is they've taken the build out that
20 they would have received from something like a
21 Strategist run, what those future capital expenditures
22 and types of resources would be, and I believe they've
23 fixed that in the Aurora model, and then they use the
24 Aurora model as a production cost model, and that
25 gives them the overall cost of the system under a

1 particular set of pricing scenarios.

2 And the advantage, according to the
3 Company, of the Aurora analysis is that it allows them
4 to essentially randomize trajectories of natural gas,
5 coal, CO2, demand, and market prices, into the future.
6 Where those randomly vary over the course of years,
7 and then by looking at an overall cohort of those
8 together, the Company can come up with an estimate of
9 how likely their chosen scenario or other scenarios
10 are to be at the price point that they -- that they
11 suggest from their Strategist model basically tells
12 them what the error bounds are on their model.

13 Q And that's where you were talking about
14 the bounds as opposed to an absolute value issue?

15 A Yes. Right.

16 Q Okay. Just one final question to make
17 sure that I think I understand what you said about
18 Strategist and your criticism of how you believe the
19 Company used Strategist. Does -- does the Strategist
20 go through and look at -- infinite's probably too big
21 a word, but do they actually pick the options, decide
22 the options that should be examined and compare them
23 to each other? Is that what you're saying?

24 That it could have been done or should
25 have done, and in this case, the Company picked the

1 five options that Strategist would look at?

2 A Yeah. I'll start by referring that
3 question broadly to, again, my colleague, Miss Wilson,
4 because I think she could describe it in much finer
5 detail, but in general, that's correct.

6 MR. KURTZ: I'm sorry. That's -- that's
7 correct what? I'm sorry, Vice Chairman.

8 A That the Strategist model -- I believe
9 the question was -- or maybe can you rephrase the
10 question?

11 Q Sure. My question was is his criticism
12 of the -- the Company's use of the Strategist modeling
13 that the Company picked the options, the five options,
14 that it would model or run as opposed to allowing the
15 Strategist model to pick or optimize --

16 A So the Strategist model, in its ideal
17 use, is able to choose from a range of futures, and
18 while infinite would, yes, be too broad of a word to
19 use for it, it's quite close to that. Given a range
20 of -- of options, it chooses an optimal scenario that
21 produces a lowest or a minimum future price of -- or
22 CPW, as the Company would have it.

23 Again, Miss Wilson can speak to this,
24 but I believe that the way that the Company actually
25 used the Strategist model in this construct is

1 actually locked down all of its ability to make
2 independent decisions or broadly locked down most of
3 its ability to make --

4 Q So --

5 A -- decisions.

6 Q -- and, again, I'll ask Miss Wilson this
7 question, but do you understand that -- and let me
8 give you this example. If -- without the Company
9 limiting its range of choices in the Strategist model,
10 the Strategist model might have, for example, looked
11 at nuclear or -- and we would see what the results of
12 a nuclear -- whether it was high, low, or whatever.
13 Is that your understanding?

14 A That's correct. Yes.

15 COMMISSIONER GARDNER: Okay.

16 MR. OVERSTREET: Two areas of -- of
17 recross, if I might, Your Honor.

18 COMMISSIONER ARMSTRONG: Yes.

19 MR. OVERSTREET: Very brief.

20 MS. HENRY: Oh.

21 MR. OVERSTREET: I'm -- I'm sorry. You
22 get redirect. My bad.

23 MS. HENRY: Is that okay?

24 MR. OVERSTREET: That's absolutely fine.

25 COMMISSIONER ARMSTRONG: Redirect.

1 MS. HENRY: Did you have any? I'm
2 sorry.

3 COMMISSIONER ARMSTRONG: Your redirect.

4 MS. HENRY: Okay.

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REDIRECT EXAMINATION

9

10 By Ms. Henry:

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Q Mr. Overstreet mentioned that Sierra Club informed the Commission that we -- our -- our issues that we had in our motion to compel had been addressed. Were those issues addressed through Mr. Becker's rebuttal testimony? The lingering -- the lingering issue we had with our motion to compel.

A There were -- yes. That's right.

Q Dr. Fisher, can you -- you've been at Synapse since 2002; is that correct?

A That's correct.

Q Can you please describe your experience there? The kind of work that you do there.

A I'm sorry. That's not correct. It's 200 --

1 Q '7. '7.

2 A -- 7. Thank you. I'm sorry. My work
3 at Synapse is largely looking at both results of
4 dispatch models. I work on displaced emissions
5 analysis. I look at carbon prices and future
6 trajectories. I have reviewed externalities, and I do
7 generally quite a lot of model -- building and model
8 running for the Company as a whole.

9 Q So Commissioner Armstrong asked you
10 questions about Aurora, and he's -- and you
11 acknowledged that you didn't have experience with
12 Aurora before today.

13 A Uh-huh.

14 Q Since you don't have experience, why do
15 you -- why do you feel confident that you could opine
16 about or critique the analysis done by Mr. Weaver?

17 A I don't believe that I need to fully
18 understand the mechanisms by which Aurora makes its
19 fundamental decisions or does its fundamental dispatch
20 in order to understand how the inputs that are
21 presented by Mr. Weaver and were presented in
22 discovery would likely impact the model both as
23 described in his testimony and described elsewhere.

24 So the types of inputs that have been
25 supplied to us as well as the way that those outputs

1 looks were indicative of potential problems that
2 existed both within the COMPANY'S assumptions and
3 within the Company's mechanism, and, in fact, that
4 turned out to be the case.

5 Q Mr. Overstreet mentioned that Mr. Weaver
6 examined six risk -- risk factors in the Aurora
7 analysis, and one of those risks that he mentioned was
8 the demand risk. Did you see any problems with how
9 Mr. Weaver treated demand?

10 A Yes. And -- and, actually, two notes
11 is, one, while Mr. Weaver did mention in his testimony
12 that he looked at six, there are only five -- I'm
13 sorry. There are only five factors that were actually
14 looked at in the both discovery responses as well as
15 within Mr. Weaver's testimony, when he looks at the
16 grid of correlations relative to each other.

17 I'm sorry. Repeat the question about
18 demand.

19 Q Yeah. One of the factors he looked at
20 was demand, and he looked at that as a risk in the
21 Aurora analysis. Did you see any problems with how he
22 treated that risk in the Aurora analysis?

23 A Well, we found that there is a problem
24 with the way that demand was linked to natural gas
25 prices and power prices. First, demand was shown

1 to -- while in his testimony he shows no correlation,
2 or he doesn't indicate that there's an -- a
3 correlation between demand and natural gas prices, for
4 example.

5 In the discovery responses that we
6 received from the Company, we were able to infer that
7 there was actually a very strong correlation inferred
8 by the Company between natural gas prices and demand
9 as well as with power prices, in response to Mr.
10 Overstreet's question earlier about power and demand.

11 And the combination of very strong
12 correlations, positive correlations, between natural
13 gas prices, power prices, and demand would have a
14 tendency to drag any analysis that had basically
15 higher demand requirements would also drag their power
16 price -- prices up because of that positive
17 correlation as well as their natural gas prices up.

18 And so any of the options such as 4A or
19 4B that looked at market purchases or Options 2 or
20 Options 3 that looked to natural gas prices or was
21 high on natural gas, anytime that there was an
22 increase in demand or a decrease in demand, there
23 would be this repercussive effect. Such that you
24 would naturally get a very wide range of
25 revenue-at-risk requirements for those.

1 And while that may not necessarily be a
2 purposeful bias, it certainly results in a systematic
3 bias in the results, so yes.

4 Q And did Dr. -- and did Mr. Weaver
5 acknowledge that -- those errors?

6 A I don't believe so.

7 Q I want to direct you to page 68 of your
8 testimony -- of the revised supplemental testimony.
9 And Mr. Kurtz had asked you some questions about the
10 second to last bullet, and you said that that sentence
11 should be redacted.

12 Would it be more accurate to say that
13 you should just remove the reference to capital cost
14 corrections and then change the value to \$231 million,
15 which is the one that's in your final table?

16 A No. The -- the statement at least \$470
17 million, aside from the fact that the 470 is no longer
18 correct --

19 Q Yeah.

20 A -- is no longer correct. The width of
21 the two adjustments of off system sales and a low CO2
22 price, as we've put it, the Option 2 and Option 1
23 essentially come in at the same value, and so that
24 statement cannot be, I think, useful.

25 MS. HENRY: That's all, Dr. Fisher.

1 MR. OVERSTREET: I apologize, Miss
2 Henry, stepping on your toes.

3 MS. HENRY: Oh, that's fine.
4

5 * * *

6
7 RECROSS-EXAMINATION

8
9 By Mr. Overstreet:

10
11 Q Dr. Fisher, I want to make sure that you
12 and I and Vice Chairman Gardner are using the same
13 terminology here. It's true, isn't it, sir, that the
14 Company, in modeling Option number 1, which is the Big
15 Sandy retrofit --

16 A Uh-huh.

17 Q -- which is the proposal before the
18 Commission, that the Company used a 15-year
19 depreciation period?

20 A That's correct.

21 Q Okay. And then secondly, sir, you had
22 some discussions with Vice Chairman Gardner about the
23 Company's use of -- of calculations outside of the
24 Strategist model.

25 A Yes.

1 Q Do you remember -- remember those?

2 A Yes.

3 Q Isn't that a function of the Strategist
4 model?

5 A The calculations that I'm referring to
6 are the mechanism that Mr. Becker described in his
7 rebuttal testimony for taking costs incurred after
8 January of 1, 2016, and putting those into a fixed O
9 and M. That's an explicit calculation that we are
10 quite certain should have been shared with us as part
11 of the discovery process.

12 Q But you have no reason to dispute Mr.
13 Becker's testimony appearing at pages 8, 9, 10 that
14 the Strategist model, for anyone reasonably familiar
15 with it, requires that these calculations take place
16 outside the model, that the model itself does not do
17 that?

18 A I'm going to refer you to Miss Wilson
19 for --

20 Q Okay.

21 A -- that question.

22 MR. OVERSTREET: That's fine. That's
23 all I have.

24 MR. KURTZ: Could I follow up with just
25 one question --

1 COMMISSIONER ARMSTRONG: Sure.

2 MR. KURTZ: -- Mr. Chairman? Thank you.

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RECROSS-EXAMINATION

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8 By Mr. Kurtz:

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10 Q Dr. Fisher, when you were talking about
11 demand, I want to make sure I understand. Are you
12 talking about demand on the system customer demand,
13 energy and capacity demand?

14 A I believe it's put in this case as
15 energy demand.

16 Q Energy demand. The -- the five
17 Strategist model runs done by Mr. Weaver assume the
18 same level of consumer demand for energy under each of
19 the assumption -- under each of the scenarios?

20 A As far as I'm aware.

21 Q Does it make sense to assume consumers
22 will use the same amount of electricity under the --
23 the scrubber scenario where it's a 30- to 35-percent
24 rate increase versus scenarios 4A and 4B where it's
25 first-year rate increase of 10 to 12 percent?

1 A I have, I will admit, fairly limited
2 experience in looking at those specific changes. The
3 intuitive answer would be yes, there would be less
4 energy used by consumers at a higher electricity
5 price, but I'm not prepared to give you a precise --

6 Q So --

7 A -- quantification of that.

8 Q Ri -- not precise, but -- but directly,
9 if there was a 30- to 35-percent rate increase in 2016
10 with a scrubber versus a 10- to 12-percent rate
11 increase under Options 4A or 4B purchase power, you
12 would expect people to use less electricity if they
13 got hit with the big rate increase?

14 A Again, it's not an area that I'm able to
15 venture into. I can refer you to Mr. Hornby who maybe
16 will be answer that in more detail.

17 MR. KURTZ: I'll ask him.

18 MR. OVERSTREET: No further, Your Honor.

19 MS. HENRY: I have one further question.

20 COMMISSIONER ARMSTRONG: Yes.

21 MS. HENRY: One last question.

22

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REXCROSS-EXAMINATION

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2
3 By Ms. Henry:
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5 Q Commissioner Gardner and Mr. Overstreet
6 mentioned the fact that the Company had not modeled
7 whether if the -- a 15-year life, so that the -- the
8 operating life and the depreciation life were of the
9 same period.

10 A Uh-huh.

11 Q And you stated that your intuition was
12 that that may impact the least cost option analysis.

13 A Uh-huh.

14 Q Why is that your intuition?

15 MR. OVERSTREET: May -- excuse me, and
16 just for a moment. I don't believe I stated that,
17 and, --

18 MS. HENRY: No. You -- but you -- I
19 just meant that you mentioned the model --

20 MR. OVERSTREET: Okay.

21 MS. HENRY: -- so I was trying to
22 clarify.

23 MR. OVERSTREET: Thank you.

24 MS. HENRY: And with Commissioner
25 Gardner, he mentioned his intuition, so --

1 A With a 15-year life, the model would
2 need to choose an additional resource at the end of
3 that 15-year time period, and that new resource that
4 would be coming online as an additional replacement
5 would, in fact, incur a significant capital cost, and
6 so you would expect that that capital cost would
7 repercust through the entirety of it and, therefore,
8 have a higher overall cost.

9 MS. HENRY: Thank you, Dr. Fisher.

10 COMMISSIONER ARMSTRONG: Dr. Fisher,
11 thank you.

12 A I'm sorry?

13 COMMISSIONER ARMSTRONG: Thank you.

14 A Thank you. Oh, sorry.

15 MR. OVERSTREET: Your Honor, we would
16 call John McManus, and Mr. Garcia will present him.

17 COMMISSIONER ARMSTRONG: You ready to be
18 sworn? Solemnly swear to tell the truth, the whole
19 truth, and nothing but the truth subject to the rules
20 of perjury?

21 MR. MCMANUS: I do.

22 COMMISSIONER ARMSTRONG: Have a seat.
23 Speak loud and clear.

24
25 * * *

1 JOHN MCMANUS, called by Kentucky Power
2 Company, having been first duly sworn, testified as
3 follows:
4

5 DIRECT EXAMINATION
6

7 By Mr. Garcia:
8

9 Q Good morning. Please state your name,
10 job title, and business address.

11 A My name is John M. McManus. I'm vice
12 president of environmental services for American
13 Electric Power Service Corporation.

14 Q Good morning, Mr. McManus. And did you
15 cause in this case to be filed 24 pages of direct
16 testimony, nine pages of rebuttal testimony, one
17 exhibit with your direct testimony, and responses to
18 the draft requests?

19 A Yes, I did.

20 Q And were those prepared by you or under
21 your supervision?

22 A Yes, they were.

23 Q And do you have any corrections or
24 updates to that testimony?

25 A I don't have any corrections. In the

1 form of an update, my testimony addresses EPA
2 environmental regulations that have requirements that
3 affect Big Sandy plant. Since the direct testimony
4 was filed, then the case was filed in December, there
5 have been two regulatory developments.

6 One, the proposed EPA MACT rule that
7 we've described in that testimony, EPA issued a final
8 rule near the end of December. They now refer to that
9 as the mercury and air toxics standards rule or MATS.
10 So that is now a final rule. And the cross-state air
11 pollution rule, which was issued last year, has
12 recently been stayed by the DC circuit court of
13 appeals and is not in effect in 2012 pending the
14 outcome of that appeal.

15 Q And, sir, do those changes change in any
16 way the -- the -- the substance of your testimony?

17 A No, they do not.

18 Q If I were to ask you the same questions
19 today, would you give me substantially the same
20 answers?

21 A Yes, I would.

22 Q And do you adopt this testimony and data
23 responses as your evidence in this case?

24 A Yes.

25 MR. GARCIA: Your Honor, the -- the

1 witness is available for cross-examination.

2 COMMISSIONER ARMSTRONG: Miss Henry.

3 MS. HENRY: No questions for this
4 witness.

5 MR. HOWARD: No questions at this time,
6 Mr. Chairman.

7 MR. KURTZ: Thank you, Mr. Chairman.

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CROSS-EXAMINATION

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13 By Mr. Kurtz:

14

15 Q Good morning, Mr. McManus.

16 A Good morning.

17 Q Will you -- will you turn to page 17 of
18 your direct testimony? Are you there, sir?

19 A Yes.

20 Q Okay. At line 5, you say the Kentucky
21 Power and AEP Service Corp are currently performing
22 preliminary engineering work on the Big Sandy unit 2
23 environmental projects. One of the products of this
24 work will be da -- the data necessary for an air
25 permitting, such as location and the height of the new

1 stack, if one is necessary, and key flue gas
2 parameters. From this data, a permanent application
3 should be completed and submitted in 2012. Where --
4 where do you stand on that process?

5 A Well, the -- the engineering and
6 projects organization is still in that -- that stage
7 where the information necessary for permit application
8 is not yet available. And so once that information is
9 available, we'll complete the application, we'll
10 complete any air quality modeling that is needed to
11 support the application, and we'll submit it to the
12 Kentucky environmental agency.

13 Q Okay. So when you submitted this
14 testimony on December 5, 2011, and you said that
15 the -- the permit -- well, when do you expect the --
16 let me -- when do you expect the data collection to be
17 final?

18 A I guess I'm not sure of that exact date.
19 Mr. Walton will be much more familiar with that
20 portion of the project schedule.

21 Q Okay. And then -- so you don't know
22 when the -- you -- first you need the data, then you
23 need the -- then you'll use that to submit the permit,
24 correct?

25 A That's correct.

1 Q Okay. The data is not yet complete?

2 A That's correct.

3 Q And so I assume the permit is not yet
4 filed?

5 A That's correct.

6 Q Okay. How long after you get the -- the
7 data till you submit the application for the permit?

8 A It should be relatively quickly. I
9 would say within a matter of a month or so. That the
10 main thing that we would likely need to complete is
11 any air quality dispersion modeling, which can take a
12 matter of a small number of weeks.

13 Q Okay. Then finally in that answer you
14 say, (Reading) After submission of the application, we
15 have assumed for planning purposes it will potentially
16 take up to 18 months for the issuance of the modified
17 air permit; is that correct?

18 A Yes.

19 Q So collect the data, which is not yet
20 done, submit the permit application, and then up to 18
21 months for the -- to get -- to get the permit granted?

22 A Based on past experience, it can take up
23 to 18 months. Our intention would be to work very
24 closely with the Kentucky agency. As they evaluate
25 the application, if they identify any additional

1 information needs, to provide that information to them
2 as quickly as we can and to -- to try and expedite the
3 issuance of the permit.

4 Q Okay. As I understand, you can't start
5 construction work until the permit is granted?

6 A That's correct.

7 Q Okay. Let me ask you about the timeline
8 that's already in the record. It's Mr. Walton's
9 timeline. I'll just hand it out so everyone has a
10 little bit ease of reference.

11 MR. HOWARD: Thank you, Mr. Kurtz.

12 MR. GARCIA: Thank you.

13 Q Okay. Okay. So looking on this --
14 looking on this timeline, we -- we are -- the very top
15 is phase 1, project planning, conceptual engineering
16 and feasibility studies. We are still in that phase,
17 correct?

18 A Yes.

19 Q Okay. And, in this case, the
20 certificate application and the environmental
21 surcharge was filed right at the beginning of phase 1
22 while you -- you were still in the project planning
23 and feasibility study phase?

24 A Yes.

25 Q Okay. This fi -- this timeline says

1 that final stack indication fu -- flue gas parameters
2 was supposed to be, I guess, looks like about March 1.
3 Has that been achieved?

4 A I'm not sure exactly or not. The stack
5 location is known, because we'll reuse the existing
6 stack. The final flue gas parameters, I'm not sure
7 the status. Mr. Walton could answer that.

8 Q Okay. Then below that, it says after
9 the final stack, you will assume four months for air
10 modeling and the application, but you haven't finished
11 the data collection yet, so -- so we -- we don't know
12 when -- when you're going to file the application?

13 A We don't know for certain. We would
14 certainly be working to try and stay within this
15 schedule.

16 Q Okay. Then the next one shows title 5
17 air review and approval 12 months, and then you see
18 star -- you see the air permit, start construction,
19 permit granted, and you start the construction.

20 So this schedule that would ultimately
21 bring the Big Sandy scrubber into commercial operation
22 in June of 2016 assumes a 12-month -- assumes that you
23 file the -- the permit -- you file the application
24 in -- in July of this year, and it takes 12 months to
25 be -- to be granted; is that correct?

1 A Yes.

2 Q What if it takes 18 months like you said
3 in your testimony? It could take up to 18 months.

4 A Then the project's organization will
5 work with the schedule to try and optimize everything
6 else in the schedule and -- and adjust as needed.

7 Q So everything would be pushed out six
8 months?

9 A Not necessarily.

10 Q Well, you --

11 A Again -- again, Mr. Walton can explain
12 his schedule in more detail and -- and what steps may
13 be available to try and optimize other parts of the
14 schedule to try and stay within the final end date.

15 Q Well, if you can't start construction
16 till you receive the permit, and if the permit could
17 take up to 18 months, are you going to be able to
18 build it that much faster? Or -- or it'd be more
19 likely that the -- the project would come in at the
20 end of 2016, not -- not the middle?

21 A Again, Mr. Walton would be in a better
22 position to explain what flexibility they have with
23 the schedule.

24 Q Do you know why Kentucky Power filed the
25 environmental surcharge and the certificate right at

1 the beginning of the phase 1 feasi -- fizz --
2 feasibility study and -- rather than after the
3 feasibility study had been completed?

4 A No, I don't.

5 MR. KURTZ: Those are all my questions,
6 Mr. Chairman.

7 MS. BURNS: Yes, Your Honor.

8 COMMISSIONER ARMSTRONG: Miss Burns.

9 MS. BURNS: Yes.

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CROSS-EXAMINATION

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15 By Ms. Burns:

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17 Q Morning, Mr. McManus.

18 A Good morning.

19

20 Q If you would please turn to your
21 testimony page 8, please. Down on lines 18 and 19,
22 you're asked about Big Sandy units 1 or -- and 2, and
23 if they're the only generating units cited by the 2007
24 consent decree. And my question is are -- when you
25 talk -- you talk about Rockport units 1 and 2 also
being included been within there.

1 Are there any other EPA-owned generating
2 units cited by the 2007 consent decree that will
3 impact Kentucky Power and its customers, in addition
4 to Rockport?

5 A To the extent that the NSR consent
6 decree is an AEP eastern fleet consent decree, so it
7 includes all of -- of AEP's units in our eastern
8 footprint. So to the extent that some of those units
9 impact Kentucky Power through the pool arrangement,
10 then I -- yes, there would be other units that could
11 potentially impact Kentucky Power.

12 Q Could you provide the names of those
13 units in a post-hearing data request?

14 A Yes.

15 Q Thank you. Would you flip over to page
16 16 of your direct testimony, please? Lines 7 through
17 9. You state that the Company anticipates that
18 federal legislation on greenhouse gas emission
19 regulations mandating reductions will likely occur
20 over the next several years. What does the Company
21 mean by several years?

22 A That's difficult to -- to pin down.
23 What I state there is we anticipate federal
24 legislation or greenhouse gas regulation mandating
25 reduction. So it could be in the form of -- of

1 legislation. It could be in the form of regulation
2 under the existing clean air act.

3 EPA is already engaged on regulation of
4 greenhouse gases under the existing act. They have
5 one rule that's on the books called the Tailoring
6 rule. They have another rule they just proposed
7 establishing new source performance standards for new
8 power plants.

9 And so there is a regulatory program
10 that's underway. It does not impact us at this time,
11 but the potential is clearly there. Legislation is a
12 little trickier as it -- it's going to require, I
13 guess, a real desire within Congress to -- to move
14 legislation. That did not occur a couple of years
15 ago. There doesn't appear to be any interest in this
16 Congress. It's difficult to project.

17 We don't think the issue is going away.
18 We think that there's going to be some form of carbon
19 legislation. Exactly when is -- is difficult to pin
20 down.

21 Q All right. Thank you. Would you go,
22 please, to your response to the Commission Staff's
23 first data request, item number 26, please? And from
24 that response, attachment 1, page 3, the fourth
25 paragraph.

1 A If you could hold a second. I don't
2 have that here.

3 MR. GISH: Oh.

4 THE WITNESS: Thank you.

5 A It was --

6 Q Need --

7 A -- Staff what number?

8 Q That's all right. Item 26, attachment
9 1, page 3 of 6. I'm at --

10 A Okay.

11 Q -- the fourth paragraph. Okay. The
12 Company is talking about revising the capital
13 improvement approval requisition, and it states,
14 (Reading) This revision is required due to the
15 significant change in the scope from wet FGD to dry
16 FGD technology. Would you agree that changing the
17 scope from a wet to a dry FGD was a significant change
18 at the Big Sandy unit 2?

19 A It's -- yes. It certainly is a
20 significant change in the technology selection for Big
21 Sandy.

22 Q My next question is the Company's
23 response to the Staff's third set of data requests.
24 Number 9.

25 A Okay.

1 Q All right. Ques -- subsection A there
2 asks if an independent technical review of the planned
3 project was conducted by an external consulting firm,
4 and the response is that it was not.

5 In a prior environmental compliance case
6 filed here at the Commission, case number 2002-00169,
7 Kentucky Power requested to amend its environmental
8 compliance plan to include a reverse osmosis water
9 system, an SCR on Big Sandy 2, precipitator
10 improvements on Big Sandy unit 2, and over-the-fire
11 air with water injection and boiler tube overlays on
12 Big Sandy unit 1.

13 My question is: In that prior case,
14 were your reviews and evaluations also performed by
15 AEP SC?

16 A I don't recall in the prior case if it
17 was done internally or if an external consultant was
18 used. That -- that process would have been managed by
19 our projects organization, and Mr. Walton, if -- is a
20 witness here from our projects organization, would --
21 should be able to answer that question.

22 Q Okay. And in that same data request,
23 subpart B, the Company's response states that since
24 that time, the Company has obtained sufficient
25 experience in technology and has conducted enough

1 evaluations and installations of environmental control
2 technologies to understand the equipment capabilities
3 and the general estimated cost.

4 How many SCRs had AEP installed on its
5 system prior to the May 2003 in-service date of the
6 Big Sandy unit 2 SCR?

7 A I'd have to check on that to be sure. I
8 know we started up our first SCRs at our Gavin plant
9 in 2001. I don't recall how many may have started up
10 in 2002. We would have gone -- in the process of
11 engineering design construction of the Big Sandy SCR,
12 more or less in the same time period we would have
13 been doing the Gavin SCRs and -- and the others to
14 comply with what was referred to as the NOx SIP Call
15 program at that time.

16 Q Do you know if AEP has installed any dry
17 FGD systems to date?

18 A No, we have not.

19 Q Do you have any idea how much an
20 independent technical review of this project would
21 have cost?

22 A No, I don't.

23 Q Do you know anybody who would have an
24 idea about that?

25 A Mr. Walton should have a more informed

1 opinion on that than I do.

2 Q Okay. Could you refer to the Company's
3 response to the Staff's first set of data request,
4 item number 5?

5 A Yes.

6 Q All right. We're talking about SO2 and
7 NOx emissions. Do you know if Kentucky Power will
8 continue consuming its annual SO2 and its annual and
9 seasonal NOx allowances if and when the CSAPR rules
10 become effective?

11 A If the Big Sandy plant continues to
12 operate, it will continue to emit sulfur dioxide and
13 nitrogen oxide emissions. The way these projects are
14 structured, if you emit a ton of SO2 or NOx, you have
15 to have a ton of allowances. So the programs
16 typically allocate a certain number of allowances to
17 each source of plant. If you emit a ton, you consume
18 an allowance.

19 When you look at the allowance
20 allocations under the cross-state program, the CSAPR
21 program, they are fairly stringent allowance
22 allocations. So yes, I would say if the plant
23 continues to operate, it will consume the allowances
24 it's allocated under those programs.

25 Q Do you know if the allowances you have

1 now will transfer over to -- to become CSAPR
2 allowances?

3 A No, they will not. The -- the CSAPR
4 program is a new program. It does not rely on any
5 existing allowances under the clean-air interstate
6 rule, the title IV SO2 program or the -- well, that --
7 the clean-air interstate rule, SO2 or NOx program were
8 the title for SO2 program. It is a new program.

9 Q At -- as of December 31, 2011, it looks
10 like Kentucky Power had 1,132,579 annual SO2
11 allowances, book value of a little over 17 million,
12 about 9,500 seasonal NOx allowances with a book value
13 of zero, and about 22,000 annual NOx allowances at a
14 book value of about \$158,000.

15 Do you know what the Company's planning
16 on doing with these allowances if and when the CSAPR
17 SO2 and CSAPR NOx rules become effective?

18 A From an environmental compliance
19 standpoint, which is -- is my focus, those allowances
20 would no longer be useable in the CSAPR program. The
21 SO2 allowances are based on the original title IV SO2
22 program that started in 1995. That program stays in
23 effect.

24 So that the allowances would still -- I
25 guess would still exist in the context of that

1 regulatory program. They would not necessarily be
2 needed in that program. So from a compliance
3 standpoint, the allowances really, in effect, won't be
4 used anymore. From an accounting perspective, I don't
5 know the answer to that question.

6 Q With regards to the EPA MACT rule,
7 what's the implication of not meeting the extended
8 December 31, 2016, implement -- implementation date?

9 A Can you state that again? I want to be
10 clear on the -- your question.

11 Q Sure. With regards to the EPA MACT
12 rule, what is the implication of not meeting the
13 extended December 31, 2016, implementation date?

14 A The extended date under the MACT rule?

15 Q Yes.

16 A That the -- the schedule's changed a
17 little bit. As I mentioned, EPA has issued the final
18 rule in late December. By the time it was published
19 in the federal register, by the time it actually went
20 into effect, the effective date is April 16th of 2012.
21 They have three years to comply. That takes you to
22 April of 2015, and a potential of one additional year
23 that the state can grant, which takes you into April
24 of 2016.

25 So this -- the -- the compliance

1 schedule, in effect, is shifted by about a quarter
2 because of the timing of the rule. And so with that,
3 the -- the initial compliance deadline is April 15 --
4 April 16th of 2015. The state can grant a one-year
5 extension if it is needed to complete a control
6 project at an existing unit or to replace that unit
7 with a new unit, and that replacement unit is needed
8 from a reliability standpoint.

9 So we anticipate, with this project
10 schedule, that we would obtain that -- that fourth
11 year, we refer to it, under -- under this program from
12 the state of Kentucky.

13 Q Could Kentucky Power get an agreement
14 with EPA to mothball the Big Sandy plant for a number
15 of years, replace the generation with market
16 purchases, and then make a decision on the future of
17 the units when there's more clarity regarding other
18 regulations?

19 A The -- the regulatory program that would
20 come into play in that situation, it -- it goes to the
21 existing air permit that we have for Big Sandy plant.
22 If you shut down a plant or mothball a plant and don't
23 operate it for a period of years, you run the risk of
24 effectively losing your air permit.

25 The EPA -- and I don't believe they

1 would. I don't know that there's a precedent that
2 they would agree to allow you not to run even for a
3 significant number of years and maintain the permit.
4 So -- so the risk that we see is that we would lo --
5 lose the air permit.

6 If we wanted to restart Big Sandy, we
7 would effectively have to permit it as a new plant and
8 meet all of the requirements of a brand-new, you know,
9 coal plant that would be in effect at that time, which
10 would be potentially very si -- significant.

11 One example being the new source
12 performance standards for greenhouse gas, as I
13 mentioned, that EPA just proposed, and that proposal
14 would require a coal plant to have a CO2 emission rate
15 as -- effectively equivalent to a natural gas combined
16 cycle plant. About half of the CO2 rate that a coal
17 plant typically has. If we had to meet that standard,
18 we'd have to install carbon capture technology or we
19 would not be able to operate.

20 So if you -- if you shut down a plant
21 for some period of time, you can maintain the air
22 permit. The longer that period of time is, you run a
23 risk of triggering permit requirements. You know, the
24 exact time that -- you know, that you would be safe
25 versus you'd -- you'd run a risk, it's hard to define,

1 but it is an issue that we would be concerned about.

2 Q Do you know how long you can stay idle
3 without that new source kicking in?

4 A Not exactly. There -- I've seen some
5 guidance that suggests if you're idle for -- for more
6 than two years, you -- you're going to have to -- to
7 put on basically a strong defense that the agency is
8 drawing an explanation on why you should maintain your
9 permit. Why -- what steps you were taking to
10 demonstrate that you intended to come back in
11 operation, and you -- you weren't just shut down and
12 hoping you might come back. So, again, it's hard to
13 define the exact number of years.

14 Part of it also goes to the way the
15 regulations work. Under the new source review
16 program, if you modify a source, you have a lookback
17 period of about five years. You want at least two
18 years of operation within that period to demonstrate
19 what your emissions were and demonstrate, in effect,
20 that you were a valid operating plant.

21 And so as you lay that schedule out,
22 it -- it's hard to define exactly when you'd run that
23 risk. There would be some time available, I think,
24 but at some point, we create that risk. And if we're
25 not moving forward with the retrofit project, the

1 fourth-year extension that I indicated the state would
2 grant, we would not have a basis to ask for that
3 extension.

4 So we would look at -- at having to --
5 to shut down the unit in April of 2015 for the -- the
6 MATS deadline, because we would not have a retrofit
7 project underway to justify an extension.

8 MS. BURNS: I think that's all.

9 COMMISSIONER ARMSTRONG: Mr. Howard.

10 MR. HOWARD: Just a few, Mr. Chairman.

11
12 * * *

13
14 CROSS-EXAMINATION

15
16 By Mr. Howard:

17
18 Q Good morning, sir.

19 A Good morning.

20 Q Are you aware whether the MATS rule has
21 been challenged in court by certain parties, including
22 various attorneys general?

23 A I am aware it has. Yes.

24 Q Is there currently technology for carbon
25 cap -- capture to satisfy proposed EPA new source

1 rule -- new source rule -- excuse me. I'm just a
2 little tongue-tied. I'll repeat.

3 Is there technology out there to deal
4 with carbon capture in the event that there is a new
5 EPA rule, in particular, the new source rule, whether
6 it's announced or otherwise?

7 A We do not believe that technology is
8 commercially available at this time. It would require
9 technology at a plant to -- to capture the carbon. So
10 you think of the flue gas desulfurization system that
11 is the subject of this proceeding for Big Sandy unit
12 2. It'd be a similar technology that would capture
13 carbon dioxide out of the flue gas, and -- and then
14 you need a place to put that.

15 So it's a combination of capture
16 technology and storage technology in order to make
17 that a viable technological system. AEP tested that
18 technology at our Martin -- mountaineer plant in West
19 Virginia at a very small scale, both the -- the
20 capture technology and injecting it underground in a
21 geologic storage situation.

22 We thought it was a successful test. It
23 was at a very small scale. It -- so we do not believe
24 it's commercially available at the scale you would
25 need for the type of power plants that we're looking

1 at.

2 Q Okay. And -- and here I'll have to
3 demonstrate my ignorance and ask for a bit more
4 explanation. Is it your understanding that it can be
5 captured on a small scale, but it's not proven to
6 exist, especially on a large scale?

7 A Our demonstration project showed it can
8 be captured at a very small scale. There were a lot
9 of issues in terms of the efficiency of the process,
10 the energy load it takes to run that equipment that
11 would need to be worked out before it could be scaled
12 up. So at a very small scale, we accomplished what we
13 wanted with that project.

14 The storage fees injecting it
15 underground was successful, but, again, at relatively
16 small volumes that we are talking about. So that
17 there are a lot of technology issues that would have
18 to be addressed to scale that up to full scale. Both
19 the capture piece, the -- the CO2 scrubber piece as
20 well as the -- the storage piece, and then the -- all
21 of that would have to be done with economics in mind,
22 is it economically viable technology as well.

23 And the -- the program that EPA has,
24 whether it's new source performance standards or best
25 available control technology under the new source

1 review program, both factor economics into the
2 evaluation. And -- and so the economics of -- of that
3 whole technology is still very uncertain, and -- and
4 why we don't believe it's available, commercially
5 available, we don't think it should be the basis for
6 the program's EPA is moving forward on it.

7 Q Purely from an economics standpoint on
8 your small-scale operation, do you have an estimate as
9 to the cost associated with that?

10 A I don't. The -- the whole project
11 roughly, I believe was about \$100 million project for
12 20-megawatt scale, but -- but, again, in terms of the
13 economics of what that means on the cost to the
14 operating unit, the cost per ton of CO2 moved, I don't
15 have a sense for that.

16 Q But -- but on -- on -- with -- with your
17 approach, you just didn't concede -- you did not
18 decide that that was economically viable?

19 A It was -- it was not an, essentially,
20 research project. So in -- in research, you don't
21 necessarily have optimum economics. That's -- that's
22 part of what you're trying to accomplish as you -- as
23 you learn how the system works, as you try and
24 optimize it, as you improve the economics over time.

25 Q Okay. And that was a study the AEP did,

1 correct?

2 A Yes.

3 Q Are you aware of any other studies by
4 other companies?

5 A There is other work in the industry.
6 I'm not specifically familiar with specific projects.
7 I know there are some projects that -- that other
8 companies are looking to do going forward. I don't
9 know the status of those.

10 Q Are you aware of any empirical or
11 definitive studies that show that the -- the carbon
12 capture is available on a large scale approach? And
13 that is that those -- that that technology is
14 economically viable.

15 A No, I am not.

16 MR. HOWARD: That's all the questions I
17 have. Thank you, sir.

18 MS. HENRY: I didn't want to interrupt
19 --

20 COMMISSIONER ARMSTRONG: Excuse me?

21 MS. HENRY: I didn't want to -- but if
22 he has redirect.

23 MR. GARCIA: I have some on redirect at
24 this time.

25 MS. HENRY: And then I have recross.

1 COMMISSIONER ARMSTRONG: Okay.

2 MR. GARCIA: Want to take the wit -- the
3 witness? It would make sense.

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EXAMINATION

8

9 By Commissioner Armstrong:

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11 Q Before we leave this topic. You -- you
12 brought up the fact that -- that there was some kind
13 of carbon capture, and have you-all looked at that
14 matter as a means of, I guess, valuing the carbon, the
15 price of carbon, and be able to -- a period of time to
16 market that?

17

A And to market -- I'm not --

18

Q Carbon.

19

A -- sure what -- to -- to market the

20

carbon?

21

Q Yes.

22

A No. We've not -- I'm not aware that

23

we've looked at it in that context. What we looked at

24

was, you know, could carbon capture be a technology

25

solution if the country decides to put some program in

1 place to reduce CO2 emissions.

2 Q Kentucky -- Kentucky general assembly
3 passed a bill that would allow a company to come in
4 here and build a pipeline upon which to move the
5 carbon from the generators in the coalfields to a
6 place to connect to send it on into Texas, I guess, or
7 Louisiana for use in the oil explorations. Are you
8 familiar with that?

9 A I'm familiar with the concept of using
10 captured CO2 for enhanced oil recovery, but I'm not
11 familiar at all with the -- the economics of it.

12 COMMISSIONER GARDNER: Okay.

13 COMMISSIONER ARMSTRONG: We'll come
14 back.

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EXAMINATION

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20 By Commissioner Gardner:

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22 Q Mr. McManus, let me ask you a few
23 questions, please. First of all, I want to ask about
24 the -- the 2007 settlement -- settlement with EPA, and
25 this is a follow-up to the question I asked Mr.

1 Wohnhas, and he referred it to me.

2 So my fir -- the first part of the
3 question is: Does the settlement require -- whatever
4 it required, does it require anything more than what
5 the -- the two -- the CSAPR and the utility MATS rule
6 would require?

7 A The -- the requirement in the NSR
8 consent decree is to install a flue gas
9 desulfurization system on Big Sandy unit 2 by the end
10 of 2015, and that reduces sulfur dioxide, obviously.
11 There is also a requirement that we continue to
12 operate the selective catalytic reduction system that
13 we already installed that reduces Nitrogen oxide
14 emissions.

15 So the NSR consent decree focused on
16 sulfur dioxide, nitrogen oxides. The cross-state rule
17 also focuses on sulfur dioxide, nitrogen oxides. And
18 if it goes into effect, if it's upheld by the court,
19 sets along these allocations that are, particularly
20 for SO₂, a significant reduction from current
21 emissions and are in part, you know, a reason why the
22 SO₂ scrubber would be needed.

23 So when I look at -- at the requirement
24 of the consent decree and the cross-state rule, I
25 think they're consistent on SO₂ and NO_x in terms of

1 what they're trying to accomplish.

2 The MATS rule addresses hazardous air
3 pollutants. Mercury. Hydrochloric acid. Heavy
4 metals in the form of particulates. So it's not
5 focused on sulfur dioxide and nitrogen oxide. The
6 technology that we're proposing to install the -- the
7 dry scrubber, very efficient for SO2 reduction, will
8 allow the unit to be compliant with the NOx
9 requirements at the same time.

10 So the MATS program has a different
11 focus on what pollutants it's trying to control. The
12 technology that we're installing addresses both
13 cross-state rule, the MATS rule, and the consent
14 decree.

15 Q Let -- let me ask it this way: Without
16 the MATS rule and the CSAPR rule, would you-all be
17 doing anything different -- would you be coming to us
18 today proposing anything different?

19 A That I'm not sure about, 'cause the --
20 if the -- the cross-state rule is not upheld, the --
21 we would expect that the clean-air interstate rule
22 would still -- would remain in effect.

23 The clean-air interstate rule started in
24 2010. It had a second phase in 2015 that became more
25 stringent, and so we -- we would have to, in effect,

1 take another look at the requirements of the clean-air
2 intersection rule and what type of SO2 reductions it
3 would drive if the cross-state rule was not there.

4 Q Okay. The -- and maybe I'm not making
5 myself clear. So assume not that one was revoked or
6 not upheld. Is the technology that you-all are
7 proposing here enhanced or greater, in any respect,
8 because of the possibility of the two -- two EPA
9 rules?

10 In other words, one of the things
11 you-all have got proposed here is a bag house with
12 fabric filter. Would you-all be doing that without
13 the CSAPR or MATS rule?

14 A The -- I guess I would say yes, because
15 the dry scrubber technology, it's the -- the design of
16 that technology, a bag house is inherent into the
17 design. You -- you control the SO2, in -- in effect,
18 in a dry form. You need a very efficient particulate
19 controlled device to capture all of -- of that. That
20 particle, now, the line particle that has the SO2
21 absorbed on it. And so to me a dry scrubber has a bag
22 house that's part of it. You couldn't -- you wouldn't
23 have that technology without a bag house.

24 So the -- the dry scrubber technology
25 has a bag house as part of it, so to me, you would

1 have the same system if you're trying to get SO2
2 reduction with a dry scrubber.

3 Q But would you possibly be doing a wet
4 scrubber, wet FGD, if -- if it weren't for the rules?

5 A And I think that goes back to the
6 discussion of -- of the evolution of technology. We
7 had looked at wet initially for Big Sandy 2 as -- as
8 time evolved, as technologies evolved, as dry scrubber
9 technology, particularly with the NIDs technology, was
10 demonstrated to work with a wider range of fuel kind
11 of leads us to the dry technology.

12 Q So as I understand your answer, it's
13 likely you-all would be proposing -- you -- you would
14 be proposing the same technology without the two rules
15 because of the consent decree?

16 A I think that's very likely. The one
17 has -- I think about the one exception to that is for
18 mercury capture for the MATS rule, we would use
19 activated carbon injection. If we did not have the
20 MATS rule, that's a piece that we would not need with
21 just the dry scrubber itself. It's a relatively small
22 piece of the overall system, though.

23 Q Okay. And so thus, I've talked to two
24 different people who watched the oral argument on
25 the -- in the sixth circuit, and both say there's a

1 decent chance that CSAPR will not be upheld.

2 The -- so in the event that CSAPR is not
3 withheld -- upheld or in the event that the utility
4 MATS rule is set aside, you -- the -- the technology
5 is likely, with the possible exception of the
6 activated carbon injection for mercury, it's likely
7 that the proposal would be the same before us today as
8 a result of the consent decree?

9 A I think that's very likely, yes.

10 Q Okay. The -- the Mitchell facility,
11 there's been dis -- are you familiar with the Mitchell
12 facility?

13 A Yes.

14 Q You've been told that it -- it's been --
15 there's testimony that it's fully scrubbed. Does
16 it -- is it in compliance with the -- the proposed
17 MATS rule as well as the proposed CSAPR rules?

18 A The -- we believe it will be compliant
19 with the -- the -- the MATS rule. We've done some
20 emissions testing to try and get a sense for what
21 emissions of mercury would be, of particulate matter,
22 and -- and we believe it should meet the MATS
23 requirements.

24 The cross-state rule, the SO2 reduction
25 at Mitchell is -- is very high, 95 percent and above,

1 so it should be able to comply with the cross-state
2 rule. The one additional project that -- that we have
3 at Mitchell relates to not the air pollution rules but
4 the -- the NDS water permit and looking ahead to how
5 coal ash disposal or coal combustion products disposal
6 is regulated.

7 And we're in the process of -- of
8 converting the units to dry flash handling and putting
9 in a landfill, and -- and that work should make it
10 fully compliant with those requirements going forward.

11 Q Okay. What is -- what is the additional
12 cost of that right now? Range.

13 A I'm not sure exactly. I think Mr.
14 Walton, who hi -- his organization manages that
15 project, would -- would have that information.

16 Q Okay. Let me have a few other
17 questions. And -- and let me follow up to the
18 question that Ms. Burns asked you about is this the
19 first dry FGD that AEP is -- is installed, and I think
20 you said yes. Are there other utilities that have
21 installed the dry FGD at that time?

22 A Yes. I believe there are.

23 Q You know where they -- where they are?

24 A My understanding is most of that
25 technology used, up to this point, has been on

1 low-sulfur western coals, and -- and so a lot of those
2 installations would be in the western part of the
3 country where -- where the power river basin coals
4 were typically used more.

5 Q Are you aware of any in the eastern part
6 of the United States?

7 A I am not.

8 Q Okay. Before I leave the technology
9 completely, is there -- does the -- does Big Sandy 2
10 have a -- an electrostatic precipitator at this time?

11 A Yes, it does.

12 Q And it's your all's opinion that that is
13 insufficient to meet the -- the new utility MATS
14 standard?

15 A Yeah. That's correct. The -- the
16 current particulate limit at Big Sandy plant is -- I
17 believe it's .24 pounds per million BTU, and the
18 precipitator allows the unit to operate in compliance
19 with that. The new particulate limit under the MATS
20 rule is .003. I believe I have that right. And --
21 and so the precipitator would not have the capability
22 to meet that much lower of a limit.

23 Q Okay. And the -- no newer -- how old is
24 the electrostatic precipitator at Big Sandy?

25 A I'm not sure when it was installed. I

1 know we did an upgrade of -- of that piece of
2 equipment in the early part of the last decade to
3 ensure that could -- it could continue -- could
4 continue to -- to comply with the limit. I don't know
5 when the original precipitator was put into operation.

6 Q But you-all have concluded that no
7 additional upgrade would satisfy the new utility MATS
8 rule?

9 A Correct.

10 Q Okay. Did you-all look at dry sorbent
11 injection as a -- as a tool or a device to satisfy
12 some of these requirements?

13 A We looked at dry sorbent injection for
14 compliance with the MATS rule. In particular,
15 the -- the acid gas, the hydrochloric acid --

16 Q Right.

17 A -- component of that, and we actually
18 are planning to use it at some of our -- our units
19 that burn part of river basin coal to kind of trim.
20 There's not a lot of -- of hydrochloric acid in part
21 of river -- river basin coals, and so we think the
22 small amount of dry sorbent injection should -- should
23 be able to meet that.

24 Eastern coals tend to have more chlorine
25 in them, and, in addition, that's -- that's added

1 particulate loading, and the existing precipitator,
2 you know, because both of the -- the particulate
3 matter limit itself, but if we were to add dry sorbent
4 into it, it would -- it would exacerbate the problem
5 of complying with that existing precipitator. We
6 would have to have some other particulate control
7 system.

8 Q Okay. And so the chlorine is higher in
9 eastern coal even in the Illinois basin, Western
10 Kentucky coal?

11 A Yes. I think it's my understanding that
12 chlorine tends to be highest in the Illinois basin
13 coals.

14 Q Oh, okay. Let me ask about Rockport.
15 How old are the Rockport units? Do you know? One and
16 two.

17 A I think unit 1 began operation in 1984
18 and unit 2 in 1989.

19 Q Okay. So they're substantial -- so
20 those two units are having FGD and SCR technology
21 installed on them?

22 A We're moving forward with that
23 technology on one unit at this time.

24 Q And is that unit 1 or unit 2?

25 A I think that is still to be determined.

1 Q Okay. Are there plans to shut down one
2 of those two units?

3 A Not at this time.

4 Q Okay. Is the technology that's being
5 installed there more expensive than what's being put
6 on -- proposed for Big Sandy 2 or equivalent?

7 A It should be equivalent. Mr. Walton
8 should have that information. It's essentially the
9 same technology, the NIDs scrubber, at Rockport and at
10 Big Sandy 2.

11 Q Okay. The -- you mentioned the coal
12 combustion rule possibility in the clean water act 316
13 B rule. My question is: Under all the op -- of those
14 two rules, under all the options that EPA is
15 considering, because those rules are not final and
16 maybe not even proposed, but the -- my question is:
17 Will Big Sandy require additional environmental work
18 under some of those options than are being proposed in
19 this proceeding?

20 A I think we had done a pretty good job of
21 kind of bounding the potential outcomes through those
22 rules. Under the 316 B rule, that addresses how you
23 use water to cool your process. The cooling water
24 intake.

25 Q Right.

1 A Big Sandy has cooling towers already.
2 So there -- there is concern that that rule could
3 force a retrofit of a cooling tower on a plant that
4 does not have one, so Big Sandy is well positioned for
5 that.

6 Q Okay.

7 A We expect that we'll have to -- to [to
8 put in new intake screens as part of that regulation,
9 and that, I believe, has been incorporated in -- in
10 the option modeling that we've done. And the coal ash
11 rule --

12 Q Excuse me. Before -- before you leave
13 that. So with last comment you made, does that mean
14 it's included in the -- as part of the cost that we're
15 ex -- looking at now?

16 A Oh, yeah. I did not mean to say. We've
17 not included that cost in this proceeding --

18 Q Okay.

19 A -- because we don't have a final rule
20 yet. We don't know what we would --

21 Q Okay.

22 A -- have to do.

23 Q And -- and if it's to upgrade the
24 screens, as you've talked about, can you give me a
25 range on what that costs?

1 A I believe our estimates would be in the
2 tens of millions of dollars for that. It's -- it's
3 much, much less, and if you had to do a cooling --

4 Q Sure.

5 A -- tower itself.

6 Q Sure. But it could be, you know,
7 several -- 10, 15 million, something like that --

8 A Yes.

9 Q -- additional moneys that are not
10 included in this application?

11 A Correct.

12 Q Okay. All right. Thank you. And if
13 you could go now to the coal combustion rule.

14 A The -- coal combustion rule, one
15 possible outcome of that could be a requirement to
16 stop disposing of -- of fly ash and bottom ash in the
17 wet form. So Big Sandy does have a fly ash pond.
18 The -- the NIDs technology, because you're -- you're
19 handling your scrubber byproduct in dry form, it's --
20 that par -- that fabric filter also collects your fly
21 ash as well as the -- the scrubber reagent, and we
22 would dispose of that in a landfill, and -- and that
23 is included in -- in this project.

24 So we believe that that, in effect,
25 eliminates the wet disposal of fly ash and would put

1 us in compliance with the coal ash rule, if that's the
2 outcome of that rule, that you couldn't use a fly ash
3 pond any -- any longer.

4 Q Okay. Would -- would you have to cap or
5 close the -- the wet pond or the pond?

6 A Yeah. At some point, under the proposal
7 that EPA put forward, you would have to -- to close
8 out that fly ash pond. We're looking at options in
9 terms of -- of how to do the landfill project that
10 might actually work with that to close out the pond at
11 the same time we're building a landfill. We have been
12 talking to the Kentucky agency about that.

13 Q Okay. And those costs would be --
14 are -- would -- whether -- whether Kentucky Power goes
15 forward with the Big Sandy retrofit or not, those
16 costs with respect to the wet -- or with respect to
17 the pond are there anyway; is that correct? I mean,
18 that those are costs that, depending on what the rule
19 is, Kentucky Power would have to incur whether they go
20 forward with the -- the -- the proposal?

21 A The retrofit. That's correct. Yes.

22 Q Okay. And do you have a dollar figure
23 for that, what those costs are?

24 A I do not know.

25 Q Okay. Now, the -- are your assumptions,

1 what -- what you just described to me with respect to
2 the coal ash, is that -- does that assume that they
3 are -- that these -- these materials are still
4 nonhazardous or -- or do you --

5 A Yeah. That assumes the -- the option
6 that EPA proposed that would not treat them as
7 hazardous. If -- if EPA decides to regulate these as
8 hazardous waste, the cost would be higher, but we
9 don't have a good feel for that yet.

10 Q For what those costs would be?

11 A Right.

12 Q What -- what do people believe -- I
13 mean, tealeaves, what are folks thinking about that in
14 the industry with respect to the -- the coal ash?

15 A I guess I'm optimistic that we'll get
16 the -- the rule that -- that moves us away from wet
17 disposal of fly ash but does not treat it as hazardous
18 waste and hopefully on a schedule that's manageable in
19 terms of implementation.

20 Q Okay. I guess I have one question --
21 one final question, and I appreciate your answering.
22 The -- there's been testimony, and -- and to be
23 honest, I can't remember if it was yours or somebody
24 else's, that talked about the -- the length of this
25 project was -- was -- from start to end is in a 54- to

1 60-month range.

2 And so assuming that my memory of some
3 testimony from the Company is correct, if -- if that's
4 at least four and a half years long, what I don't
5 understand is why didn't the Company -- and basically
6 everything would have to be done as a result of the
7 consent decree. What I don't understand is why the
8 Company didn't start at least some of those initial
9 phases earlier than -- than now.

10 A I guess, from my perspective, when I
11 look back at how the regulatory process has unfolded
12 since 2005 and are in our consent decree, in 2005, EPA
13 issued final clean-air interstate rule and finer --
14 final clean-air mercury rule, and then we started the
15 process of compliance with those rules.

16 In 2007 we finalized our consent decree.
17 That consent decree includes, for the most part, what
18 we expected we would have to do to comply with the
19 clean-air interstate rule, and that, in turn, would
20 put us in good position to comply with the clean-air
21 mercury rule. So that's at the end of 2007.

22 In 2008, the clean-air mercury rule was
23 vacated by the DC circuit court. The clean-air
24 interstate rule was remanded to EPA for a correction
25 by the DC circuit court, and so we now entered sort of

1 a period of regulatory uncertainty. The clean-air
2 mercury rule was gone. The clean-air interstate rule
3 state -- stayed in place until EPA could issue a new
4 rule, and -- and that rule is now the cross-state air
5 pollution rule.

6 EPA replaced the clean-air mercury rule
7 with now the -- the MATS rule, the mercury and air
8 toxics standard. And so we had a period of
9 considerable uncertainty there and then some initial
10 regulatory development and proposals from EPA.

11 We knew we had the NSR consent decree
12 deadline, but -- but we wanted to make sure that --
13 that what we did made sense for all of these programs,
14 and the effect -- just from my perspective, the effect
15 is it -- it kind of delayed what we wanted to do until
16 we had a little better idea of what these new rules
17 are going to look like so that we came forward with
18 the technology that met everything at the same time.

19 COMMISSIONER GARDNER: Thank you.

20 COMMISSIONER ARMSTRONG: Let me just
21 follow up with that.

22

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1 REEXAMINATION

2
3 By Commissioner Armstrong:

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5 Q Yes -- it was suggested in testimony
6 yesterday by the person who we deal with in regulation
7 that you would have some enlightenment about this.
8 The -- what -- what did you think about the consent
9 decree? Did -- what did -- did you understand it at
10 the time?

11 A Yes.

12 Q You knew in '07 that by '15, something
13 had to be done?

14 A That's correct.

15 Q But then, from your testimony, it's --
16 sounds like you were simply going to wait until other
17 issues were resolved environmentally as opposed to a
18 legal obligation that you had.

19 A I don't want to suggest we were going to
20 wait indefinitely. What I was trying to convey is
21 with the -- sort of the regulatory upset of the CAIR
22 program and the mercury program, the expectation
23 that -- that the EPA would engage and develop new
24 programs, we wanted to get some sense of what those
25 programs would look like.

1 Not for full certainty, but at least
2 directionally what -- what pollutants would be
3 regulated, maybe some sense of the control that -- to
4 allow us to make more informed technology decisions
5 that would also meet the NSR consent decree.

6 Timingwise, you know, that, obviously,
7 we're not quite where we want to be, 'cause the
8 current project sche -- schedule extends into 2016
9 before the unit would come back into service with the
10 controls, but -- and that was really our objective.
11 It was not to wait. It was to try and make the -- the
12 best informed decision.

13 Q Did you ever come before the Commission
14 to discuss this from '07 till today?

15 A I did not.

16 Q See any reason for that?

17 A I guess I'd -- I'd go back to -- to Mr.
18 Wohnhas' response yesterday in terms of the
19 communications between Kentucky and the Commission.

20 Q So you were waiting for him to give you
21 the go sign?

22 A Yes. We -- you know, we tended to -- to
23 look to Kentucky Power for that -- that relationship
24 with the Commission.

25 COMMISSIONER ARMSTRONG: Miss Henry, do

1 you have questions?

2 MS. HENRY: Yes. I have a few
3 questions.

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CROSS-EXAMINATION

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9 By Ms. Henry:

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Q Mrs. Burns asked you some questions about your statements and your direct testimony on page 16, lines 5 through -- I'm sorry. Lines 5 through 9 where you state, (Reading) Currently, the Company faces no mandatory or state-level emission reduction requirements for greenhouse gas emissions in the US. However, the Company anticipates the federal legislation or greenhouse gas regulation mandating such reductions will likely occur over the next several years.

21

22

23

24

And in response to that, you stated that EPA had issued a new proposed regulation which addresses greenhouse gas emissions from electric generating units; is that correct?

25

A A new source performance standard.

1 Q New source performance standard.

2 A Yes.

3 Q And isn't it true that that proposed new
4 source performance standard, which for new sources has
5 a greenhouse gas emission limit that's approximately
6 the equivalent of a natural gas facility?

7 A That is the proposal. Yes.

8 Q In this rule, didn't EPA also
9 acknowledge multiple times that it plans to issue
10 regulations that will address existing sources?

11 A EPA has indicated that when they issued
12 the proposal, I believe Mr. Jackson said they had no
13 plans at this time to move forward with that, but --
14 but that's part of what we anticipate, in terms of
15 future of the legislation or regulation, that EPA may
16 go down the path of an existing source, new source
17 performance standard.

18 Q I understand that Mrs. Jackson may have
19 made some public statements that she didn't know when
20 that would move forward, but if you read the rule
21 itself, doesn't the rule -- the proposed rule itself
22 state numerous times that existing sources will have
23 regulations issued in the near future?

24 A I guess I've not read it in that detail.
25 I will assume that it does.

1 Q Isn't it true that EPA is under consent
2 decree to issue rules that govern existing sources --
3 existing sources of electric-generating units to
4 control their greenhouse gas emissions?

5 A That's my understanding. Yes.

6 Q Commissioner Gardner was talking to you
7 about additional future costs that this facility is
8 likely to face. Isn't it reasonable, in light of the
9 fact that EPA has under consent decree and has
10 publically acknowledged that it plans to issue these
11 rules, that this is a future cost that Big Sandy --
12 the modifi -- the modification of Big Sandy would
13 face in the near term?

14 A It's a potential future regulatory
15 requirement that Big Sandy may have to comply with.
16 What it would take to meet that requirement is pure
17 speculation at this time, because we don't even have
18 concepts put forward by EPA yet on -- on what it could
19 do.

20 It very well could focus on, you know,
21 how do you maximize the efficiency of an existing unit
22 as opposed to going all the way towards actually
23 putting control technology on. If it focuses on
24 efficiency, you know, the -- what things can you do
25 to -- to make sure that your -- your heat rate is as

1 best it can -- can be. You're getting the most
2 electricity every -- out of every pound of coal that
3 you burn.

4 If they focus in that direction, it
5 could be some things that -- it could be implemented
6 at relatively low cost, so it's -- it's hard to say
7 when to go. It's a regulatory risk. I definitely
8 agree with that.

9 Q A regulatory risk that would not require
10 any legislative action?

11 A And that's correct.

12 Q And that risk would, in your opinion,
13 range from improving the efficiency of Big Sandy,
14 which would have a price associated with it, to, I
15 guess, in your -- you were saying extreme would have
16 to be sequestration and capture of the -- of GHEs or
17 greenhouse gas emissions?

18 A The -- that would be an extreme, but
19 under the new source performance standard, part of
20 clean-air act, the agency is supposed to consider
21 economics and other factors, and, again, based on
22 where technology exists today, I'd be very hard
23 pressed to base an existing source and SPF program on
24 that technology. So, in my view, focusing on
25 efficiency of the process is the most logical place

1 for EPA to go.

2 Q Is there any other way -- other areas
3 that they could focus efficiency on?

4 A Such as?

5 Q End users. I mean, there is -- so there
6 are associated costs with this, and there could be in
7 the process itself or focusing on efficiency of the
8 end users?

9 A I don't know that -- that the clean-air
10 act gives EPA the authority to expand the reach of a
11 program like that to actual end users of electricity.
12 I don't think they can do that.

13 Q But you acknowledge that this is a
14 likely future cost that this facility will have to
15 comply with?

16 A And I think I said it's a regulatory
17 risk that we face. I'm not going to speculate on
18 whether it's going to have a cost or not.

19 Q Oh. So you think it can comply with the
20 regulation for zero cost?

21 A Depends on the direction they go. If
22 they base it on efficiency standard, and we have a
23 very efficient unit --

24 Q So you think that there would be zero
25 cost associated with complying with a greenhouse gas

1 regulation?

2 A I didn't say I think it's zero. I'm
3 saying I don't know. It depends on what direction the
4 EPA goes in with that regulation and how they
5 structure it. It's a regulatory risk. That's --

6 Q And the --

7 A I don't know at this point.

8 Q -- standard -- and the standard for new
9 sources is the equivalent of a natural gas unit?

10 A That's correct. Natural gas combined
11 cycle unit.

12 MS. HENRY: Natural gas combined cycle
13 unit. That's all the questions I have.

14 COMMISSIONER ARMSTRONG: Mr. Garcia.

15 MR. GARCIA: Yes, Your Honor.

16 COMMISSIONER ARMSTRONG: Redirect.

17 MR. GARCIA: Very minimal.

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19 * * *

20

21 REDIRECT EXAMINATION

22

23 By Mr. Garcia:

24

25 Q Mr. McManus, from your perspective, you

1 were answering some questions about the reasons why
2 the -- the Company waited until it did in order to
3 make a proposal about how to go about scrubbing Big
4 Sandy. From your perspective, would -- would it have
5 made sense to go ahead and scrub Big Sandy pursuant to
6 the consent decree without taking into consideration
7 this other uncertainty about the regulatory
8 environment that was happening between, say, the
9 period of 2007 and -- and the present?

10 A No. I don't think that would have made
11 complete sense. That would have created a -- the
12 potential that we would have moved forward with the
13 technology that wouldn't be able to meet these other
14 programs.

15 So, you know, taking some time to get a
16 sense of where those programs are going makes sense to
17 me, again, to make a better formed decision on the
18 technology selection in the ability to comply with all
19 of these programs.

20 Q And at this time, do you feel that you
21 have information necessary in order to make an
22 informed decision about what is it we should do with
23 Big Sandy?

24 A I think we do. We have a final MATS
25 rule. Granted, it -- it has been appealed, but it's a

1 final rule in effect at this time. We have a
2 compliance deadline that we have to meet that's not
3 too far off from the NSR deadline that we have as
4 well. So I think we -- we've got enough information
5 that we're making a well-informed decision now.

6 Q And I wanted to ask you. You were also
7 presented with the exhibit to Mr. Walton's testimony,
8 RLW 1. This was not an exhibit that was prepared
9 under your supervision; is that correct?

10 A That's correct.

11 Q Do you know -- do you have a sense of
12 when phase 1 actually started?

13 A No.

14 Q Or is that something that we should ask
15 Mr. Walton?

16 A That's really a question for Mr. Walton.

17 MR. GARCIA: Okay. Thank you. No
18 further questions, Your Honor.

19 MR. KURTZ: If I could --

20 COMMISSIONER ARMSTRONG: Mr. Kurtz.

21 MR. KURTZ: -- Your Honor. Thank you.

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REXCROSS-EXAMINATION

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3 By Mr. Kurtz:

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5 Q Mr. McManus, is -- isn't one of the
6 reasons that we're kind of in a rush here at a late
7 start, on terms of the compliance deadlines, the --
8 the fact that on June 9, 2011, AEP made the decision
9 to retire the Big Sandy plant, and that decision was
10 reversed later?

11 A I guess, I don't know that I'd say
12 that's the reason we're here under rushed.

13 Q Okay. Miss Burns asked you a question
14 about -- you were going into the new source
15 performance standards and things. Let me just ask you
16 a hypothetical. Assume the Commission said tomorrow
17 in an order, "There's too much uncertainty. We're
18 going to take a year to -- to examine this." And they
19 take that year, and one year later, the -- the answer
20 is, "Yes, Big Sandy scrubber, go forward with it."
21 And then everything is -- is exactly the same.

22 So instead of the unit being idle for
23 five months under the current plan, January 1, 2016,
24 to June 2016, it would be idle for an additional -- it
25 would just be idle for one and a half years. You --

1 can we make that kind of hypothetical?

2 A It -- that's a potential. That the
3 uncertainty there would be whether, if we stop and
4 don't do anything for some period of time, we can get
5 an extension of the MATS deadline of April of 2015.
6 So the potential for the unit being idle could be
7 longer than your hypothetical. You're just --

8 Q Well, under my hypothetical, in May --
9 May 2nd of 2013, you get the okay to -- to go forward
10 with the scrubber, so you'll be building it. You'll
11 be moving forward at that time, so that MATS April
12 2015 deadline would -- wouldn't be a problem, 'cause
13 you'd be in the construction phase, correct?

14 A That -- and that's a possibility. I'd
15 like to think that the state would work with us on
16 that schedule, but it's an uncertainty.

17 Q Okay. And then you would -- then you
18 would have the -- you would have to shut it down on
19 December 31st, 2 -- 2015, pursuant to the consent
20 decree --

21 A Correct.

22 Q -- no matter what? But in terms of the
23 new source performance standards, under my
24 hypothetical, you would certainly have two years worth
25 of data within the last five years go -- looking back

1 from June 2017, so the new source performance
2 standards wouldn't -- wouldn't apply. Don't you
3 agree?

4 A Correct. Under -- under that scenario,
5 the -- the risk of -- to the air permit, I think, is
6 relatively small.

7 Q Let me ask just another hypothetical.
8 Let's assume the Commission tomorrow said, "There's so
9 much uncertainty in all this. Go forward. Keep doing
10 with all your phase 1 review and your permitting and
11 so forth, but we -- we want to -- while you're doing
12 that, we want to undertake an independent
13 investigation as to what the least cost plan is."

14 And that wouldn't -- that wouldn't delay
15 the scrubber project at all, would it? In other
16 words, they say, "Keep -- do everything you're doing
17 in this phase 1. You -- you're not going to start
18 construction for a number of years. Just keep moving
19 along. We want to continue to review it." As long as
20 you got reimbursed for your phase-one investigation
21 cost, the testimony was 25 million so far, that
22 wouldn't cause any delay at all, would it?

23 A I guess from my perspective, if you're
24 starting that process, and we can start the permitting
25 process with the information that we get in that

1 phase-one period and stay in that schedule, then --
2 then I'd say you're correct with those assumptions.

3 MR. KURTZ: Okay. Thank you, Mr.
4 Chairman.

5 MS. BURNS: One more, Your Honor.

6 COMMISSIONER ARMSTRONG: Miss Burns.

7 MS. BURNS: Yes. One more, sir.

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RECROSS-EXAMINATION

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13 By Ms. Burns:

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15 Q Has Kentucky Power or AEP ever
16 mothballed a plant and then brought it back online?

17 A Not that I'm aware of.

18 MS. BURNS: Okay.

19 COMMISSIONER ARMSTRONG: Miss Henry.

20 MS. HENRY: Just one final question.

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REXCROSS-EXAMINATION

1
2
3 By Ms. Henry:
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5 Q Given the uncertainty with regard to how
6 carbon is going to be legislated or regulated, would a
7 plant that emits greenhouse gases at a natural gas
8 level be a safer, less-risky approach?

9 A I'm not sure from what perspective.
10 The --

11 Q From a utility that would be regulated.

12 A It -- potentially, from that regulatory
13 risk of greenhouse gases in the near term, it could.
14 Long-term, it's hard to say. There was a reference
15 earlier to the Sierra Club beyond gas campaign. At
16 some point, would there be regulation of greenhouse
17 gas emissions from natural gas plants? That's a
18 possibility. Depends on long term what the objective
19 is on -- on greenhouse gas limitations.

20 So I wouldn't say there's no risk from a
21 greenhouse gas regulatory perspective. Is it smaller
22 than for a coal plant? I'd probably agree with that.

23 Q And you believe it's smaller, 'cause all
24 indications are that green -- that EPA would regulate
25 CO -- CO2 or greenhouse gas emissions to a level

1 approximately the equivalent of a natural gas
2 facility? For new plants, definitely, 'cause we have
3 the proposed rule.

4 A For new plants at this time, based on
5 the proposed rule, they based -- put an equivalent on
6 natural gas combined cycle. The new source
7 performance standard program has a periodic review by
8 the agency where they evaluate the standards and
9 determine whether to make them more stringent.

10 So it's -- you know, you could speculate
11 that in that review, at some point in the future, EPA
12 decides they want something lower that will -- could
13 affect natural gas plants as well as coal plants, you
14 know, it's hard to say, 'cause that would be a few
15 years out.

16 Q But -- but coal plants emit far more
17 carbon than natural gas plants?

18 A On what equivalent basis? That's -- I
19 mean, a coal -- a large coal plant versus a small gas
20 plant, yes. On a -- on a per-energy output basis,
21 coal emits more than natural gas, yes.

22 MS. HENRY: Thank you. That's all my
23 questions.

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REEXAMINATION

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3 By Commissioner Gardner:
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5 Q One -- one quick question, and this is
6 following up on the energy efficiency option that you
7 described for the combustion. I guess I'm trying to
8 understand. Big Sandy 2 is 43 years old. Are there
9 energy efficiency options that are available to it
10 that have -- that -- that the technology exists that
11 AEP or Kentucky Power has not undertaken at this time
12 that exist that you-all have retrofitted other
13 facilities with to make more efficient?

14 A Probably not, and -- and -- to any
15 significant degree. The -- some of the things that --
16 that, I guess, I have in -- in mind, there are certain
17 things that you can do in terms of how you maintain a
18 unit to ensure that you're maintaining that
19 efficiency. It doesn't degrade over time.

20 I can think of an automobile and the gas
21 mileage it gets when it's brand-new, and, you know, if
22 you keep a car ten years, if you don't do anything to
23 maintain it, what's it -- it's going to look like. So
24 there are certain things that you want to do to
25 maintain existing efficiency. There may be things you

1 can do to enhance or improve the efficiency. That
2 might come at some cost.

3 And we're not talking about, you know,
4 large-step changes in efficiency here. You're talking
5 about a few percentage points. Again, it will depend
6 on what EPA decides they want to accomplish if they go
7 down the path of this existing source, new source
8 performance standard, and how aggressive they want to
9 be.

10 Q And -- and was there anything that EPA
11 has said in any of the regs or anything that led you
12 to believe that improving efficiency might be an
13 option since there's no commercially-available CCS?

14 A I don't know that they addressed it at
15 all in their proposal, but I know they've -- they've
16 gotten input in this process. When EPA announced that
17 they were starting this process in December of 2010,
18 they scheduled a series of what they call listening
19 sessions with -- with different stakeholders in the
20 process.

21 The first session was with the electric
22 utility sector, and I participated in that session,
23 and so I heard the -- the kind of input they got
24 from -- from AEP and from other companies. And they
25 had another advisory group looking at -- at best

1 available control technology for greenhouse gases that
2 I was a member of, and in those discussions, I know
3 the agency has gotten a lot of input on if you want to
4 focus on efficiency, here are some areas you can focus
5 on.

6 They got input on other things,
7 including, you know, what is sort of the fence you put
8 around that -- that evaluation? Is it the unit? Is
9 it the plant? And they got a lot of what I thought
10 was good input for them to think about, but I don't
11 have a sense of where they may go with it.

12 COMMISSIONER GARDNER: Okay. Thank you.

13 COMMISSIONER ARMSTRONG: Mr. Overstreet,
14 we're going to break now for lunch and to give our
15 clerk and the court reporter some rest.

16 MS. HENRY: May -- I just wanted to make
17 one -- can I make one quick statement?

18 COMMISSIONER ARMSTRONG: Do you know
19 what I'm going to say? Do you know what I'm going to
20 say?

21 MS. HENRY: Oh, I thought you were going
22 to break for lunch, and I just wanted to introduce Dr.
23 Fisher's confidential version of his testimony, but I
24 didn't want to do it earlier, 'cause we were in a
25 public session, but -- and I don't -- if you want me

1 to do it later in the afternoon, I can do it later in
2 the afternoon.

3 COMMISSIONER ARMSTRONG: You can do it
4 now, if you'd like.

5 MS. HENRY: Okay. That would be lovely.
6 Can we --

7 MS. GILLUM: No. No. No. No. We'd
8 have to go off the record for that.

9 MS. HENRY: It's just the --

10 MS. GILLUM: It's confidential.

11 MS. HENRY: -- confidential version of
12 Mr. Fisher's -- Dr. Fisher's confidential testimony.
13 I just want to introduce it into the record as Sierra
14 Club Exhibit 13.

15 COMMISSIONER ARMSTRONG: Let's go off
16 the record for that. We're okay.

17 MS. HENRY: It's okay?

18 COMMISSIONER ARMSTRONG: Yes.

19 MS. GILLUM: Just turn the on air thing
20 off, and I'll switch it over here.

21 COMMISSIONER ARMSTRONG: This is the
22 redacted version. We're not going to have any
23 testimony.

24 MS. GILLUM: Oh. I thought you said you
25 were going off the record. I'm sorry.

1 MS. HENRY: I just wanted to --

2 COMMISSIONER ARMSTRONG: You're fine.

3 Go ahead.

4 MS. HENRY: So I'm going to mark as
5 Sierra Club Exhibit 13 a confidential version of Dr.
6 Fisher's testimony, and I'll distribute that, and I
7 would like to move for both Sierra Club 12 and 13,
8 which are the public and confidential versions, to be
9 admitted to the record.

10 COMMISSIONER ARMSTRONG: Any objection?

11 MS. BURNS: No objection.

12 COMMISSIONER ARMSTRONG: So ordered.

13 (Sierra Club Exhibits 12 and 13
14 admitted.)

15 MR. OVERSTREET: No objection, Your
16 Honor.

17 COMMISSIONER ARMSTRONG: So to keep the
18 next steps here. We'll come back at 1:30.

19 MR. OVERSTREET: Yes, Your Honor.

20 COMMISSIONER ARMSTRONG: Prepare to hear
21 your next witness is --

22 MR. OVERSTREET: It will be Mr. Walton.

23 COMMISSIONER ARMSTRONG: Okay. And you
24 have another witness after that?

25 MR. OVERSTREET: Yes, Your Honor. We

1 have several. After Mr. Walton is Mr. Weaver, Mr.
2 Avera, Mr. Bletzacker, and Mr. Becker, unless there is
3 no questions for some of those.

4 COMMISSIONER ARMSTRONG: Okay. Let's
5 take 45 minutes for lunch.

6 MR. OVERSTREET: Forty-five minutes for
7 lunch. We can do that.

8 COMMISSIONER ARMSTRONG: Yes. Say we
9 come back in the --

10 MR. OVERSTREET: That would be 1:15,
11 Your Honor? 1:15?

12 COMMISSIONER ARMSTRONG: Yes. 1:15.

13 MR. OVERSTREET: Okay.

14 (Lunch recess.)

15 COMMISSIONER ARMSTRONG: We will
16 reconvene to an afternoon session.

17 Mr. Overstreet.

18 MR. OVERSTREET: Thank you, Your Honor.

19 We next present for cross-examination Mr. Robert
20 Walton, and Mr. Gish will present him.

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1 ROBERT L. WALTON, called by Kentucky
2 Power Company, having been first duly sworn, testified
3 as follows:
4

5 DIRECT EXAMINATION
6

7 By Mr. Gish:
8

9 Q Mr. Walton, can you please state your
10 full name, job title, and business address for the
11 record?

12 A Yes. My name is Robert L. Walton. I'm
13 the managing director of projects and controls for
14 American Electric Power Service Corporation. I work
15 at 1 Riverside Plaza, Columbus, Ohio.

16 Q Did you cause direct testimony, rebuttal
17 testimony, and responses to data requests to be filed
18 in this proceeding?

19 A Yes, I did.

20 Q And do you have any corrections to the
21 direct testimony, rebuttal testimony, or responses to
22 data requests that you filed in this proceeding?

23 A No, I do not.

24 Q If I were to ask you the same questions
25 that were in the direct testimony and rebuttal

1 testimony today, would you give substantially the same
2 answers?

3 A I would.

4 MR. GISH: Mr. Chairman, I turn
5 Mr. Walton over for cross-examination.

6 THE COURT: Thank you.

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10 CROSS-EXAMINATION

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12 By Mr. Howard:

13

14 Q Good afternoon, Mr. Walton.

15 A Good afternoon.

16 Q If you would, if you could please refer
17 to page 20 of your testimony. That will be your
18 direct testimony. Are you there yet?

19 A Yes, sir.

20 Q We're looking at basically lines 5
21 through 23 of this page. It actually bleeds over to
22 the next page, 21, through line 2. We are talking
23 about an escalation factor of labor and materials and
24 a cost estimate?

25 A Yes, sir.

1 Q Has the Company employed a factor as an
2 escalation for laborers and materials that the Company
3 expects to incur on its own behalf versus that which
4 it would otherwise pay for the laborers and materials
5 that would be contracted out?

6 A If I understand your question correctly,
7 are you asking did we apply a different escalation
8 factor to AEP internal labor versus our outside
9 resources that we utilize?

10 Q No. Please allow me to rephrase. Do
11 you have a contract for labor and materials?

12 A Yes.

13 Q Is there an escalation factor on top of
14 that that the Company uses for an additional profit?

15 A There's no escalation factor applied
16 that's representative of profit. What we do is
17 develop estimates that's representative of the job
18 cost, which would include some outside contract labor,
19 whether or not it's -- they're direct cost. They're
20 home office, general and administrative expenses,
21 their expected line of profit, use that estimate,
22 okay, and then escalate that at the time of
23 performance.

24 Q Okay. So one more question. The
25 Company does not add -- there's not an additive for

1 the Company for any profit that it might get on top of
2 any escalation factor for those laborers and materials
3 and so on and so forth?

4 A No, sir.

5 MR. HOWARD: Thank you. That's all the
6 questions that I have, Mr. Chairman.

7 COMMISSIONER ARMSTRONG: Questions?

8 MR. KURTZ: Yes, Your Honor.

9 Ms. Henry.

10 MS. HENRY: No questions, Your Honor.

11 MR. KURTZ: Okay. Thank you.

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CROSS-EXAMINATION

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17 By Mr. Kurtz:

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19 Q Good afternoon, Mr. Walton.

20 A Good afternoon.

21 Q Could I ask you to look -- ask you to
22 look at your direct testimony, page 4? This is where
23 you talk about the phase construction and planning
24 process.

25 A Yes.

1 Q Line 18, (Reading) The phase approach
2 begins with Phase 1. Is that where we are now?

3 A Yes, sir. We are currently in Phase 1,
4 and we have been in Phase 1, in essence, since the
5 2004 time period -- 2004 time period forward through
6 today.

7 Q Okay. Do you have what I handed out --
8 MR. KURTZ: Mr. Chairman, the last
9 timeline, which was Exhibit 1, just for ease, could I
10 have that marked as KIUC Number 7? Yeah. KIUC --

11 Q Mr. Walton, you can just refer to it as
12 your Exhibit 1 or KIUC 7. You see that on this
13 document it shows Phase 1 beginning at the time when
14 this certificate and environmental surcharge
15 application was filed?

16 A Yes, I see that depicted.

17 Q Okay. But you're saying this was
18 actually -- you've been in Phase 1 for how long?

19 A Since 2004.

20 Q Okay.

21 A When I put this timeline together that
22 you're referencing in this exhibit, the idea was not
23 to necessarily go back and recapture the whole time
24 frame from 2004 forward, otherwise it would have just
25 have been a -- a long bar if you -- if you would have

1 it, and a lot more paper.

2 What the idea here was, was to represent
3 when the Phase 1 work was reinitiated with a
4 project -- full project team engaged to move forward
5 with the execution, you know, of the Big Sandy
6 scrubber project that we're proposing.

7 Q Okay. Well, you certainly would have
8 canceled Phase 1 when you canceled the project in June
9 of 2011, right? That's when you announced that you
10 were going to retire the units.

11 A If -- if we had moved forward there,
12 yes, we would have canceled Phase -- well, let me back
13 up and say not necessarily canceled Phase 1 of this
14 project. The CI that was revised subsequent to this
15 time frame would have been reflective of a different
16 path forward. Phase 1 for this -- for this
17 undertaking for Big Sandy Unit 2, the environmental
18 project, whatever that may have been, would have
19 continued regardless.

20 Q I'm sorry. I -- so you're saying you
21 were still in Phase 1 up of the Big Sandy scrubber
22 even when you canceled the scrubber?

23 A We -- I presume you're referring back to
24 the 2006 time frame?

25 Q No, June -- June 9 -- excuse me.

1 June 9, 2011, when you announced you were going to
2 retire the plant, were you still in Phase 1 of
3 considering the scrubber at the time you announced
4 retiring the plant?

5 A No. You know, theoretically, at that
6 point in time it would have reverted to Phase 1 of a
7 gas solution project.

8 Q Okay. Now, on your line 19 of page 4 of
9 your direct, you say Phase 1 consists primarily of a
10 feasibility study; is that right?

11 A I'm sorry. Which line, sir?

12 Q Nineteen.

13 A I must have heard the page incorrectly.
14 Can you --

15 Q Oh, page 4 of your direct.

16 A Oh, I'm sorry.

17 Q Line 19.

18 A Thank you. I'm there.

19 Q Is that what it -- it's primarily a
20 feasibility study, that's the phase we're in right
21 now?

22 A That's correct.

23 Q Okay. Will you turn to page 5 of your
24 direct testimony, the last line, line 23? You state,
25 (Reading) The intent of the Phase 1 feasibility

1 studies is to investigate the technical options and
2 factors driving the project costs and schedule.

3 Did I read that correctly?

4 A Yes, you did.

5 Q Okay. Why did you file an environmental
6 surcharge for 940,000,000 in a certificate case while
7 you're still studying the feasibility of the scrubber?

8 A Well, at this -- at this point the
9 referenced feasibility studies would not only include
10 the scrubber itself but also all the different
11 alternatives that could be employed for the
12 utilization of that scrubber. You know, for example,
13 similar to work performed in the 2004 to 2006 time
14 frame would have, in actuality, carried forward. You
15 know, we looked at our different stack options, do we
16 need a new stack, where that location might be, can we
17 reuse the existing stack. The landfill work that was
18 done in 2004 to 2006 carries forward to -- to this
19 time frame as a part of this overall feasibility
20 study.

21 Q Okay. When do you expect Phase 1 to be
22 over?

23 A Right now I would expect Phase 1 to
24 conclude right around September 1st.

25 Q Okay. And do you have a budget estimate

1 of how much Kentucky Power expects to spend on Phase 1
2 of -- Phase 1?

3 A Yes. I think currently we're at about
4 \$25,000,000, I think, that -- that we're showing
5 through probably the end of last month, and I would
6 expect we're probably going to incur another about
7 \$2,000,000, so a total of probably around \$27 would be
8 my -- 27,000,000 would be my estimate.

9 COMMISSIONER GARDNER: Excuse me. Does
10 that include the 15,000,000 that was incurred since
11 you described it as part of Phase 1?

12 THE WITNESS: Yes, sir.

13 COMMISSIONER GARDNER: That includes the
14 15 previously?

15 THE WITNESS: Yes, sir.

16 COMMISSIONER GARDNER: Okay.

17 Q Now, on page 6, again of your direct
18 testimony, line 7, you discuss this -- at the end of
19 each phase of this process, Kentucky Power and AEP
20 make a decision as to whether or not to continue. You
21 describe it as -- well, earlier in there you -- page
22 4, a detailed review followed by financial
23 authorization is required before the project can
24 proceed from one phase to the next.

25 Then on page 6, line 7, you say formal

1 approval of the C&I. That's the capital investment
2 budget?

3 A Yes. The CI is the capital improvement.

4 Q Okay. Capital improvement. Formal
5 approval of the capital improvement revision by AEP
6 Service Corp and Kentucky Power Management allows the
7 project to proceed to Phase 2A. What -- what type of
8 factors will Kentucky Power management and AEP use to
9 decide whether or not to proceed to the next phase,
10 Phase 2A?

11 A I think one of the primary factors that
12 would be considered is, you know, are the performance
13 criteria initially envisioned being -- going to be met
14 based on the engineering and design work that have
15 been done to date. Does the schedule that has been
16 developed during Phase 1, a very high-level schedule,
17 does it still appear reasonable and doable. And, you
18 know, primarily are the costs still in line with what
19 was projected and used in the evaluation that -- that
20 we started out with and supplied to Scott Smith -- I
21 mean, Scott Weaver and Company to run their evaluation
22 previously.

23 Q Okay. If the Commission approves your
24 \$940,000,000 application tomorrow, on September 1,
25 when you start this review process to see whether

1 you'll go to the next phase, would the Commission be
2 involved in that review?

3 A Not necessarily, no.

4 Q So you're asking the Commission to
5 approve the \$940,000,000 plan while you're still in
6 Phase 1, and later on Kentucky -- AEP management
7 may -- may decide to cancel the project?

8 A That's a possibility, yes.

9 Q Why -- why should the Commission do
10 that?

11 A Well, I think, you know, that what
12 we're -- what we're presenting, you know, is the -- is
13 the logical and economic path forward, and if -- if
14 for some reason, you know, there was a significant
15 change in either, you know, the cost or -- or the --
16 the performance capabilities, something along those
17 lines, which is not envisioned, okay, then it would
18 be, you know, prudent for us to at that point in time,
19 you know, take a step back and say, are we still
20 serving the best interest of, you know, Kentucky Power
21 and our customers.

22 Q So --

23 A If --

24 Q Go ahead, sir.

25 A If I could, and so, you know, we present

1 forward the best case now. One of the things
2 that's -- that we don't believe is -- is a right way
3 to progress is with a stop-start type of a -- a
4 program. What -- what that really does is disrupts
5 the flow of the overall project. You know, it affects
6 the schedule, of course, and then it also affects
7 costs, because every time we delay a planned path
8 forward, the costs increase.

9 So, you know, we look up front to be --
10 you know, to convince the Commission that this is the
11 right path forward and that, you know, we will execute
12 the project in a -- you know, in the most economic and
13 efficient way possible.

14 Q Okay. Let's go back to Phase 1 of the
15 wet scrubber. In April of 2004 through April of 2006,
16 AEP looked at Phase 1 review of the wet scrubber and
17 ultimately decided to cancel it. That's the
18 \$15.2 million study cost that you're requesting in
19 this filing?

20 A That's correct.

21 Q Okay. So that was a two-year Phase 1
22 review?

23 A Approximate time frame, yes.

24 Q And you are saying Phase 1 here, at
25 least based on your timeline, is about a ten-month

1 review?

2 A Well, you know, the -- the preliminary
3 evaluation of the different alternatives, whether it's
4 a gas solution versus the -- versus the scrubber, you
5 know, actually started back in -- in 2010, progressed
6 forward till, you know, this past fall, when it became
7 evident that the scrubber solution was the most
8 economic. So it's not just a ten-month period.

9 Q This may not be a great concern of
10 yours, but it -- but it might be of the Attorney
11 General and of the Commission. If the Commission
12 approves your 30 to 35 percent rate increase proposal
13 here and then in September Kentucky Power announces
14 "We've decided not to go forward," wouldn't that cause
15 customer confusion?

16 A Customer confusion?

17 Q Yeah. I mean, certainly people are not
18 going to be happy with a 30 to 35 percent rate
19 increase order, and then if later on AEP says "Never
20 mind," wouldn't that be bad regulatory policy?

21 A Well, no. I view it from the standpoint
22 that, you know, if at that point in time we were to
23 say "Let's stop," okay, the reason that we would stop
24 doing this -- this path forward on this scrubber would
25 be because that it no longer represents the most

1 economic path forward for the -- for the customers,
2 otherwise, you know, we would -- we would proceed,
3 because, you know, we're on the same -- same basis as
4 we sit here today.

5 Q Wouldn't another possibility be for the
6 Commission to withhold judgment until some of these
7 things get worked out and then consider -- consider
8 the application, consider this project at the end of
9 Phase 1, when AEP is going to consider -- consider it?

10 A Well, I think that -- that timing may be
11 the difference of, you know, a month to six weeks.

12 Q Well, actually the decision here has to
13 be rendered within six months of the filing of
14 December 5th. That would make it June, and you're
15 talking September 1. Okay. A couple months. A
16 couple, three months.

17 A And with --

18 Q Would you object if the Commission
19 withhold -- withheld judgment until at least that
20 period of time?

21 A Well, again, you know, as I previously
22 mentioned, you know, we have a start-stop cycle. You
23 know, again it extends the schedule and inevitably
24 increases the cost. So, you know, I don't believe
25 that, you know, we're going to have significantly, you

1 know, more -- more detailed information to present,
2 you know, two months after the June 6th date, I
3 believe, that you quoted.

4 Q Well, actually I'm not talk -- I'm not
5 talk -- I'm not suggesting a start-stop, I'm
6 suggesting you continue with your Phase 1 and that
7 there be -- there be a parallel regulatory review
8 process during that period of time. No stopping of
9 anything, keep on schedule, but just withhold
10 judgment.

11 A I think -- I think the way the schedule
12 is laid out right now that it -- there would, in
13 essence, be a start-stop cycle from the standpoint
14 that -- that what we need to do is to proceed from
15 Phase 1 to Phase 2. Okay. Once we have that approval
16 in-house, we immediately are required, just to
17 maintain schedule, to make significant commitments to
18 outside firms.

19 Q Okay. Let's -- let's -- Phase 2 is
20 scheduled on this -- Phase 2A is scheduled to start on
21 September 1st, correct, according to your exhibit?

22 A That's correct.

23 Q Okay. And that's the engineering,
24 design, permitting, and procurement, correct?

25 A Yes. That's correct.

1 Q Okay. And at the end of Phase 2, AEP
2 will make another decision whether or not they want to
3 move forward or -- or stop at that point as well,
4 correct?

5 A That's correct.

6 Q Okay. And then Phase 2B is detailed
7 design, permitting, contracting, self -- or site
8 preparation; is that -- is that correct?

9 A Yes. That's correct.

10 Q At the end of that AEP will make another
11 decision on whether or not to go or no go, stop or --
12 or continue, correct?

13 A No, at the end of Phase 2B is the
14 decision point or the decision gate of whether to move
15 forward and complete the project in its entirety.

16 Q Okay. Like you say on page 7, upon --
17 upon completion of Phase 2B, the project is reviewed
18 once again and a Phase 3 CI is prepared for approval
19 by AEP and Kentucky Power management. So that's the
20 final decision is what you're saying, at the end of
21 Phase 2B?

22 A That's correct.

23 Q Okay. Now, you cannot start
24 construction on this until you receive an air permit,
25 correct?

1 A That's correct.

2 Q Okay. What if it takes 18 months to get
3 an air permit, like Mr. McManus testified at my --

4 A Versus the -- I presume you're --

5 Q Versus --

6 A Versus the 12 months that's depicted in
7 this --

8 Q Yeah.

9 A -- preliminary schedule, I'll call it?

10 Q Yeah.

11 A I think if it -- if it were to take, you
12 know, more than the 12 months, you know, my -- my
13 optimistic view of 12 months, and it -- were it to
14 take 18 months, then, you know, during that six-month
15 interval where we know we haven't received it yet we
16 would be initiating work to look at all of the
17 downstream activities to say "Where could we make up
18 time in these downstream activities in order to hold
19 that end date," versus just immediately saying we're
20 going to let the end date slip.

21 Q Well, isn't this a compacted schedule
22 already where you're still beyond -- you're still
23 going to have to idle the plant five months even under
24 this schedule. Wouldn't you -- haven't you already
25 done all that?

1 A We have not, you know, at this point in
2 time and it's not our process to optimize the overall
3 construction schedule. The other thing that we've not
4 done at this point and wouldn't do till we're further
5 down the line is to see exactly, okay, this is based
6 on historic information, it's going to take
7 approximately 30 months to do the construction. Once
8 we get into Phase, you know, 2A and then 2B, we'll be
9 able to validate is that really 30 months or is that
10 32 or is it, you know, 28. And again, based upon what
11 work schedule we're employing in the field.

12 Right now this schedule that you see in
13 front of you is -- is relatively -- let me say that it
14 doesn't -- doesn't represent any kind of acceleration
15 of the work in itself. It's based on normal workweeks
16 and normal work practices, normal -- normal
17 engineering practices, and, you know, in essence,
18 during the construction phase we do look at two shifts
19 per day.

20 Q If you worked overtime, wouldn't the
21 cost of the project go up?

22 A Absolutely.

23 Q Okay.

24 A And so what we would do would be at that
25 point we'd evaluate whether or not the amount of funds

1 that might be expended on that overtime are offset by
2 the benefits that might be realized by Kentucky Power
3 and the customers.

4 Q Now, the overtime costs are not included
5 in the 940,000,000, are they?

6 A No, there's no specific overtime
7 allocation there.

8 Q Does this schedule take into account
9 that AEP has never built a dry scrubber before?

10 A I can say yes, and it's -- it's not from
11 the standpoint that we've never built a dry scrubber
12 before. This -- this technology, there's nothing
13 really magic about it. It's ductwork and it's
14 equipment that will inject dust into this ductwork,
15 and we have done that type work with, you know, ACI
16 installations and, you know, the DSI work that we've
17 done testing with. So the work is not unfamiliar to
18 us.

19 The technology itself looks different
20 than what others may have -- have seen or had
21 experienced, but really, you know, we're fully
22 confident that just building the components and -- and
23 understanding the time it's going to take is -- is not
24 really a mystery to us, you know, based on our
25 experience.

1 Q I meant to ask you this: Phase 2A,
2 which looks like it's over the beginning of February
3 of 2013, how much money -- you're going to spend
4 approximately 27,000,000 in Phase 1. How much do you
5 expect to spend in Phase 2?

6 A I don't have that cash flow with me
7 right now, and I don't know that -- that it will be
8 available prior to -- about mid June is when we would
9 have a more refined cash flow. Again, I would -- I
10 would say at the end of Phase 2A there would have been
11 significant commitments made, because we're going to
12 have to go out and buy engineering, you know, make
13 commitments to the OEMs, make equip -- commitments to
14 major manufacturers of the auxiliary equipment that we
15 need. So we will have made commitments.

16 The cash flow itself would be, of
17 course, different than that, because we have, you
18 know, payment terms that we pay as we progress.

19 Q Let's go back, see how you describe
20 Phase 2 in your testimony. Phase 2A is page 6, line
21 10. (Reading) Phase 2A consists of preliminary
22 engineering, design, permitting, and procurement work.
23 Finalize project scope, refine the cost estimate and
24 schedule, award the original equipment manufacturer
25 contract, procure long lead time equipment.

1 So when you do these things, are those
2 irrevocable contract obligations? Do they have
3 penalties if you were to cancel at the end of two --
4 Phase 2A because you decided that -- well, for
5 whatever reason AEP or Kentucky Power decided to stop
6 work?

7 A Typically our terms and conditions in
8 either our purchase documents or in our formal
9 contract documents will have termination clauses in
10 them, where those -- those -- the impact of, say, a
11 termination for convenience is laid out.

12 So it's another reason that came to say
13 that we'd be making significant commitments, but it's
14 different than the actual cash flow.

15 Q Okay.

16 A So, yes, I think that, you know, at some
17 point in time you could go back to the OEM or what --
18 maybe it's a major fan manufacturer or whatever and
19 say, "Hey, we are -- we've decided we are not going to
20 proceed forward here," and then, yes, there would be
21 cancellation charges involved with that.

22 Q Okay. So that would -- that gives you
23 until early -- early next year, the end of Phase 2A?

24 A Right. That's correct.

25 Q Okay. If the Commission took a parallel

1 regulatory review path along with this Phase 1 and
2 Phase 2A, as long as Kentucky Power got reimbursed for
3 its costs, reasonable, prudent costs, if the
4 Commission ultimately decided to -- there was a
5 lower-cost, better option, then AEP would be
6 economically indifferent, would it not?

7 A I guess if you're reimbursed for your
8 full cost that -- that -- yes.

9 Q We had a situation like that with East
10 Kentucky Power. They spent over \$100,000,000 on the
11 Smith -- the Smith unit. I think it was the Sierra
12 Club and the Attorney General, we settled with East
13 Kentucky, where they got recovery of those costs over
14 a ten-year period with a return because a lower,
15 better-cost option presented itself. Are you aware of
16 that?

17 A No, I'm not.

18 Q Is that -- has that ever -- kind of
19 process ever happened with AEP in your other
20 jurisdictions?

21 A In our current Indiana filing for the
22 Rockport scrubber, they have asked us to proceed to
23 the end of Phase 1 with assurance that we'll be
24 reimbursed for those funds so that -- so that they, at
25 that point in time, can make their decision.

1 Q That's interesting. So the Indiana
2 Commission is waiting until at least the end of Phase
3 1 before they approve the Rockport scrubber?

4 A That's correct.

5 Q Okay. There -- there are a few
6 questions I think Vice Chairman Gardner might have
7 asked -- was planning to ask these. I don't want
8 to -- because they were his questions.

9 COMMISSIONER GARDNER: Proceed.

10 Q Okay. But they were just handed -- how
11 much is the scrubber at Rockport expected to cost?

12 A The filing we made at Rockport was for
13 1.414 billion.

14 Q On a 1,300-megawatt plant?

15 A Right. For a scrubber and an SCR.

16 Q Okay. About a thousand dollars a kW?

17 A Round numbers, yes.

18 Q Round numbers. Okay. And Kentucky
19 Power will get its allocated share through the unit
20 power agreement? It will -- those costs automatically
21 will be flowed through to Kentucky Power?

22 A I'm not familiar with those type
23 arrangements.

24 Q Coal ash disposal. Were you here
25 earlier when -- when that question was asked, how much

1 that would cost?

2 A You're referring to the question of
3 Mr. McManus about CCR?

4 Q Yes.

5 A Yes.

6 Q Do you have an answer?

7 A Let -- let me say that the installation
8 of this dry -- dry scrubber technology will -- has
9 another co-benefit which probably hasn't been brought
10 to light yet, and that is currently the -- the Big
11 Sandy unit has a wet flash disposal system, and
12 inherent with this design of the dry scrubber, you
13 know, the modification of that system is not -- no
14 longer required. You would not have to convert the
15 unit from wet to dry to -- to address some, you know,
16 future CCR regulation.

17 So the other thing that -- that I think
18 he mentioned also is that we're actively pursuing
19 the -- the idea of using the dry flash disposal from
20 the scrubber system as a means of closing the existing
21 flash impoundment. So there's really -- there's
22 really a couple of added benefits here of this dry
23 scrubber applications.

24 Q Going back a little bit, are you aware
25 that the Staff in its fourth set of discovery asked

1 AEP to rerun the Auror -- the -- not the Aurora, the
2 Strategist model with updated assumptions and inputs
3 and so forth? I'm sure that was directed to
4 Mr. Weaver, but were you aware that Staff asked that
5 that be done?

6 A No. That probably was addressed to him.

7 Q If there was this longer review process
8 like the Indiana Commission is pursuing, do you have
9 an opinion as to whether or not that would give AEP
10 the ability to do some of these additional model runs
11 that were being requested?

12 A I'm -- I really can't comment on that.

13 Q We'll ask Mr. Weaver.

14 MR. KURTZ: Thank you, Mr. Chairman.

15 COMMISSIONER ARMSTRONG: Ms. Burns.

16 MS. BURNS: Yes.

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20 CROSS-EXAMINATION

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22 By Ms. Burns:

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24 Q I have just a couple questions,
25 Mr. Walton. Is it correct that an independent

1 technical review of the planned projects was not
2 conducted by an external consultant in this
3 proceeding?

4 A Yes. The -- the dry scrubber evaluation
5 was not independently done. It was done in-house with
6 our own resources.

7 Q Okay. By the internal AEPSC group or --

8 A Yes, ma'am.

9 Q Okay. Do you have any idea how much an
10 outside consultant would have cost to have done an
11 independent review?

12 A Boy, it would be a guess on my part
13 without going out in the market to see what they might
14 charge.

15 Q Do you have any idea about a prior
16 environmental case filed here at the Commission, Case
17 Number 2002-00169, that was also a case to amend
18 Kentucky Power's Environmental Compliance Plan to
19 do -- to put the SCR on Big Sandy 2 and do some work
20 on Big Sandy Unit 1? Do you know if those technology
21 evaluations and selections were also performed
22 internally by AEPSC?

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

25 Q Okay. When was the Indiana Commission

1 order entered with respect to the Rockport scrubber,
2 if you know?

3 A When did we file the application for the
4 certificate, is that what you're asking?

5 Q Well, is there an order entered or is it
6 just you -- when did you -- when did you file it?

7 A I think it was around August. August --
8 first part of August.

9 Q Is there a final order entered in that?

10 A No, not yet.

11 Q Okay. When was the decision made to
12 delay until the final Phase 1 planning?

13 A I'm sorry, I didn't understand the
14 question.

15 Q The -- has there been a decision to
16 delay until the Phase 1 is completed?

17 A In the Indiana?

18 Q Yes.

19 A The Rockport?

20 Q Yes.

21 A No, we are proceeding there. It's the
22 one I referenced that they had agreed to reimburse us
23 of our costs.

24 Q Well, how far along are you into the
25 Phase 1 planning?

1 A The Rockport Unit 1, Phase 1 is at -- is
2 at -- excuse me. Is at the end of Phase 1. We have,
3 in essence, completed Phase 1 on the Rockport unit.

4 Q You have completed Phase 1?

5 A For the Rockport, correct.

6 MS. BURNS: Okay. That's all I have,
7 Your Honor.

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EXAMINATION

12

13 By Commissioner Gardner:

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15 Q Mr. Walton, in your -- you were the
16 sponsoring witness, I guess that's the right
17 terminology, for Commission Staff's first set of data
18 requests, item number 35, and I'll just say what it
19 is. The question that was asked of you was about --
20 or was asked about where was dry FGD technology used
21 elsewhere, and the -- and your response was -- and I
22 asked the question this morning and have since found
23 out the answer. There was apparently a couple units
24 at East Whitfield -- Wheatfield, Pennsylvania,
25 ironically enough a couple at Maysville, Kentucky, and

1 a couple at Millsboro, and the largest of those units
2 was -- was 440 megawatts.

3 Is there any scaling issue with respect
4 to dry FGD like there is for CCS?

5 A One -- one of the unique factors about
6 the NID technology which we're proposing is that
7 it's -- it's built in modules so that for, say, Big
8 Sandy Unit 2, I think right now the preliminary look
9 has us with probably 12 identical modules. If you
10 look at -- at the Rockport facility, it's north of 20.
11 But they're all identical. So the scale-up is not
12 really everything gets bigger, it's just that there's
13 more of them.

14 Q Okay. So -- so there's not an issue,
15 then?

16 A There's not an issue.

17 Q Okay. I also asked a question this
18 morning that -- that was referred back to you, and it
19 has to do with Mitchell. Are you familiar with the
20 Mitchell facility?

21 A Yes, sir.

22 Q Why do you smile?

23 A Because I was responsible for putting
24 scrubbers and SCRs on the Mitchell units also.

25 Q Okay. I think the question that I asked

1 that was referred to you is: Do the scrubbers and the
2 SCRs, do they -- as it is current, do they comply with
3 the Utility MACT Rule as well as the CSAPR rule?

4 A To the best of my knowledge, that they
5 do. What we had done -- the only concern that we had
6 at one point in time was whether or not the
7 precipitators were of sufficient size and in a
8 condition to meet, I believe it's the .03 emission
9 limit in the -- in the new reg. We did field testing
10 there and found out that, you know, with -- with very
11 little influx of capital for those -- for those
12 precipitators, they -- they will -- those units will
13 meet the -- the legislation.

14 Q Okay. And, again, just to make sure,
15 the 25,000,000 includes the 15,000,000 that was
16 incurred 2004 through 2006?

17 A That is correct.

18 Q Okay. And since Mr. Kurtz asked a
19 question that -- that I might have asked, I'll ask a
20 question now that he might have asked. So the
21 question goes like this: How long have you been
22 involved with this Phase 1? Have you been involved
23 since the beginning in 2004?

24 A I was involved in 2004; yes, sir.

25 Q Okay. And so there was a period, it

1 goes along through 2006, and there's -- then it was
2 basically stopped or slowed down at that point, when
3 you decide -- determined for a variety of reasons that
4 the wet FGD would not be suitable or appropriate or
5 cost effective; is that right?

6 A That's correct. We looked at both --
7 you know, at that -- in that time frame, you know, the
8 wet FGD technology was the only one available to --

9 Q Okay.

10 A -- you know, be able to handle the 4.5
11 pound coal at 90 percent removal. So we were looking
12 at two different wet technologies, you know, the spray
13 tower and also the Chiyoda jet bubbling bed, so --

14 Q Okay. And when did you get reinvolved
15 in looking at Big Sandy 2 again?

16 A That would have been in 2010.

17 Q Okay. And how would you describe your
18 role in that process? Were you the head of it, the
19 head of looking at the technology, the -- the director
20 of it? I mean, how was your -- what was your position
21 in that process?

22 A Well, as the -- as the managing
23 director, I have a project director that works for me
24 who has direct responsibility for the project
25 management functions associated with executing that

1 type of work.

2 Now, the engineering services
3 organization looks at the different technologies and
4 what might be feasible, makes that determination of
5 what tech -- which technologies might have the
6 potential to -- you know, to perform as might be
7 necessary. Okay.

8 Q Okay. When -- how did you -- as
9 Mr. Kurtz says, in June of 2011, I believe it was
10 Mr. Akins announced that Big Sandy 2 was going to be
11 closed as opposed to scrubbed. How did you find out
12 about that decision at that point?

13 A Well, I -- I had, you know, been
14 involved in the scrubber work at that -- up to that
15 point in time, and I had an understanding of the
16 other, you know, gas solutions that were being looked
17 at, so I was in -- you know, I was informed of this
18 through the normal course of internal correspondence,
19 I guess, that that was -- that was the path forward.

20 Q And about how long were you informed of
21 that, that that was the path forward before it was
22 made public?

23 A Oh, I -- it wasn't very long before it
24 was made public.

25 Q A couple weeks? A couple months?

1 A Yeah, at most a couple months.

2 Q Okay. And who was in charge of the gas
3 portion of it? You said there were other options.
4 There were gas options being looked at. Was that you
5 also?

6 A No, that was -- you know, I have a -- in
7 essence a counterpart on the gas side. That was Chris
8 Beam that --

9 Q Okay.

10 A -- was performing, in essence, the
11 function that I perform.

12 Q Okay. Did you have any direct contact
13 with the work that Mr. Weaver was doing on mod --

14 A His modeling?

15 Q Uh-huh.

16 A The only -- the only contact that I
17 would have had would have been to provide to him the
18 estimated costs of the scrubber systems, both the
19 capital cost and the operational maintenance expense,
20 for him to use in his modeling.

21 Q Okay. And when did you provide that to
22 him?

23 A I don't recall the exact date of --

24 Q Approximately.

25 A I think the -- the latest information

1 that I provided to him would have been after that,
2 after that announcement, so --

3 Q After the June announcement?

4 A Yes. Yes.

5 Q Okay. And how did you find out that --
6 that the -- that the scrubber option was back on the
7 table, so to -- so to speak? How did you find out
8 about that?

9 A Well, in providing the information to
10 Mr. Weaver, we stay in communication as to what the
11 indications are coming out of the model, so, you know,
12 from that standpoint, you know, as his modeling
13 progresses, I'm provided an update on -- on the
14 results of that modeling.

15 Q Okay. And were there prior runs of the
16 model that showed that gas was the most economical,
17 which is why Mr. Akins announced that it would be --
18 that it would be shut down?

19 A I would have to presume that to be true,
20 you know, that --

21 COMMISSIONER GARDNER: Okay. All right.
22 That's all I have. Thank you.

23 COMMISSIONER ARMSTRONG: Ms. Burns.

24 MS. BURNS: Your Honor, sorry.

25 * * *

REXCROSS-EXAMINATION

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2
3 By Ms. Burns:
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5 Q You didn't sponsor this exhibit, you
6 didn't sponsor any, but in response to Commission
7 Staff's third set of data requests, item number 10, we
8 had asked for Kentucky Power to do a breakdown of
9 costs, including material and laborers, in preparing
10 this filing, and actually Mr. Wohnhas was responsible
11 for responding to that, but as a post-hearing data
12 request, could you make sure we get an update of -- of
13 costs as of May 1? Is that possible?

14 MR. OVERSTREET: Certainly.

15 MS. BURNS: Okay.

16 COMMISSIONER ARMSTRONG: Redirect?

17 MR. GISH: Very few, Your Honor.

18 COMMISSIONER ARMSTRONG: Okay.
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REDIRECT EXAMINATION

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3 By Mr. Gish:

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5 Q You -- in response to Mr. Gardner's
6 question, you testified that there was likely a
7 modeling run that had been done to provide Mr. Akins
8 with the information to make the announcement about
9 retiring the Big Sandy unit. Would that modeling run
10 have been done using the tabletop estimate that
11 Mr. Thomas discussed yesterday?

12 A Yes, it would have been.

13 Q Okay. And you test -- you testified in
14 response to some questions from Commissioner Gardner
15 regarding the -- and from Mr. Kurtz regarding the work
16 done in the 2004-2006 time period on the wet flue
17 grass -- the wet -- wet scrubber. Did the work that
18 was performed in that period transition over to the
19 work that's performed now? I guess, in other words,
20 has -- has the work that's been performed on the dry
21 scrubber been cheaper because of the work that was
22 done on the wet scrubber?

23 A Well, I can say that we've not had to
24 incur costs associated with a lot of the feasibility
25 studies that were done back in the 2004 to 2006 time

1 frame. You know, I think that I had talked about some
2 examples being the feasibility study around the stack,
3 the stack location, whether or not we needed a new
4 stack or we could reuse the existing stack. All the
5 work that was done around, say, the coal blending
6 facility and the coal -- how that would be laid out
7 then and what that might cost. The landfill work that
8 was done in the 2004 to 2006 time frame carries
9 forward. So, you know, in essence, a majority, if not
10 all, of that work does carry forward into the -- into
11 the project that we're -- we're undertaking now.

12 Q And do you have any reason to believe
13 that at the end of the Phase 1 process the decision to
14 proceed with the Big Sandy 2 retrofit will be changed?

15 A No, I really don't. And one of the
16 things that, you know, gives me further confidence in
17 what we've done to date is, you know, as I explained
18 earlier, you know, the Rockport Unit 1 Phase 1 work
19 has been completed, and one of the products at the end
20 of Phase 1 is the validation of the original estimated
21 cost for -- for the project.

22 So at Rockport, you know, as I said, the
23 unit was filed as a -- I think \$1.414 billion project,
24 and at the end of Phase 1, where -- where we validated
25 the accuracy of that -- of that estimate, we were

1 within tens of millions. Okay. The -- the updated
2 estimate at the end of Phase 1 was, in essence, about
3 \$40,000,000 less than what we -- I mean, very
4 accurate, okay, is another way of putting it.

5 Now, the Big Sandy estimate was put
6 together in the same process, same procedures, using
7 all of the same historic data that we've -- that we've
8 gained throughout, you know, the past ten years of
9 building new scrubbers.

10 So I would see, you know, no reason why
11 the Big Sandy estimate is not going to be just as
12 accurate as that -- what was demonstrated at Rockport,
13 so therefore I don't see that this -- this decision to
14 move forward is going to change.

15 MR. GISH: Mr. Chairman, that's all I
16 have.

17 COMMISSIONER ARMSTRONG: AG.

18 MR. HOWARD: Yes, Mr. Chairman, if I
19 may, just a few.

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21 * * *

1 RE-CROSS-EXAMINATION

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3 By Mr. Howard:

4
5 Q If I can refer to your direct testimony,
6 sir, at page 3, line -- beginning at line 10. I'll
7 give you a moment to get there.

8 A Yes, sir.

9 Q You see where it reads "In
10 November 2010"?

11 A Yes, sir.

12 Q Can you read that sentence for me?

13 A (Reading) In November 2010 I was named
14 to my current position of managing director of project
15 and controls with expanded additional responsibility
16 for project scheduling and monitoring services as well
17 as cost analysis and control services.

18 Q Okay. So that says "as well as cost
19 analysis and control services," correct. Now, may I
20 assume that in your role, and -- and your role is
21 managing director of projects and controls, correct?

22 A Yes, sir.

23 Q That's for American Electric Power
24 Service Corporation. In that capacity, is a pretty
25 heavy degree of reliance placed upon you to advise

1 your superiors as to what course of action should be
2 taken in regard to projects and controls in light of
3 cost analysis and control services?

4 A The cost analysis and control services
5 referenced here is the ongoing services we provide out
6 of my group to all the major projects across the
7 system from the standpoint of current -- the current
8 financial status of the project as it's being executed
9 and also the scheduled services of providing the
10 overall scheduling functions and scheduling resources
11 to monitor ongoing projects.

12 So from -- from that perspective, that's
13 not a strategic function. That's more of a tactical
14 function there, and I think what you refer -- your
15 question is more of do I provide strategic direction;
16 is that --

17 Q Okay. Well, I heard a fair amount of
18 questioning about KIUC's chart where we look at Phase
19 1, Phase 2, and how you're proceeding and your -- and
20 your team is proceeding, and so you're -- again,
21 you're looking at just what's -- you're being told to
22 do and you offer no advice as to what you believe on a
23 planning approach needs to be done for American
24 Electric Power? Is that what you're saying there?

25 A No, sir. Let me -- I'll -- I'll -- I'll

1 try to explain that. At the end of Phase 1, okay, and
2 when we're -- when we've gathered all the information,
3 they have all the data, it's -- it's my responsibility
4 at that point in time to make a recommendation to
5 management as to whether or not I believe it prudent
6 to proceed forward or not and present them with the
7 same factual information that I have that I derived my
8 collusion from so that, you know, they -- they have
9 that same information and can, you know, either
10 support, endorse, or refute that decision and move it
11 through the approval cycle chain.

12 Q Okay. And if I understand a moment ago
13 from the vice chairman, that you understood that from
14 a memo or some sort of document from someone above
15 you, perhaps the CEO Akins, that the natural gas unit
16 was the way that Kentucky Power was going to proceed
17 to comply with the EPA, correct?

18 A That's correct.

19 Q And then, lo and behold, a few weeks
20 later or a few months later, and tell me the time
21 frame, you found out that all of a sudden, no, the
22 natural gas unit's not the way to go, you're now
23 retooling to go with the FGD, correct?

24 A That's, in essence, correct.

25 Q So the word came down, even though that

1 you have input as to how the Company should approach
2 this, that someone above you has decided that you're
3 going to retool?

4 A No. No. That's -- that's not quite an
5 accurate representation of -- of how -- how it works.
6 The -- the issue of, you know, working from the
7 tabletop estimate, okay, when it came down that
8 that's -- that the decision -- it was indicated that
9 the gas solution was the most economic. Okay.

10 At that point in time, you know, that --
11 that represents a significant decision for the
12 Company. Okay. So as we move forward in -- into, you
13 know, a further evaluation of that, you know, we -- we
14 employed, you know, the outside consulting AE firm,
15 Sargent & Lundy and Kiewit, to say, you know, "Hey,
16 this is -- this is what our conclusion represents. We
17 want you to do a totally independent evaluation and
18 make sure that we're not missing something."

19 Okay. So as we moved through that
20 process, that's when it came to light that our
21 tabletop numbers were not necessarily, you know,
22 representative of the market at that point in time and
23 that -- that at that point it appeared, you know, that
24 the -- the scrubber option was the more economic for
25 Kentucky Power and its customers.

1 Q Well, from a professional viewpoint, do
2 you think it prudent to spend literally over
3 \$10,000,000 on -- on a project and then to stop that
4 and -- and then literally to stop that in the tracks
5 and then -- or perhaps even continue with that but
6 then likewise continue with yet another project not
7 knowing which one you're ultimately going to use?

8 A I'm not following your -- your question.

9 Q Well, you're using phase -- you're going
10 with the scrubber and you're spending millions of
11 dollars, correct?

12 A We are proceeding, you know, in
13 finalizing Phase 1 with the scrubber option; that's
14 correct.

15 Q Okay. And then all of a sudden there is
16 a pullback and you're going to go with an FGD that's
17 announced, correct?

18 A Yes, we've announce -- we're here --

19 Q Yeah. Again --

20 A -- asking for approval.

21 Q -- for the FGD, and then you pull back,
22 and you also then announce, "Well, we're going to go
23 with a natural gas unit," correct?

24 A That was the announcement.

25 Q So do you think it's financially prudent

1 to be you -- spending millions of dollars on two
2 different projects when it really should be one or the
3 other?

4 A Well, I think that -- that, you know,
5 nothing's free. Okay. And you really -- you have to
6 spend money to ensure you're making the right
7 decision. Okay. The one that's in the best interest
8 of, you know, Kentucky Power, its customers. And,
9 again, it takes, you know, analytical work, both
10 internal and -- and in this case also the hiring of
11 external entities to make sure that we're arriving at
12 the right conclusion.

13 Q But in this case isn't it an either/or
14 option, as I believe you testified, that you either go
15 with the scrubber or you go with the natural gas unit?

16 A I think there are other options on
17 the -- on -- out on the table that have been discussed
18 here in this hearing.

19 Q So -- so you have -- you take no issue
20 with the fact that you are willing or the Company is
21 willing to spend millions of dollars on a scrubber
22 while at the same time spending millions of dollars on
23 a natural gas unit in tandem?

24 MR. GISH: Mr. Chairman, that's -- I
25 think that's misstating the testimony. He never said

1 that they are spending millions of dollars on
2 everything, just that they were doing the appropriate
3 level of analytics.

4 MR. HOWARD: But I believe he said that
5 the analytics, that those were costly, if I
6 understood. If he can answer the question, that's
7 fine; if he can't, I --

8 COMMISSIONER ARMSTRONG: He may have
9 already answered it. You -- you --

10 A That's -- that's what I thought. That's
11 why I'm -- I'm a little bit confused at your -- we
12 were spending the funds to simultaneously determine
13 what the -- you know, the absolute cost of the gas
14 solution was, at the same time determining, to the
15 best of our ability, what the cost of a scrubber was
16 so that you could take that best information
17 available, hand it to -- hand it to Mr. Weaver to
18 input into his strategic modeling to arrive at the
19 right solution.

20 So, again, yes, to spend money to get to
21 the right -- right solution and the right
22 recommendation I believe is prudent.

23 MR. HOWARD: Okay. No -- no further
24 questions, Mr. Chairman.

25 COMMISSIONER ARMSTRONG: Thank you,

1 General.

2
3 * * *

4
5 EXAMINATION

6
7 By Commissioner Armstrong:

8
9 Q Mr. Walton -- have you noticed my voice
10 is getting better?

11 A It is.

12 Q No. Can you hear me?

13 A Yes, sir.

14 Q You worked with Mr. Weaver? You worked
15 with Mr. Weaver?

16 A Yes, I work with Mr. -- interact with
17 him.

18 Q How often would you meet with him?

19 A I would say, meeting, maybe once every
20 two weeks. Verbal conversation, at points it's daily.

21 Q So would you say that as he was setting
22 about modeling for this, you would supply responses to
23 his questions?

24 A That's correct.

25 Q And that was based on your history of

1 having done projects like this previously? You
2 mentioned Mitchell and others.

3 A Yes, sir.

4 Q Was anything unique about this so far?

5 A No, I see nothing unique about the --
6 the interchange of the information or the request he
7 made of me.

8 Q Do you think the Company is on the right
9 track?

10 A Well, I absolutely do.

11 Q Was there anytime a discussion about
12 purchasing power to supplement your modeling or
13 assistive to the modeler?

14 A I only really deal from the standpoint
15 of -- of hardware. Okay. Of steel on the ground, as
16 it's been termed. So that I think that he more than
17 likely interacts with others when it comes to power
18 markets and purchase power agreements and so forth.

19 Q You've been on board since '04 with this
20 project?

21 A Really '02.

22 Q Okay. '02. I have a hard time
23 believing that you would cancel a project that the
24 General and others have mentioned based on information
25 that you would normally get in the flow of meeting

1 with Mr. Weaver, and I guess Mr. McManus and others.

2 A If you -- if you're referring to the --
3 to the -- to the when we, you know, placed the 2004 to
4 2006 work in suspension --

5 Q Yes.

6 A You know, we were -- we were interacting
7 at that time from the standpoint that I was providing
8 updated cost estimates, and I believe that -- you
9 know, and he's better than I as to where he may have
10 been getting, you know, the fuel information to make
11 these comparative -- comparative analysis that really
12 turned out to be that what we thought was the best
13 path forward at that point in time, with the move in
14 the markets around the scrubber technologies and the
15 costs there, the move in the coal markets where the
16 advantage of high-sulfur over low-sulfur fuel
17 flip-flopped, if you would have it. You know, that
18 kind of an input to Scott is what led to the ultimate
19 conclusion that to proceed forward at that point in
20 time was not in the best interest of the Kentucky
21 customers.

22 Q Based on the economy of it? Based on
23 the economy of it?

24 A That -- on -- on the -- just the cost
25 increase, I mean, when compared against other

1 alternatives in the market at that point in time.

2 Q So the least cost to you was the
3 scrubber?

4 A In today's --

5 Q From the very beginning, '02.

6 A Well, in '02 to '04, in order to address
7 the SO2 removal efficiency that we needed, a scrubber
8 was the only way to accomplish that and continue to
9 burn coal.

10 COMMISSIONER ARMSTRONG: Any other
11 questions?

12 MR. GISH: I'm -- we're done, Your
13 Honor.

14 COMMISSIONER ARMSTRONG: One more?

15

16

* * *

17

18

REEXAMINATION

19

20 By Commissioner Gardner:

21

22 Q I'm sorry. Could you explain to me,
23 when you used the term "tabletop exercise" in response
24 to a question from counsel, what the difference is
25 between a tabletop exercise and then the modeling

1 that --

2 A The -- the term "tabletop," which I
3 don't use very often, but, you know, the definition of
4 that would be, you know, folks sitting down, in
5 essence, at a table, ignoring what may be going on at
6 the specific project site or what it might look like,
7 doing a paper study, taking available information that
8 may be either published or -- or claimed and using
9 that information to look and say, "Well, with the best
10 information we have just here in front of us, you
11 know, without going into the field and looking at any
12 particulars, here's what we believe this job might
13 cost." Okay.

14 And the difference there, you know, from
15 doing what we do in a Phase 1 study, I mean, we
16 physically go to the field. I mean, it's all -- you
17 know, it's -- it's a real in-depth analysis of what
18 this is now going to now look like, so --

19 Q Okay. So that's, as I understand what
20 you said, then, just sitting around the table figuring
21 out what it might cost without the detailed analysis.
22 Is that the only modeling or the only analysis that
23 was done until after June of 2011?

24 A That's pretty much correct, yes.

25 Q Now, did I under -- and was Mr. Weaver

1 involved in this sitting around talking about it?

2 A Well, he would have -- he would have
3 been the recipient of those results.

4 Q Okay. And did I hear you say that
5 subsequent to the announcement by Mr. Akins, that
6 you-all got somebody else to do modeling? Or maybe I
7 misunderstood you.

8 A Yeah. No. We got Sargent & Lundy and
9 Kiewit to do an independent, I'll call it cost
10 estimate of, you know, what the -- of the same
11 tabletop --

12 Q So they --

13 A -- effort that we had done.

14 Q They didn't do the modeling, they just
15 did the -- the detailed cost estimate?

16 A That's correct.

17 Q And then they would have given that to
18 Mr. Weaver for detailed modeling?

19 A That information would have been
20 provided to Mr. Weaver for modeling.

21 Q They didn't get involved until after
22 June?

23 A That's my recollection, yes.

24 COMMISSIONER GARDNER: Okay.

25 * * *

REEXAMINATION

1
2
3 By Commissioner Armstrong:
4

5 Q How many options were there?

6 A I'm sorry?

7 Q How many options were there?

8 A The -- the only three, again, that I was
9 involved with, you know, would have been the -- the
10 two gas solutions that have been -- you know, have
11 been talked about and then the scrubber option. You
12 know, the -- the other options, you know, that were --
13 whether it's, you know, purchased power or so forth
14 and so on, I would not be involved in that because I
15 have no input for that.

16 Q Would Mr. Weaver be involved in that?

17 A Yes, sir.

18 COMMISSIONER ARMSTRONG: Thank you, sir.

19 MR. OVERSTREET: With that we'll call

20 Mr. Weaver.

21 COMMISSIONER ARMSTRONG: Okay.
22

23 * * *

1 SCOTT C. WEAVER, called by Kentucky
2 Power Company, having been first duly sworn, testified
3 as follows:

4
5 DIRECT EXAMINATION

6
7 By Mr. Overstreet:

8
9 Q Good afternoon, Mr. Weaver.

10 A Good afternoon.

11 Q Would you please state your name,
12 position, and business address?

13 A My name is Scott C. Weaver, and my
14 position is managing director of resource planning and
15 operational analysis for American Electric Power
16 Service Corporation, and my workplace is 1 Riverside
17 Plaza, Columbus, Ohio.

18 Q And, Mr. Weaver, have you caused to be
19 filed in this proceeding direct testimony, rebuttal
20 testimony, and responses to data request?

21 A Yes, I have.

22 Q Do you have any corrections to those
23 materials?

24 A I have one relatively minor change. On
25 page 51 of my direct testimony, line 19, I want to

1 eliminate the word "not" at the end of that line 19.
2 That eliminates one of two "nots" in that sentence,
3 because I thought it was inappropriate inasmuch as it
4 changes the meaning, obviously.

5 Q Was that a typo?

6 A I don't call it a typo, but it was -- it
7 was a mess-up, that's for sure.

8 Q Okay. Do you have any other changes?

9 A No, I do not.

10 Q And if you were asked these same
11 questions today, would your answers be the same?

12 A Yes, they would.

13 MR. OVERSTREET: The witness is
14 available for cross-examination.

15 COMMISSIONER ARMSTRONG: Proceed.

16
17 * * *

18

19 CROSS-EXAMINATION

20

21 By Mr. Fisk:

22

23 Q Good afternoon, Mr. Weaver.

24 A Good afternoon.

25 Q How are you today?

1 A Very well, thank you.

2 Q Great. In your testimony you have
3 submitted modeling from -- using Strategist model and
4 the Aurora model; is that correct?

5 A That's correct.

6 Q Okay. And did you personally do that
7 modeling?

8 A Not personally. Members of my staff
9 performed the modeling.

10 Q Okay. And who did -- and who did that
11 modeling?

12 A Very specifically, there were Mark
13 Becker, who was a witness here in this case today, and
14 his staff. In addition to that, I should have
15 mentioned that the Aurora modeling was, in fact,
16 performed by a colleague, his staff, Mr. Bletzacker,
17 who basically has ownership of the Aurora tool, both
18 its utilization for purposes of forecasting long-term
19 commodity prices as well as, in this case, the
20 stochastic modeling -- modeling.

21 Q Okay. And if you could turn to page 11
22 of your direct testimony, starting --

23 A Go ahead. Sorry.

24 Q Oh, I'll give you a second to get some
25 water.

1 A Yes, I'm there.

2 Q Okay. Great. And on page 11 of your
3 testimony you discuss what you've termed "available
4 alternatives"; is that correct?

5 A That's correct.

6 Q Okay. And lines 7 to 8 on page 11, you
7 say four alternative options were assumed to be
8 available to Kentucky Power; is that correct?

9 A That's correct.

10 Q Okay. And were you involved in
11 identifying the options that were assumed to be
12 available?

13 A I was involved in the identification,
14 along with several others.

15 Q Okay. And who else was involved?

16 A Various individuals within the
17 organization. Members of senior management. The
18 names I think we've heard earlier. Mr. McCullough,
19 Mr. Bill Sigmund, who is the heavy engineering
20 organization. They all opined in terms of the types
21 of analyses we would need to look at. Obviously the
22 retrofit is one of those analysis we certainly looked
23 at, but in terms of the gas solution, there was
24 interplay between technical organizations in terms of
25 the type of alternatives. And I should say,

1 obviously, also, I don't want to leave Mr. Pauley, who
2 was part of this process as well, in terms of looking
3 at those alternatives.

4 Q And when you referred to "the
5 organization," you're referring to AEP or Kentucky
6 Power?

7 A AEP and Kentucky Power. I look them at
8 them holistically.

9 Q Was anyone from Kentucky Power involved
10 in those discussions?

11 A They were involved in periodic
12 discussions as we went through the process and it
13 matured over time.

14 Q And who from Kentucky Power?

15 A Again, I think oftentimes Mr. Pauley
16 would participate in -- more often than not it was
17 phone conversations, as well as Mr. Wohnhas.

18 Q And ultimately who made the decision of
19 which alternatives would be evaluated?

20 A I don't know if there was a formal
21 decision-making process. I think these decision --
22 these alternatives were basically established as the
23 most realistic from the standpoint of what we want to
24 focus a great deal of effort on in terms of doing
25 this, this very rigorous modeling.

1 Obviously, from the standpoint of
2 Options 2 and 3, I think the conventional wisdom -- if
3 you're looking to replace or provide needed
4 capability, the conventional wisdom within the
5 industry is to focus on gas combined cycle,
6 particularly if that need is a base load need. And
7 then obviously a market alternative, because one of
8 the issues associated with this process is with the
9 recognition of the significant capital constraints
10 that were impairing or impinging Kentucky Power
11 Company and AEP as a whole.

12 Q Did Kentucky Power make the decision as
13 to which alternatives would be evaluated?

14 A Again, I think they were agreeable that
15 this represented an appropriate listing of those
16 alternatives.

17 Q But they didn't make that decision?

18 A Again, I think it was a consensus. I
19 don't know that it was a situation where one
20 individual says yes, now go proceed and do analyses.

21 Q And I believe there was testimony
22 yesterday from Mr. Wohnhas that there was no RFP
23 process done as part of this -- as part of the
24 retrofit project; is that correct?

25 A That's correct.

1 Q Okay. Was the issuance of an RFP
2 considered?

3 A It was, and, in fact, I -- and I
4 provided information both in my direct testimony as
5 well as through discovery. I had conversations with
6 our marketing organization, who has experience in
7 these types of solicitations, and they basically
8 indicated that given the significant size of
9 replacement tranche that we would be talking about
10 here, you're dealing with upwards of 800 to
11 1,100 megawatts of capacity and its attendant base
12 load energy, and recognizing the timing of the need
13 here being mid decade and the -- also the recognize --
14 the recognition from the marketing organization that
15 at that point in time there could be a significant
16 supply-demand strain on resources, competitive
17 resources, they believed that a reasonable proxy for a
18 long-term RFP for base load capacity and energy would
19 be -- again, a reasonable proxy would be a new build
20 CC option.

21 So effectively it's a situation where
22 they indicated to me that it was both unnecessary and
23 then attendant to that, and this is a very important
24 point, they felt that the value of that RFP -- RFP
25 process would be minimized. And the reason why they

1 indicated that was that if -- if there is not an
2 established need for resources, meaning that we're
3 still deciding upon the appropriate disposition of Big
4 Sandy 2, the ultimate issuance or solicitation would
5 not be clear whether you're talking about
6 300 megawatts, 1,100 megawatts, which is, again, the
7 combined capability of units -- Big Sandy Units 1 and
8 2.

9 And as a result, inasmuch as you
10 couldn't offer a firm solicitation, the offers back
11 would be -- based on that contingent bid, would be
12 very much nonfirm, nonbinding, and as a result, they
13 felt would have little value in any economic analyses
14 we would ultimately perform if we were to predicate
15 our analyses off any of those results.

16 Q And who is this "they" that you keep --
17 that you're referring to?

18 A I spoke to a gentleman by the name of
19 Kevin Brady.

20 Q At AEP?

21 A That's correct.

22 Q Okay. And was this analysis documented
23 anywhere?

24 A No. It was phone conversations.

25 Q Did you undertake any analysis to

1 determine whether Kentucky Power could purchase an
2 existing natural gas combined cycle plant for a lower
3 cost than the installed natural gas combined cycle
4 cost that you used in modeling Options 2 or 3?

5 A No, I did not. There are individuals
6 within predominantly AEP who basically have their nose
7 to the wind, if you will, in terms of looking for
8 potential resources. And I think there was some
9 discussion yesterday in terms of what constitutes an
10 available resource. And they have intelligence,
11 internal intelligence, in terms of determining
12 whether, for instance, an asset, let's say an existing
13 combined cycle, has any current off-takers, is
14 obligated from a long-term standpoint in any way,
15 shape, or form. And what I was informed was that
16 there were no outstanding solicitations or formal or
17 informal inquiries from other parties that, "Hey,
18 we've got asset here that we would like to sell."

19 Q And who informed you of that?

20 A Individuals within the strategic
21 organization. I'm trying to think of a name. Matt
22 Fransen.

23 Q And was there any documentation of that?

24 A No. Just discussion.

25 Q Do you know what an Energy Efficiency

1 Potential Study is?

2 A I'm vaguely familiar. Inasmuch as my
3 responsibilities entail overall resource planning,
4 certainly those types of studies do arise.

5 Q As I believe there was testimony
6 yesterday, that there's not been an Energy Efficiency
7 Potential Study done for or by Kentucky Power?

8 A That is my understanding as well.

9 Q Okay. And do you know if other AEP
10 affiliates have done energy efficiency potential
11 studies?

12 A I believe they have.

13 Q Okay.

14 A I can't -- I can't identify specifically
15 which ones and who would have done those studies, but
16 I think the answer is the affirmative, there have been
17 studies.

18 Q Do you know if AEP Ohio?

19 A I don't know.

20 Q Okay. All right. We are going to
21 distribute exhibits -- Sierra Club Exhibit 14, and
22 this exhibit is Kentucky Power Company's response to
23 Sierra Club initial data request number 52. Does that
24 appear to be correct, Mr. Weaver?

25 A Yes.

1 Q Okay. And -- wait for it to get
2 distributed.

3 And on the third page of this document
4 you are identified as the -- the person who drafted
5 the response; is that correct?

6 A I think it was a team effort, but I
7 certainly reviewed the response.

8 MR. FISK: Okay. And for the record,
9 there is a confidential attachment that I'll address
10 later, to this document.

11 Q Okay. And in this Exhibit 14, on page 2
12 there is a discussion of an additional evaluation that
13 was performed in January of 2012. Do you see that?

14 A In part A?

15 Q Yes, in part A.

16 A Yes.

17 Q Okay. And that was regarding the
18 potential acquisition of -- of some portion of the
19 Mitchell coal-fired power units; is that correct?

20 A That's correct.

21 Q And if you look -- one second -- at the
22 first paragraph in sub -- of subsection A of your
23 response on page 2, the last sentence refer --
24 references the fact that the timing of this
25 alternative evaluation was based on the recent

1 prospect that Ohio Power Company could become
2 corporately separated. Without the generation assets,
3 that company may no longer be regulated. Do you see
4 that?

5 A Yes, I do.

6 Q Okay. And to your knowledge, did
7 Columbus Southern Power Company merge with Ohio Power
8 Company?

9 A I believe that has -- that has occurred,
10 yes.

11 Q So references to Ohio Power Company now
12 would mean both of those entities?

13 A Yes, that's my understanding.

14 Q And to your knowledge, did the Ohio PU,
15 Public Utility Commission, initially approve the
16 corporate separation in December 2011?

17 A I'm -- I can't really get into specifics
18 in terms of what was approved or disapproved as far as
19 that filing is concerned. I'm --

20 Q Do you know --

21 A -- somewhat familiar with the ESP
22 filing, but not enough to really get into specifics of
23 rulings.

24 Q Do you know who would know about that --
25 other than --

1 A Somebody within the regulatory group in
2 Ohio or -- or Ohio Power Company.

3 Q Do you know if anybody of the witnesses
4 that have been presented in this proceeding?

5 A I -- my guess is that they wouldn't have
6 knowledge. Perhaps Mr. Wohnhas is the only one I
7 could think of who would -- would have some specific
8 knowledge.

9 Q Okay. And do you know whether AEP
10 Genco -- so under the corporate separation, Ohio Power
11 Company would transfer its assets, its generating
12 assets, to AEP Genco; is that correct?

13 A I don't know if that's the formal name
14 of the -- of the affiliate company, but, yes, it's --
15 generally speaking, that's my understanding.

16 Q Okay. And then do you know, was there a
17 proposal filed with FERC that would transfer some of
18 those generating assets from AEP Genco to Kentucky
19 Power?

20 A To both Kentucky Power and Appalachian
21 Power Company.

22 Q Okay. And those units included Unit 3
23 of the Amos plant and then portions of the Mitchell
24 plant; is that correct?

25 A The non-APCO, Appalachian Power Company,

1 portion of Amos 3 that was owned by Ohio Power Company
2 would basically transfer to Appalachian Power Company,
3 so at that point they would have full ownership of
4 Amos Unit 3, and then the full Mitchell Units 1 and 2
5 would be assigned on an 80/20 basis between
6 Appalachian Power Company and Kentucky Power Company.

7 Q And the 20 percent of Mitchell was
8 around 312 megawatts, I believe?

9 A 312 megawatts.

10 Q And the transfer would -- would be at
11 net book value; is that correct?

12 A That I don't know.

13 Q Do you know how -- how the decision was
14 made as to which unit would be offered to the AEP
15 affiliates?

16 A I -- as far as which units, I don't
17 know, other than I think the result was to effectively
18 equilibrate the relative reserve margins at each of
19 the remaining stand-alone companies, which would be
20 both APCO, Kentucky Power, as well as Indiana Michigan
21 Power Company, and that level of resource, whatever
22 the figure is, 2,400 megawatts, roughly, would cause
23 that approximate equilibration of capacity resources
24 across those three companies.

25 Q Do you know if any of the affiliates

1 could request other units to be transferred at net
2 book value?

3 A That's -- well, there's two questions
4 there. I don't know whether any affiliate could
5 request anything other than what was set forth as part
6 of that filing.

7 And as to your question on net book
8 value, again, I'm not -- I don't know what any
9 transfer price would ultimately be, again realizing
10 here, this -- this filing was, in fact, pulled and
11 needs to be -- I'm assuming in discussion -- or
12 testimony yesterday indicated that there was some
13 presumptive understanding that it's going to be
14 refiled at some point.

15 Q Do you know who at AEP made the decision
16 as to which units would be transferred?

17 A No.

18 Q Okay. And you referenced that the
19 filing had been pulled, the FERC filing had been
20 pulled; is that correct?

21 A That's my understanding, yes.

22 Q Okay. And that's because the Commission
23 in Ohio ended up rejecting the corporate separation?

24 A That's my understanding.

25 Q All right. I'm marking Exhibit 15,

1 which we are distributing, and that exhibit is direct
2 testimony filed by a Mr. Philip J. Nelson in the Ohio
3 Public Utility Commission on March 30th of 2012. Does
4 that appear to be correct, Mr. Weaver?

5 A That's what it indicates.

6 Q Okay. Great. I'll wait for it to be
7 distributed.

8 All right. And who -- do you know who
9 Mr. Nelson is?

10 A I know Mr. Nelson.

11 Q Okay. And who is he?

12 A He is, I believe, a managing director
13 within the AEP regulatory services organization.

14 Q Okay. And did you work with him at all?

15 A It -- we have worked together in the
16 same organization I'm in today, corporate planning and
17 budgeting, several years ago, before he migrated to
18 his new position.

19 Q And -- and feel free to let me know if
20 you need to take time to review this document, but
21 which -- have you ever seen this document before?

22 A I have not.

23 Q No. Okay. If you could just turn to
24 page 4 of Exhibit 15. If you look around line 9, it
25 says corporate separation plan. Do you see that?

1 A Yes.

2 Q Okay. And starting on line 13, it says,
3 (Reading) The principal purpose of the corporate
4 separation filing is to achieve full structural
5 corporate separation of AEP Ohio's generation and
6 marketing businesses on the one hand from its
7 transmission and distribution businesses on the other
8 hand. Is that correct?

9 A Yes.

10 Q Okay. So it appears that the -- the
11 corporation separation plan that we were discussing
12 earlier that was initially approved by the Commission
13 and then rejected, some version of that has been
14 refiled with the Public Utilities Commission?

15 A Apparently it has, yes.

16 Q Okay. And if you flip over to page 5 of
17 Exhibit 15, if you look at line -- starting at line 8,
18 there is a paragraph that goes down to line 14, and it
19 discusses that after assets are transferred to Genco,
20 those assets would then be trans -- the Amos plant and
21 the Mitchell plant would then be transferred to
22 Appalachian Power Company, plus 20 percent would go to
23 Kentucky Power Company; is that correct?

24 A That's what it indicates, yes. Uh-huh.

25 Q Okay. And that's the same --

1 A That's what I described earlier.

2 Q -- division of those plants that we
3 discussed earlier?

4 A Yes. Sorry.

5 MR. FISK: Okay. And I apologize, I
6 realized I forgot to move Exhibit 14 into evidence,
7 and we would also like to move Exhibit 15.

8 MR. OVERSTREET: No objection.

9 COMMISSIONER ARMSTRONG: Without
10 objection, so ordered.

11 MR. FISK: Great. Thank you.

12 (Sierra Club Exhibits 14 and 15
13 admitted.)

14 Q Okay. If we could -- we're done with
15 that exhibit. So if you could turn to Exhibit SCW-4A
16 of your direct testimony, Mr. Weaver.

17 A I'm there.

18 Q Just let me know when you're there.

19 A I'm there.

20 Q Great. Okay. This -- this exhibit, am
21 I correct that it outlines the Strategist --
22 Strategist modeling that you did for the base case of
23 the various options that you evaluated?

24 A Yes.

25 Q And so across the top there's

1 identification of, well, five options, Options 1, 2,
2 3, 4A, and 4B; is that correct?

3 A Yes.

4 Q Okay. And then below each of those
5 options there is identification of in different years
6 when specific units would be retired or repowered or
7 new units would be built; is that correct?

8 A It's a -- yes. It's a capacity
9 expansion plan; that's correct.

10 Q Okay. Great. And then at the bottom,
11 towards the bottom, there is the CPW of the revenue
12 requirements for the various different plants?

13 A Yes.

14 Q Okay. And CPW stands for cumulative
15 present worth?

16 A That's correct.

17 Q Okay. Great. And so the lower the CPW,
18 generally that means it's a lower cost of repairs?

19 A That's correct.

20 Q Okay. And your -- so this -- this
21 modeling that we're discussing, it assumes that the --
22 for the Option 1, which is the retrofit of Big Sandy
23 Unit 2, it assumes that Big Sandy Unit 2 would
24 continue operating until at least 2040; is that
25 correct?

1 A That's correct.

2 Q Okay. And at that point Big Sandy Unit
3 2 would be about 70 years old?

4 A That's approximately correct.

5 Q Okay. And operation until at least 2040
6 would mean 25 years after the scrubber would be
7 installed?

8 A That's correct.

9 Q Okay. And -- but Kentucky Power is
10 seeking recovery for the scrubber on a 15-year basis?

11 A That's correct.

12 Q Okay.

13 A And that was reflected in this -- in
14 these analyses; that's correct.

15 Q I'm sorry.

16 A I'm sorry. It's reflected in these
17 analyses.

18 Q Okay.

19 A The levelized carrying charge.

20 Q Okay. So the full cost of the
21 recover -- of the scrubber would be recovered by the
22 Company by 2030 rather than by 2040?

23 A The end of 2030; that's correct.

24 Q And if the Big Sandy Unit 2 were to
25 retire, say, in 2030, would there need to be some sort

1 of a replacement, either a new unit or a purchase of
2 energy and capacity?

3 A To the extent that -- and, again, this
4 was modeled under the perspective that Kentucky Power
5 would be operating on a stand-alone basis, and if that
6 were the case, then indeed if they fell below the
7 requisite reserve margin that is required by PJM, they
8 indeed would have to replace that capacity in --
9 through some means, whether it's building replacement
10 capacity, acquiring, purchasing replacement capacity,
11 to meet that reserve margin criteria.

12 Q And currently if you were to retire Big
13 Sandy Unit 2, you would need to replace it with
14 something, correct?

15 A That's correct.

16 Q And do you have any reason to believe
17 that you would not need to replace it with
18 something --

19 A No. No.

20 Q -- in 2030?

21 A No. That would be correct.

22 Q Okay. And looking back to your Exhibit
23 SCW-4A of your direct testimony, does the Base 1 --
24 Base Option 1 listing of capacity resources include
25 any new capacity resources if the plant were to retire

1 in 2030?

2 A No. The -- you're talking about Option
3 1 again?

4 Q Yes.

5 A No, it does not. It assumes the unit
6 would be producing power and energy through 2040.

7 Q And if you had to build a new resource
8 or purchase resources to replace Big Sandy, that would
9 impose some sort of a cost on ratepayers?

10 A Yes, but depending upon what type of
11 resource, you would be dealing with both a fixed cost
12 element as well as a variable cost element, and if
13 it's a -- if it's a variable cost element, and meaning
14 that you've got a coal unit that had been generating
15 reasonably efficient, with a relatively low variable
16 cost, then the replacement capacity compares and has
17 to be looked at as well from a variable cost
18 perspective.

19 So, in other words, you may -- you may
20 certainly incur incremental costs associated with the
21 replacement capacity. But let's just say it's a gas
22 combined cycle. If the variable costs associated with
23 gas combined cycle would exceed the variable cost of
24 avoided Big Sandy 2 generation in that ten-year
25 period, you could have a negative cost implication on

1 CPW as well.

2 Q But if you were to have to purchase or
3 build a new plant in 2030, say a natural gas combined
4 cycle plant, to replace Big Sandy Unit 2 --

5 A Right.

6 Q -- the ratepayers would have to pay for
7 the purchase price of that facility, correct?

8 A You would have the purchase price, but
9 you would be avoiding whatever fixed cost that Big
10 Sandy would have been incurring in that same frame.
11 And, again --

12 Q But the purchase price would have to be
13 paid for?

14 A That's correct.

15 Q Okay.

16 A But from the variable cost stand -- you
17 gotta look at both fixed and variable cost elements
18 when you're comparing two alternatives.

19 Q And -- and this modeling that you did
20 looked at neither, correct?

21 A This particular run did not, that's
22 correct, this instance.

23 Q Did any of the runs that are reported
24 here on Exhibit SCW-4A consider that?

25 A Well, again, you're -- if you're talking

1 about Big Sandy 2?

2 Q Replacement of Big Sandy 2 in 2030.

3 A Big Sandy 2 replacement occurs -- in
4 Option 2, obviously, it occurs in 2016, likewise with
5 Option 3.

6 Q Okay.

7 A And even Options 4A and 4B, for that
8 matter, in the form of purchased capacity from PJM.

9 Q But you didn't do any modeling that
10 assumes retrofit of Big Sandy Unit 2 in 2015, 2016
11 with -- and then retirement of Big Sandy Unit 2 in
12 2030, correct?

13 A We did do, albeit this is our -- this is
14 our base plan. For purposes of our modeling, we
15 assumed the unit would last 70 years, and we responded
16 to data requests with the necessary reinvestment in
17 that facility, which has been reflected within the
18 Strategist tool. We feel very comfortable that
19 facility could last through 2040.

20 We did do a sensitivity run. That's the
21 operative word, a sensitivity run, to look at a view
22 of Big Sandy 2 operating for 15 years and then
23 retiring in 2031. And, in fact, the model optimized
24 and shows a combined cycle facility replacement in
25 that -- to replace it in that time frame.

1 And the results of that economic -- that
2 sensitivity analysis was that indeed there was a
3 higher CPW cost by roughly order of magnitude of
4 \$200,000,000. But what that served to do is, then
5 when you look at these comparative results, it still
6 confirmed that the CPW -- and that was done under base
7 price, what we call long-term CSAPR pricing, the
8 relative Option 1 versus Option 2, Option 1 versus
9 Option 3 still supported as Option 1 as being the
10 least cost, even with considering a sensitivity view
11 that would retire it in 2030.

12 Q And where is that sensitivity review
13 presented? Was it in the application?

14 A It's not -- it wasn't a formal -- it
15 wasn't a formal alternative we looked at. We believe
16 and feel confident that the unit will be able to
17 operate, with the -- with the necessary reinvestment
18 and ongoing capital, through 2040.

19 Q So it was not presented in your
20 application, correct?

21 A That's correct.

22 Q It was not presented in your rebuttal
23 testimony, correct?

24 A That's correct.

25 Q Were the -- was it ever presented in

1 discovery to any of the parties?

2 A I'm not aware that any discovery
3 specifically requested for that type of analysis.

4 Q And when did you perform this analysis?

5 A Pardon me?

6 Q When did you perform this analysis?

7 A I think it was probably sometime last --
8 late last year, maybe fourth quarter, third or fourth
9 quarter of 2011.

10 MR. FISK: I would move to strike
11 reference to this analysis. It was not included in
12 any of the filings. It was not presented in
13 discovery. This is the first we've heard of this
14 analysis that supposedly occurred on a pretty
15 fundamental issue.

16 MR. OVERSTREET: I don't understand the
17 basis for the analy -- the motion to strike.
18 Mr. Weaver has clearly testified that it -- that it
19 was a sensitivity analysis. It's not one of the
20 options that the Company reviewed in connection with
21 putting together its application and that it wasn't
22 requested in discovery.

23 MR. FISK: If you can give me one
24 minute.

25 COMMISSIONER ARMSTRONG: Mr. Fisk

1 was occupied. Can you restate your --

2 MR. OVERSTREET: Surely. Mr. Weaver has
3 testified that this was a sensitivity analysis. He
4 was just testing as opposed to exploring an
5 alternative. The Company, and as Mr. Weaver has
6 testified, fully believes that this unit will run
7 until 2040. There wasn't any benefit and no intention
8 to run it for less than 2040.

9 COMMISSIONER ARMSTRONG: That conclusion
10 was never based on the sensitivity run; is that
11 correct?

12 MR. OVERSTREET: The decision -- the --
13 the belief -- I'm sorry. The belief that the unit
14 would run until 2040 was based upon discussions that
15 Mr. Weaver and Mr. Walton had and his understanding of
16 how long this unit -- this unit's past performance as
17 well as what would be expected in the future. And, in
18 fact, in Mr. Weaver's modeling you'll see there's
19 hundreds of millions of dollars of capital spent at
20 Big Sandy 2 out past 2040.

21 COMMISSIONER ARMSTRONG: Well, the
22 question was: The sensitivity run did not have any
23 influence on what their recommendations were?

24 MR. OVERSTREET: That's correct.

25 COMMISSIONER ARMSTRONG: Okay.

1 MR. OVERSTREET: I think that that's
2 correct. I'm sorry. I misunderstood your question.
3 We didn't sponsor the sensitivity run in support of
4 this application. Mr. Fisk asked a question and the
5 witness truthfully answered.

6 MR. FISK: Well, I would note that, you
7 know, they are -- Counsel is saying that they have
8 full confidence that the plant is going to run until
9 2040 unless it's their shareholders' money on the
10 line, then they assume it's going to run for 15 years,
11 so that raises some questions, but --

12 COMMISSIONER ARMSTRONG: I understand.

13 MR. FISK: And I would think that it
14 would be -- would have been responsive to discovery.
15 However, if the Commission wishes to allow it, I would
16 request that it be provided to us as soon as possible
17 so that we at least have a chance to review it and --
18 and address it.

19 MR. OVERSTREET: Certainly.

20 COMMISSIONER ARMSTRONG: He will make it
21 available this evening.

22 MR. FISK: What?

23 COMMISSIONER ARMSTRONG: He will make it
24 available this evening.

25 MR. FISK: Okay.

1 MR. OVERSTREET: I don't have it right
2 now.

3 MR. FISK: Okay. And I guess I would
4 also request that if we are able to review it and have
5 additional questions for Mr. Weaver that we be
6 entitled to ask those.

7 COMMISSIONER ARMSTRONG: Post-hearing?
8 Post-hearing?

9 MR. FISK: Well, if we are able to get
10 the modeling tonight, I mean, I can -- we can review
11 it and do it while we're still proceeding.

12 MR. OVERSTREET: I'll ask Mr. Garcia to
13 see, while we're proceeding with this cross-
14 examination, not to slow us up, to see what he can do.

15 MR. FISK: Okay. Okay. Great. I
16 appreciate that.

17 Q If you could turn to your -- page 20 of
18 your direct testimony, Mr. Weaver.

19 A I'm there.

20 Q Great. On page 20 there is a discussion
21 of various commodity prices, commodities that the
22 prices of were included in the Strategist modeling; is
23 that correct?

24 A Among other things; that's correct.

25 Q And if you also turn to Exhibit SCW-2 of

1 your direct testimony, page 2 of that document
2 provides a summary of those commodity price forecasts;
3 is that correct?

4 A It's a -- represents a summary for the
5 five pricing scenarios analyzed of some of the
6 commodity prices that were evaluated, some key
7 commodity prices; that's correct.

8 Q Okay. Were there other commodity prices
9 that were included -- that were included in the model
10 but not reported here?

11 A Yeah. SO2, NOx, as an example, are
12 fungible commodities that were considered.

13 Q Anything else?

14 A Various types of coals that are not
15 necessary here. Various natural gas prices at various
16 market or delivery hubs were also identified as part
17 of the suite of fundamental pricing we would receive.

18 Q Okay. And on -- on Exhibit SCW-2 you do
19 identify natural gas prices, correct?

20 A That's correct.

21 Q Okay. And there are five different
22 scenarios modeled?

23 A That's correct.

24 Q Okay. And those were the natural gas
25 prices you used in the Strategist modeling?

1 A That's correct. They're -- they served
2 as the basis for the modeling. There were then
3 potentially unique modifications made to the delivered
4 price inasmuch as very specifically Options 2 and 3
5 were to a known site or a known delivery point, there
6 were modifications to those points for, you know,
7 retainage, volume adjustment, firm contract, variable
8 contract adders or reductions, depending upon the type
9 of adjustment, but this served as the basis of those
10 prices and is the primary component of that price,
11 that delivered price.

12 Q But there are additional prices that
13 were not reflected on this exhibit?

14 A There -- sorry. There are modifications
15 or adjustments to get them to a delivered cost basis.
16 These are natural gas prices at the Henry Hub.

17 Q Right.

18 A Not at a delivery point, and --

19 Q And were those additional prices
20 reported in the application?

21 A I believe they were. I cannot recall
22 the -- the data request. It was a confidential data
23 request, in fact, that we provided the delivered
24 prices associated with Options 2 and 3.

25 Q Okay. So looking at Exhibit SCW-2, the

1 commodity prices that are reported here are for
2 natural gas, carbon dioxide, two different versions of
3 coal, on-peak and off-peak energy, and incapacity
4 values; is that correct?

5 A That's correct.

6 Q Okay. And these commodity price
7 forecasts were developed by AEP Service Company; is
8 that correct?

9 A Very specifically, the Fundamental
10 Analysis organization within the AEP Service
11 Corporation.

12 Q Okay. And were you involved in the
13 creation of these numbers?

14 A No, I was not.

15 Q And the Fundamental Analysis group used
16 the Aurora model to generate these numbers; is that
17 correct?

18 A Yes.

19 Q And to your knowledge, are these
20 forecasts used by all of the AEP's operating
21 utilities?

22 A If you are talking about long-term
23 projections, that very well may be the case. The
24 commercial organization, if you're talking about
25 trading activity, may use their own estimates or

1 forwards, but for long-term planning purposes, I
2 believe that is the case.

3 Q And so the -- the AEP Services Company
4 presented these -- the numbers reflected on SCW-2 to
5 you?

6 A In fact, Mr. -- Mr. Bletzacker, who is a
7 rebuttal witness in this case; that's correct.

8 Q Okay. And do you know about when these
9 were presented to you?

10 A I believe it was the August-September
11 time frame of 2011.

12 Q All right. And do you know how
13 frequently these -- these commodity price forecasts
14 are updated?

15 A I believe, and again, as a matter of
16 checking, you can certainly question Mr. Bletzacker on
17 that, but I think it's on more of an as-needed basis
18 from the standpoint of he's constantly -- he and his
19 team are constantly assessing what's -- what's
20 evolving within the marketplace. And a good example
21 would be the evolution of the emerging rulemaking
22 associated with EPA regulations. As those -- as more
23 knowledge has become transparent, his team has dialed
24 those in into those forecasts.

25 Q Okay. So looking at Exhibit SCW-2,

1 there is a base case projection for each of the
2 commodities, correct?

3 A That's correct.

4 Q And then four alternative scenarios; is
5 that correct?

6 A That's correct.

7 Q And what is the -- what is the purpose
8 of looking at, say, five different scenarios for these
9 various commodity prices?

10 A I think Dr. Fisher summarized it fairly
11 well this morning when he talked about the fact that
12 the Strategist tool is a discrete modeling tool. It
13 does not assume any type of random variability in any
14 inputs but rather is -- takes a specific pricing
15 forecast. So therefore, if you want to introduce some
16 discrete risk analysis, you need to effectively band
17 the relative commodity price to perform those discrete
18 risk analyses.

19 So that's -- that's the fundamental
20 reason we need a banding or we need a wider berth of
21 pricing to get a fuller sense of the implications
22 associated with a higher or lower price, for instance.

23 Q Okay. So the point is, like, if -- if,
24 for example, one of these commodities was
25 significantly higher than projected, the price was,

1 you would want to know how that would affect the
2 selection of alternatives?

3 A Well, the modeling process -- and,
4 again, Mr. Bletzacker could describe it, is very much
5 an integrated process. So it's -- it's not looking at
6 individual movement within particular commodities.
7 They're all integrated in this bottom-up approach.

8 So when you're talking about any changes
9 that may affect coal, there could be an impact on
10 natural gas price and hence an effect on -- on power
11 prices, energy prices, for example. So it's very much
12 an integrated process, very itera -- iterative.

13 Q And as you're doing that process, is
14 it -- well, strike that.

15 With regards to the vary -- the five
16 scenarios identified for your commodity price
17 forecast, did you present estimates of the probability
18 of each scenario occurring?

19 A No, I did not.

20 Q Is it important to know the
21 probabilities of each of these scenarios occurring as
22 you determine which resource that you want to pursue?

23 A Well, I think it's fair to say that the
24 base plan is our -- is our base plan, but these are
25 holistic views and effectively different worlds when

1 they're -- when they're assembled.

2 So it's just basically looking at five
3 unique worlds of combinations and iterations of -- of
4 the interplay within these commodity prices. We did
5 not do any probability assessment.

6 Q So we -- so there's no way to know from
7 your application which of these alternative scenarios
8 or the base scenario you consider most likely to
9 occur?

10 A Well, again, the base scenario is -- is
11 our main focal point, but that's -- quite frankly,
12 that's what -- when we migrate over, when we start
13 thinking about the Aurora tool and what it does to
14 affect -- establish distribution ranges around
15 individual -- individual commodity pricing points.

16 And when you think of a bell curve, a
17 normal curve around a particular pricing point, that's
18 when we'll introduce, as part of that stochastic
19 process, the notion of probability.

20 But -- but, again, the Strategist tool
21 is a discrete tool. It takes a set of prices and
22 establishes a set of cumulative present worth of cost
23 or revenue requirements based on the set of integrated
24 prices for a particular scenario.

25 Q So are you saying that the base -- you

1 consider the base scenario to be the most likely to
2 occur?

3 A It's -- it's the forecast that I -- I
4 believe, and again I'll defer to Mr. Bletzacker,
5 would, by default, since we're accepting, would
6 probably have the highest probability of occurrence.
7 It's -- it's our base forecast.

8 Q But you're not certain on that?

9 A In terms of -- I can't tell you
10 specifically in terms of what standard deviation he
11 may have been assuming for a high and low band, as an
12 example. He may be able to address that.

13 Q Okay. If you would look at the -- the
14 various scenarios listed on SCW-2 and the prices for
15 the various commodities, is it correct that all of the
16 various commodity prices, with a bit of an exception
17 for CO2, move in the same direction under the
18 different scenarios?

19 So, for example, you know, under the
20 higher band natural gas prices are higher than under
21 the base case, as are coal prices, as are off-peak
22 energy, et cetera?

23 A I haven't done any type of analytics in
24 terms of how they move versus each other. Are you
25 asking me to do that?

1 Q If you could take a look at the exhibit.

2 A I would note, for instance, that if
3 you're looking at a view that contains a carbon price
4 versus a view that does not have a carbon price, which
5 is the fifth column --

6 Q Sure.

7 A -- natural gas and coal pricing will
8 move in the opposite direction.

9 Q Leaving aside -- well, okay.

10 A That's one observation.

11 Q Okay. Okay. And is -- and in -- did
12 you review -- obviously you did review Dr. Fisher's
13 testimony?

14 A Yes.

15 Q Okay. And do you recall him -- his
16 testimony that --

17 MR. OVERSTREET: Could you direct him to
18 the page, please?

19 MR. FISK: Yes. I'm trying to find it.

20 MR. OVERSTREET: Thank you.

21 MR. FISK: Yes.

22 Q On page 28, line 20, of Dr. Fisher's
23 testimony, which --

24 A I don't have that testimony.

25 MR. OVERSTREET: Here, I've got it.

1 MR. FISK: Let make sure it's still --
2 still there.

3 MR. OVERSTREET: Shannon, I've got it.

4 MR. FISK: Okay. Great.

5 MR. OVERSTREET: It's one. Tab one.

6 THE WITNESS: Okay.

7 A I'm sorry. Page 20?

8 Q Page 28.

9 A 28.

10 Q You know, actually, and I'm sorry,
11 because of the -- because of the redacting, I believe
12 my cite moved. Let me find the quote. Give me one
13 second.

14 MR. OVERSTREET: This is his new
15 testimony?

16 MR. FISK: Yes. The one that was
17 distributed this morning.

18 MR. OVERSTREET: I need to get that too.
19 I gave him the wrong one.

20 MR. GISH: It's on page 29.

21 MR. FISK: 29?

22 MR. GISH: Is this what you're looking
23 for?

24 MR. FISK: Yeah. Thank you. Right.

25 Q So if you'll turn to page 29 of the

1 revised testimony from Dr. Fisher, there is a
2 discussion on this page that Dr. Fisher testifies that
3 the sensitivities were inadequate; is that correct?

4 A Where are you at specifically? I'm
5 sorry.

6 Q Well, I mean, at the very top it says
7 insufficient fuel price sensitivities. Do you see
8 that? Line 1.

9 A Yes, I see that line.

10 Q Okay. And starting on line 3, it says,
11 (Reading) The sensitivities used by the Company are
12 not able to adequately explore a reasonable range of
13 future price risks. Do you see that?

14 A Yes, I do.

15 Q Okay. And it also -- get what I need to
16 find. He also testifies, on line 16, (Reading) These
17 alternative futures are insufficient sensitivities,
18 particularly in stress testing the effectiveness of
19 continuing to operate a coal-fired power plant versus
20 replacement with a natural gas portfolio. Do you see
21 that?

22 A Yes, I do.

23 Q Okay. And you did not rebut any of that
24 testimony in your rebuttal testimony; is that correct?

25 A That's correct.

1 Q Okay.

2 A Can I append --

3 Q All right.

4 A Can I append my last response?

5 Basically, you asked if -- if I had rebutted it, and
6 the answer was no. And the reason was, I think there
7 was no need. We didn't see any utilization of a
8 unique set of pricing that was offered by Synapse or
9 Sierra Club as part of their modeling.

10 Q But you did not state that in your
11 rebuttal testimony?

12 A That's -- that's correct.

13 Q Okay. If you -- sticking to Exhibit
14 SCW-2 of your direct testimony, and if you look at the
15 CO2 prices, and specifically if you look starting at
16 2017 to 2021, under the early carbon scenario there is
17 a price for CO2 starting at \$15.08 per metric ton; is
18 that correct?

19 A That's correct.

20 Q And goes up to \$15.88 by 2021; is that
21 correct?

22 A Correct.

23 Q Yeah. And under the no-carbon scenario,
24 the price is zero --

25 A That's correct.

1 Q -- for those years? Okay. And if you
2 then -- if you then go over to natural gas prices for
3 those same years, under the early carbon scenario, the
4 natural gas prices are higher for 2017 to 2022 -- or
5 20 -- through 2021 than they are in the no-carbon
6 scenario; is that correct?

7 A Yes.

8 Q Okay. And if you go over to the coal
9 prices, under the -- under -- for 2017 to 2021, the
10 coal prices are higher under a no-carbon scenario than
11 under a carbon -- early carbon scenario; is that
12 correct?

13 A That's what it indicates.

14 Q Okay. So when the natural gas -- so
15 when the CO2 prices are higher, the data on SCW-2
16 shows that there is an increase in natural gas prices
17 and a decrease in nat -- in coal prices?

18 A You -- are you talking about the
19 correlation with CO2?

20 Q Yes.

21 A Yes. I think I mentioned that earlier.

22 Q Okay.

23 A That's correct.

24 Q And -- and do the CO2 prices drive the
25 higher natural gas prices and the lower coal price?

1 A Well, again, I think Mr. Bletzacker can
2 talk about that in more detail, but I think it's --
3 it's a function of supply and demand. If coal prices
4 are -- if -- if CO2 is more impactful on coal
5 resources than it is on natural gas resource, then one
6 can envision that it would impact the needed supply of
7 coal and therefore have a reductive effect on the
8 price, and there -- and at the same time cause more
9 natural gas to clear within a new market and cause a
10 higher demand for natural gas and hence a higher
11 price.

12 Q If you turn over to Exhibit SCW-1 on
13 page 11, which is Table 1-4 on that page.

14 A Yes.

15 Q Do you see that? That table is entitled
16 Assumed Variable Correlations; is that correct?

17 A That's correct.

18 Q Okay. And there is listed various
19 commodities, including natural gas prices, or the
20 prices of various commodities, including natural gas,
21 coal, CO2 emissions, et cetera?

22 A That's correct.

23 Q Okay. And Table 1-4 describes the
24 correlations between these various commodity prices
25 that were used in the Aurora modeling; is that

1 correct?

2 A Yes.

3 Q Okay. And the correlation between CO2
4 prices and natural gas prices, according to Table 1-4,
5 is negative .22; is that correct?

6 A That's what it indicates, yes.

7 Q Okay. And such a negative correlation
8 between CO2 prices and natural gas prices, does that
9 mean that as CO2 prices increase, then natural gas
10 prices decline?

11 A Yes. A negative correlation would mean
12 they move in the opposite direction; that's correct.

13 Q Okay. Okay. And in term -- and then if
14 you look at the CO2 price and coal prices, the
15 correlation is positive .69; is that correct?

16 A Yes. That's what it indicates.

17 Q Okay. And that implies that when CO2
18 prices rise, coal prices also rise?

19 A That's what it would suggest, they would
20 move in the same direction.

21 Q Okay. So when you ran your Strategist
22 model, an increase in CO2 prices drove the price of
23 natural gas up, but when you ran your Aurora model, an
24 increase in CO2 prices drove the price of natural gas
25 down?

1 A I think -- and, again, I would defer to
2 Mr. Bletzacker to really talk about the Aurora-related
3 causations or correlations, but in any event, I think
4 it could be a situation where you're dealing with
5 long-term versus short-term perspectives when
6 establishing those relevant correlations, and there
7 may be some unique differences in the way one would
8 establish correlations. You could say that the --
9 that the more relative coal consumed, the lower
10 natural gas or -- or lower natural gas demand would
11 result, and then therefore the price, hence, since
12 natural gas sets the market hurdle rate, you could
13 have a lower price associated with that.

14 Q Okay. But leaving --

15 A But --

16 Q -- aside hypothetical explanations, is
17 it accurate to say that in your Strategist modeling,
18 you assumed that an increase in CO2 prices drives up
19 natural gas prices, but that in the Aurora modeling
20 you assumed that an increase in CO2 prices drives down
21 natural gas prices?

22 A And I'll defer to Mr. Bletzacker to
23 discuss the inherit bases for the modeling results and
24 what may have impacted those causations.

25 Q And in the Strategist model, an increase

1 in CO2 prices was assumed to drive down coal prices,
2 but in the Aurora model an increase in CO2 prices was
3 assumed to drive up natural gas prices; is that
4 correct? I'm sorry. To drive up coal prices; is that
5 correct?

6 A You're comparing now, again, which
7 figures?

8 Q So if -- in the Strategist modeling, you
9 testified a few minutes ago that an increase in CO2
10 prices was assumed to drive down the price of coal,
11 correct?

12 A That's correct.

13 Q And according to Table 1-4, leaving
14 aside whatever hypothetical explanation might be
15 offered, an increase in CO2 prices in the Aurora
16 modeling was assumed to drive up the price of coal?

17 A Again, I'll repeat: I'll defer to
18 Mr. Bletzacker to talk about causations that may have
19 resulted through his determination of fundamental
20 prices and that were used by the Strategist tool.

21 Q And do you recall in Dr. Fisher's
22 testimony he raised a concern, which I am locating the
23 page for, regarding the -- identified in Table 1-4,
24 the identified correlation between coal prices and --
25 and load; is that -- do you recall that?

1 A What -- what -- what page are you on?
2 Are you talking, again, Dr. Fisher's testimony?

3 Q Yes, in Dr. Fisher's testimony.

4 A Page?

5 Q And I am finding the page. I apologize.
6 Okay. If you turn to page 62, line 10, of
7 Dr. Fisher's testimony, there's the question there
8 posed, (Reading) What data did the Company use to
9 derive the relationship between coal prices and
10 demand. Do you see that?

11 A Yes.

12 Q And this is with regards to correlations
13 used in the Aurora modeling; is that correct?

14 A Yes.

15 Q Okay. And if you -- then Dr. Fisher's
16 response was, (Reading) the Company erroneously used
17 coal tonnage instead of coal prices to create a
18 correlation between demand and fuel price. Do you see
19 that?

20 A Yes.

21 Q And then it says, (Reading) Correcting
22 this error changes the relationship from the very
23 correlated 0.74 to a low value of 0.08. Do you see
24 that?

25 A Yes.

1 Q Okay. And you did not rebut that in
2 your test --

3 A No.

4 Q -- your rebuttal testimony; is that
5 correct?

6 A I'm sorry. I did not rebut that.

7 Q Okay. I'd like to ask a few questions
8 about economic dispatch. When -- when the Company
9 sells energy in the -- into a wholesale market, it
10 provides a bid based on the variable cost and the
11 energy produced; is that correct?

12 A Repeat the question again. I'm sorry.

13 Q When the -- when the Company sells
14 energy into, say, a PJM wholesale market, that energy
15 is bid based on the variable cost of the energy
16 produced; is that correct?

17 A Again, I can't specifically talk about
18 what elements go into the offer price. There are --
19 depending upon the rules within, for instance, PJM,
20 what additional costs may be able to be added to those
21 variable costs and still meet the requirements of --
22 of the market monitor, for instance.

23 Q But leaving aside whatever those other
24 prices would be, the variable cost is a significant
25 portion of that?

1 A Fundamentally speaking, that's correct,
2 the variable cost of production.

3 Q Okay. And that, the variable cost, is
4 things like fuel, operating -- variable operation and
5 maintenance costs and emission costs; is that correct?

6 A That would be -- that would be correct.

7 Q Okay. And do you know, when the Company
8 dispatches its own resources, do they also use the
9 variable cost figure to determine how to dispatch?

10 A It would only be an assumption on my
11 part.

12 Q Kentucky Power receives an allotment of
13 sulfur dioxide and nitrogen oxide emission allowances
14 for its generating fleet; is that correct?

15 A Inasmuch as currently the CSAPR rules
16 have been stayed by the courts, there's -- there are
17 no allocations, as I'm aware of, associated with CSAPR
18 rules currently. There are CAIR allowances that are
19 assigned, and I can't really discuss basically how
20 many Kentucky Power may receive or not, by commodity.

21 Q But they do receive some?

22 A It's my understanding.

23 Q And do you know, do they -- those are
24 received -- they get a certain allotment for -- at
25 zero cost?

1 A I'm assuming they do, yes.

2 Q Okay. And -- but then those, because
3 there's -- those allowances can be traded or sold to
4 another company at a certain cost -- at whatever the
5 market cost of those allowances is?

6 A I'm assuming they could, yes. Or they
7 can be banked and inventoried, if not utilized.

8 Q Okay. So if an allowance, sulfur
9 dioxide allowance is obtained for free but is able to
10 be sold on the market for, say, \$300 a ton, just
11 hypothetically --

12 A Uh-huh.

13 Q -- in evaluating the variable cost of
14 operating a plant, would you assume that that
15 allowance is worth \$300?

16 A For purposes of Strategist modeling, for
17 instance, we assume a replacement cost methodology.
18 So, in other words, if you're going to consume a
19 commodity like SO₂, you will value that, and for
20 purposes of the Strategist modeling again, based on
21 whatever projected price, forecasted price for that
22 particular commodity in that particular time frame.

23 Q So if they were able to sell that
24 allowance, if the marketplace was \$300 a ton, then you
25 would assume a \$300 price?

1 A You're talking about a sale, which is --
2 I'm talking about the consumption of allowance as part
3 of a generation profile. If an allowance is there and
4 it's inventoried, theoretically a company could sell
5 that allowance for some value, recognizing there may
6 be a consequence if they have to run out and --

7 Q Sure.

8 A -- acquire allowances.

9 Q So if you instead used that allowance,
10 in the Strategist modeling, you would assume whatever
11 price you could sell that allowance for on the market?

12 A If it had value.

13 Q If it had value. Okay. Okay. If we
14 could go back to Exhibit S -- or actually not back,
15 but if you could go to Exhibit SCW-4 of your initial
16 testimony.

17 So this exhibit is entitled Comparative
18 Cumulative Present Worth of Relative Kentucky Power
19 Company G Revenue Requirements; is that correct?

20 A Yes.

21 Q Okay. And this exhibit identifies the
22 differences in cumulative present worth of the various
23 options that you were -- were modeled in Strategist;
24 is that correct?

25 A That's correct.

1 Q Okay. And on the left side is assuming
2 a 15-year retrofit recovery period; is that --

3 A That's correct.

4 Q Okay. If you look, there is -- I'm
5 going to stick to the left side of the page, the
6 15 years, given that that's the recovery period for
7 the scrubber, correct?

8 A Yes.

9 Q Okay. Under Option 4, there's Option
10 4A, 4B. For Option 4B, under the base case, the
11 comparative cumulative present net worth in comparison
12 to Option 1 is \$47,000,000 lower for Option 4B than
13 for Option 1, correct?

14 A That's correct.

15 Q So looking solely at this analysis, the
16 Strategist analysis reflected on SCW-4, under the base
17 case, Option 4B, in comparison to Option 1, is the
18 least-cost option, correct?

19 A If you're focusing solely on the
20 Strategist analysis, yes.

21 Q Okay. And under -- if you look at
22 Scenario 3, which is fleet transition CSAPR lower
23 band. Do you see that?

24 A Yes.

25 Q Okay. And if you look over to Option

1 4B, you have a -- that Option 4B has a \$119,000,000
2 lower cumulative present worth than Option 1; is that
3 correct?

4 A That's correct.

5 Q Okay. So looking solely at this
6 analysis, under Commodity Scenario 3, Option 4B is the
7 least-cost option in comparison to Option 1?

8 A Yes. Likewise with Option 2, pricing
9 Option 2, 4B is higher by \$192,000,000; that's
10 correct.

11 Q And under Option 5, Option 4B is the
12 least-cost option by \$115,000,000, correct?

13 A And likewise Option 4 is higher by
14 \$47,000,000.

15 Q And I believe you testified earlier that
16 in the analysis of -- when you ran an analysis
17 assuming that Big Sandy shut down in 2030 rather than
18 2040, that there was an additional \$200,000,000
19 cumulative present worth for Option 1; is that
20 correct?

21 A I believe that was an approximate
22 number; that's correct.

23 Q So if you take the cumulative present
24 worth distinction between Option 4B and Option 1 that
25 are listed on SCW-4, under all five scenarios Option

1 4B would be the least-cost analysis if you add in that
2 \$200,000,000 of cumulative present worth to Option 1;
3 is that correct?

4 A But, again, before one would consider
5 the relative revenue requirement at risk associated
6 with Option 4B, that --

7 Q Well --

8 A -- is part of my analysis as well.

9 Q Sure. But I'm saying with regards to
10 your Strategist modeling, if you add in the
11 \$200,000,000 in cumulative present worth in the -- the
12 15-year retirement analysis that was not presented to
13 the parties --

14 MR. OVERSTREET: Well, excuse me.

15 Q -- under all five --

16 MR. OVERSTREET: Excuse me. It wasn't
17 an analysis. It was a sensitivity. He's testified.

18 MR. FISK: Well, sensitivity.

19 Q If you add in that \$200,000,000, under
20 all five scenarios Option 4B would be the least-cost
21 analysis in comparison to Option 1; is that correct?

22 A That would be the arithmetic, yes.

23 Q Okay. And Option 4A would be the
24 least cost -- would be a lower-cost option in
25 comparison to Option 1 in four out of five of the

1 scenarios; is that correct?

2 A Again, before considering the relative
3 risk, the subjective variables, objective variables
4 that I discussed both in direct and rebuttal
5 testimony, as well as the Aurora modeling, that
6 would -- that would be the correct arithmetic.

7 Q So looking solely at Strategist?

8 A That's correct.

9 Q And looking solely at Strategist,
10 Options 2 and 3 under the base case, the -- they would
11 be within 36,000,000 and 52,000,000 of Option 1, is
12 that correct, under this 15-year retirement
13 sensitivity?

14 A That would be the arithmetic again.

15 Q And under -- under Scenario 5, both
16 Option 2 and Option 3 would be least-cost in
17 comparison to Option 1 with the 15-year retirement
18 assumption?

19 A Excuse me. Options -- could you repeat
20 that again?

21 Q Looking at Commodity Scenario 5, Options
22 2 and Options 3 would both be least-cost in comparison
23 to Option 1 when you assume the 15-year retirement?

24 A Recognizing, again, that it is a
25 sensitivity view for the express purpose of looking at

1 a shortened life associated with the unit; that's
2 correct.

3 Q Thank you. So returning back to the --
4 to the modeling that was presented in the application,
5 under the base case we have a \$47,000,000 lower
6 cumulative present worth for Option 4B in comparison
7 to Option 1. I believe in your testimony you referred
8 to that as being a -- a near wash; is that correct?

9 A Yeah. When you just, for instance,
10 average those five scenarios' results, you literally
11 get a number that's almost zero.

12 Q Okay. So what number would you need
13 for -- to consider it to not be a near wash, to be a
14 significant distinction?

15 A We have not identified and -- and we
16 responded to discovery that we've not identified what
17 would constitute a significant difference amongst any
18 of the variables but, again, a number that averages
19 literally \$8,000,000, I would consider a near wash.

20 Q Would you consider just the \$47,000,000
21 on its own a near wash?

22 A Not necessarily.

23 Q And would you consider, under Option 4A,
24 \$79,000,000 distinction, is that a near wash?

25 A Again, I think you have to look at

1 that -- at them relative to the entire absolute result
2 in terms of cumulative present worth and create some
3 type of a relational percentile estimate, but even
4 then I would not have anything specific as to say that
5 a certain percentile difference would represent a
6 point of significance.

7 Q To compare those, the various numbers
8 that have been produced for the various options, you
9 would need to know the probabilities of those various
10 options, wouldn't you?

11 A Well, again, we've -- we've had this
12 discussion. We've not assigned probabilities within
13 Strategist to any one of these relative results. They
14 are five unique worlds, five unique set of pricing
15 scenarios.

16 Q But I'm saying in order to meaningfully
17 compare the five different scenarios, the five
18 different options, the results that you've gotten,
19 wouldn't you need to know the probabilities of those
20 five different options occurring?

21 A I would beg to differ. I think this
22 does represent a meaningful comparison.

23 Q Okay. Okay. If you turn to your
24 rebuttal testimony, starting with page 15, lines 12
25 through 18, there is a discussion in this section

1 regarding off-system sales; is that correct?

2 A That's correct.

3 Q Okay. And specifically, your rebuttal
4 here is addressing the testimony of Mr. Hornby, his
5 testimony that off-system sales were not accurately
6 factored into the modeling; is that correct?

7 A That was his testimony; that's correct.

8 Q That's right. And your -- this is your
9 rebuttal of that?

10 A Yes.

11 Q Okay. And I'm starting on line 16. You
12 say, (Reading) Stated otherwise, even if Mr. Hornby
13 was correct in the modification or adjustments to the
14 modeling would not change the relative economics of
15 the options evaluated. Is that correct?

16 A That's correct. When you're looking at
17 it from a relative economic perspective, not looking
18 at it from the standpoint of who is being able to
19 benefit from relative off-system sales, but if you're
20 looking at it in terms of, you know, Scenario A or
21 Option A versus Option B, if there is a credit that
22 would result as associated with being able to sell
23 additional energy into a marketplace, from an economic
24 standpoint, one wouldn't look at that.

25 Q You wouldn't look at which proportion of

1 that money goes to shareholders versus --

2 A That's correct.

3 Q -- to ratepayers?

4 A That's correct.

5 Q But in calculating cumulative present
6 worth, that's the cost to ratepayers, correct?

7 A Right. And I acknowledge that
8 through -- later in my rebuttal testimony.

9 Q Okay.

10 A Setting aside the relative economics of
11 looking at it, if one were to look at it from the
12 standpoint of sharing, if Mr. Hornby, Dr. Fisher,
13 would have performed the calculation correctly, I
14 attempted to recog -- to reflect what that relative
15 impact would have been.

16 Q Okay. And you testify -- hold on a
17 second. Okay. And you testify on page 16 of your
18 rebuttal testimony, you refer to the base OSS margin
19 threshold in the tariff; is that correct?

20 A That's correct.

21 Q Okay. And that's currently
22 \$15.290 million?

23 A That's my understanding.

24 Q Okay. And that's -- that means that the
25 60/40 split between -- of off-system sales going to

1 shareholders versus ratepayers only comes into effect
2 after the first 15.29 million?

3 A No, I --

4 Q No?

5 A I think it works both ways. If it -- if
6 the threshold is -- there's a shortfall, then it
7 actually work backs [sic] a relative charge to the
8 customers. An incremental credit if it's above,
9 charge if it's below.

10 And that's why, when I went through the
11 calculations in my exhibit, I, in fact, identify an
12 overall reduction in the CPW given the fact that by
13 referencing the 15 -- assuming the 15.29 would stay
14 consistent ad infinitum or through the study period,
15 in fact, the overall charge to customers would be --
16 would go up, which, in fact, would cause the overall
17 CPW to go down, because, again, system sales -- I
18 think I said that backwards. Excuse me.

19 If the credit actually would be reduced,
20 then the overall CPW would go up. System sales serve
21 to reduce the cumulative present worth. They are
22 reflected as a model -- in the model as a credit
23 mechanism, effectively.

24 Q So you -- you ran -- you -- in Table 2
25 on page 18, you ran what you deemed to be a corrected

1 version of the treatment of off-system sales by
2 Dr. Fisher and Mr. Hornby; is that correct?

3 A Yes. And I think this basically
4 correlates to what they had identified, or Dr. Fisher
5 had identified in response to our data request number
6 seven, in terms of the relative net benefit of
7 retrofit.

8 Q Okay. Okay. All right. And on page 16
9 of your testimony, lines 12 through 15, you state that
10 after recognizing the proper method for calculating
11 shared OSS margins in all years modeled under all unit
12 disposition options assessed, OSS margins as
13 determined under tariff SSC were generally below that
14 margin threshold, hence no adjustment was necessary in
15 any event; is that correct?

16 A Again, this was from the perspective
17 looking at it holistically and looking at it from the
18 standpoint of how much off-system sales in total would
19 be -- would be recognized, but you still -- I'm still
20 cognizant of you're doing a comparative view amongst
21 options, and that's what this recognizes.

22 The calculation was reestablished to
23 properly reflect the base level of off-system sales,
24 and that was done for all the options, so that
25 comparatively you see the results that were reflected

1 in my Table 2.

2 Q But you're saying here on page 16, in
3 lines 12 through 16, that -- am I correct, that for
4 most years the -- the OSS margin threshold was not
5 exceeded?

6 A That's correct.

7 Q Is that what you mean when you say
8 generally below that margin threshold?

9 A Yeah. If you look at my Exhibit 3, any
10 one of those -- well, let's focus on Exhibit 3, page
11 3R, page 2 of 6.

12 Q Yes.

13 A You can see that the column that is
14 boxed, it's identified as column I, in many of the
15 years -- I'm looking at, for instance, years 2014
16 through 2024, I believe, are, in fact, negative
17 values.

18 Q Okay. So in 2014 to 2024, you're saying
19 that the OSS margin threshold is not exceeded?

20 A That's correct.

21 Q But in years 2025 to 2040, it is?

22 A That's correct.

23 Q Okay. And also in years -- well, 2011
24 through 2013, it's also exceeded?

25 A Right. But down at the very bottom you

1 see the overall add-back is, in fact, a negative
2 value. The CPW impact, lower right-hand corner,
3 \$14.486 million.

4 Q Okay. So -- but in the -- in the years
5 20 -- in the years 2011 to 2014 represented on this
6 column I on your exhibit, rebuttal exhibit SCW-3R, the
7 majority of years actually have a positive value; is
8 that correct.

9 A If you want to look at isolated years,
10 but, again, this is a 13-year study period, so all
11 costs are looked at over a full 30-year breadth of
12 that study period discounted to 2011 dollars.

13 Q So when you said generally below the
14 margin of threshold, you didn't mean that the majority
15 of the years were below the margin of threshold?

16 A Enough that resulted in a negative CPW
17 in the lower right-hand corner, so I would call that
18 generally below.

19 Q All right. And so going back to page 18
20 of your test -- rebuttal testimony, Table 2, the top
21 part of the -- this box refers -- lists the CPWs of
22 the various options, correct, from your -- from your
23 initial Strategist modeling, correct?

24 A That's correct.

25 Q Okay. And -- and then it lists the net

1 benefit of retrofit, correct?

2 A That's correct.

3 Q Okay. And for Option 4B, in that
4 benefit of retrofit is actually a loss of \$47,000,000,
5 correct, under that Strategist modeling?

6 A Under the Strategist modeling.

7 Q Okay.

8 A That's correct.

9 Q Go down to the bottom of Table 2, that
10 square. You have a reference on the left side to KPCO
11 corrected adjusted off-system sales; is that correct?

12 A That's what it indicates, yes.

13 Q Okay. And this is where you have redone
14 the modeling with -- with correcting what you believe
15 are the errors in the evaluation of off-system sales
16 done by Dr. Fisher and Mr. Hornby?

17 A Yes.

18 Q Okay.

19 A First of all, it assumes that the
20 current tariff SSC from Kentucky Power Company would
21 continue, again, ad infinitum through 2040. And
22 that's another issue that was assumed for purpose of
23 correcting the initial erroneous analysis performed by
24 Dr. Fisher. The question is, will tariff SSC continue
25 ad infinitum? That's not -- that's not known.

1 Q Looking at the redone modeling, the
2 bottom right corner, you now have an \$80,000,000 lower
3 CPW for Option 4 than for Option 1; is that correct?

4 A That's what it indicates, yes.

5 Q And that means that the -- that this
6 shows that there was an additional \$33,000,000
7 difference in the CPW for Option 4B in the initial
8 modeling versus this corrected modeling, correct?

9 A The relative difference between the two
10 changed by \$33,000,000.

11 Q And on page 18 in line 7, you state that
12 the relative impact of this corrected change between
13 options is now relatively minor?

14 A Vis-a-vis the numbers that had been
15 originally set forth by --

16 Q So are you referring to the \$33,000,000
17 change in the cumulative present worth of Option 4B?
18 Are you referring to that as relatively minor?

19 A Comparatively, yes.

20 Q What would you consider to be a
21 significant change?

22 A Something greater than 33.

23 Q Such as?

24 A I don't have a specific number in mind.

25 Q With regards to Option 4A, this

1 corrected modeling also reduces the cumulative present
2 worth by \$29,000,000; is that correct?

3 A Again, under the continuation of tariff
4 SSC --

5 Q Sure.

6 A -- ad infinitum, that would be the case.

7 Q Yes. Okay. And for Option 3 it reduces
8 the cumulative present worth by 23,000,000?

9 A Correct.

10 Q And for Option 2 it reduces the
11 cumulative present worth by 24,000,000?

12 A Again, assuming the continuation of
13 tariff SSC as it's currently established for Kentucky
14 Power Company.

15 Q And you -- do you consider \$33,000,000
16 of ratepayer money in an impoverished area of Kentucky
17 to be a relatively minor amount of money?

18 A When you look at this from the
19 standpoint of a 30-year study period and the overall
20 \$7,000,000,000 CPW impact to Kentucky Power, if you
21 look at the absolute results on my Exhibit 4A, then 33
22 over 7,000,000,000 is probably, again, for that
23 30-year time frame, relatively minor.

24 MR. OVERSTREET: Your Honor, this
25 witness has been on the stand for an hour and

1 40 minutes.

2 COMMISSIONER ARMSTRONG: I'm -- I'm
3 going to --

4 MS. GILLUM: Break, please.

5 MR. FISK: I'm fine with a break.

6 That's fine with me.

7 COMMISSIONER ARMSTRONG: We'll take
8 15 minutes.

9 (Recess.)

10 COMMISSIONER ARMSTRONG: Back on the
11 record.

12 You are still under oath.

13 You may proceed.

14 MR. FISK: Thank you.

15 Q Okay. Mr. Weaver, you -- you
16 performed -- in addition to the Strategist modeling
17 that we've been discussing, you also performed
18 modeling using Aurora; is that correct?

19 A Others within the organizations
20 performed.

21 Q Oh.

22 A That's correct.

23 Q But the results of that modeling are
24 included in your testimony?

25 A That's correct.

1 Q Okay. And if you would turn to page 48
2 of your direct testimony, lines 3 to 9 of that
3 testimony.

4 MR. OVERSTREET: I'm sorry. What lines
5 were those?

6 MR. FISK: Lines 3 through 9.

7 MR. OVERSTREET: Thank you.

8 Q And you state, starting on line 3,
9 (Reading) This additional risk modeling confirms the
10 results and recommendations established by the
11 Strategist modeling process. Do you see that?

12 A Yes.

13 Q Okay. And the additional risk modeling
14 that you're referring to there is the Aurora modeling;
15 is that correct?

16 A Yes.

17 Q Okay. And so it's your testimony
18 that -- that Aurora simply confirmed what you already
19 determined through Strategist?

20 A It con -- it confirmed that coupled with
21 the Strategist results, as well as the other objective
22 and subjective determinants, particularly as it
23 relates to what I'll call the market options 4A and
24 4B, when those factors are considered together, yes,
25 it confirmed our recommendation.

1 Q So it wasn't confirming just what was
2 set forth in Exhibit SCW-4 correct?

3 A Well, I think I made very clear in
4 testimony, I referred to those results from Strategist
5 for Option 4B versus Option 1 as being a relative
6 wash. But I then introduced Q and A that basically
7 discussed the other elements, again I call them
8 objective and subjective elements regarding the
9 exposure that could result in a PJM marketplace,
10 whether it be for capacity or energy, if Kentucky
11 Power were nearly solely obligated upon that market to
12 provide power and energy to its customers.

13 Q Is it your testimony that the Aurora
14 model results on their own identify Option 1 as a
15 least-cost alternative?

16 A When one looks at the revenue
17 requirement at risk, which is the differential between
18 the -- Aurora is a -- is a random, stochastic model.
19 It does 100 simulations. This version uses 100
20 simulations. And basically what it seeks to do is
21 identify across those 100 simulations of -- of output,
22 of results for a 30-year time frame, it takes the
23 difference between the 95 -- the 95th percentile
24 result and the 50th percentile result, and basically
25 it's recognizing that difference as being -- is

1 basically stating revenue requirement at risk which is
2 above the median value, it'll have less than a five
3 percent probability of exceeding, obviously, the 95th
4 percentile result.

5 So the intent was to create a range, a
6 relative range of results using the stochastic
7 modeling that created 100 unique simulations in that
8 Aurora tool, and then comparing those revenue
9 requirement at risk results between the four options
10 modeled suggested that the exposure in the form of
11 revenue requirement at risk was greater for Option 4B
12 than it was for Option 1.

13 Q But that's -- that's a risk analysis,
14 correct, not a least-cost alternatives analysis?

15 A To the extent it identifies a lower
16 revenue requirement at risk, revenue requirement being
17 cost, it's a cost analysis. It's -- it's -- it is a
18 risk analysis inasmuch as it's looking at a simulated
19 set of results, but it's looking at it from not just
20 the point of one discrete output, which we had a
21 discussion earlier that Strategist has created
22 effectively five discrete sets of results using unique
23 family of commodity prices for each one.

24 The Aurora modeling allows for
25 randomness to be introduced, and as a result of that,

1 you are able to look at specific results, again
2 choosing the 95 percentile. Basically it's a
3 cumulative -- cumulative distribution curve, 95th
4 percentile versus 50th, to create that randomness.

5 And those revenue requirement risks were
6 compared and it demonstrated that Option 4B ranked
7 fourth out of the four alternatives viewed in that
8 model, I mean highest cost, four out of four, and
9 Option 1 ranked first, meaning the lowest cost out of
10 the four.

11 Q But those numbers are -- are relative a
12 risk number, not an absolute value of risk; is that
13 correct?

14 A They're -- it does -- it's not relying
15 upon a median value. It's not relying upon a single
16 simulated result out of that tool, rather it's looking
17 at -- it's letting the model, the stochastic model do
18 its thing and create 100 simulations and then
19 comparing the result at the 95th percentile and the
20 50th percentile.

21 Q And if you look at page 47 of your
22 direct testimony, starting at line 7, you have a
23 paragraph there referring -- referring to Exhibit
24 SCW-5 and discussing the results of the modeling done
25 under Aurora; is that correct?

1 A Yes.

2 Q Okay. And according to that paragraph
3 and your Aurora results, you concluded that Option 1
4 had a revenue at risk of \$814,000,000; is that
5 correct?

6 A Option 1 had a revenue requirement at
7 risk of \$815,000,000.

8 Q Oh, 15. Okay. And Option 2 had a
9 revenue at risk of 1.173 billion?

10 A That's correct.

11 Q Okay. And Option 4B was 1.179 billion?

12 A That's correct.

13 Q Okay. And so then that means that,
14 according to your testimony, Option 4B was -- had the
15 most revenue at risk?

16 A Had a greater dispersion of cost or
17 revenue requirements than the other options.

18 Q And the numbers set forth at page 47 of
19 your direct, in that paragraph that we were just
20 discussing, the paragraph starting on line 7 down to
21 14, are those -- do you still consider those numbers
22 to be correct?

23 A Yes.

24 Q In your rebuttal testimony you made two
25 changes to your Aurora modeling; is that correct?

1 A We appended the results is the -- is the
2 way I would -- is the way I captured it within my
3 rebuttal testimony.

4 Q Okay. And -- and you did that in two
5 ways, correct?

6 A That's correct.

7 Q Okay. And one of those was because of
8 something referred to as a 20 percent demand toggle;
9 is that correct?

10 A It's -- it's -- the nomenclature, as I
11 understand it, from Aurora is a demand vector.

12 Q And the demand vector, was that --
13 initially running Aurora, your modeling assumed
14 20 percent higher energy load forecast than previously
15 forecast? Is that correct?

16 A The purpose was to identify -- the
17 purpose of the toggle, as you put it, the demand
18 vector, was effectively to allow for optionality
19 associated with not necessarily a higher demand, but
20 also a reduction in supply.

21 It effectively allowed the user to
22 create a variation in terms of energy position within
23 the tool, to basically lend greater stressing to the
24 model when it was doing -- when -- as it does its 100
25 simulations.

1 Q Okay. Okay. And if you look at page
2 27, starting at line 14.

3 MR. GISH: Rebuttal or --

4 MR. FISK: I'm sorry. Rebuttal, yes.

5 Q It says -- it refers to the initial
6 demand vector, and it says that level was set equal to
7 20 percent for all options analyzed, correct?

8 A That's correct.

9 Q Okay. Then the next sentence says,
10 (Reading) This means that beginning in year one of the
11 forecasted risk analysis period, 2011, the projected
12 native demand internal load of Kentucky Power Company
13 was increased by 20 percent for each alternative
14 model; is that correct?

15 A And, again, the notion was -- even
16 though it was applied to demand, the notion was by
17 virtue of having the vector, it could be viewed as
18 increasing demand or decreasing generation, decreasing
19 supply.

20 Q And so does -- so does Kentucky Power
21 expect that load will -- that a combination of load
22 being higher or supply being lower will be 20 percent
23 difference from what was projected in the Strategist
24 modeling?

25 A Again, it was an initial stochastic

1 stressor that the model had the capability of
2 employing, and so our initial runs from the analysis
3 that we set -- that I set forth as part of my direct
4 testimony incorporated that, that vector.

5 Q And that vector assumed either a
6 20 percent higher energy demand and --

7 A Or --

8 Q -- or load, lower load -- or lower
9 supply?

10 A Some combination thereof.

11 Q Than what the Company was otherwise
12 projecting?

13 A That's correct. It's a stressor.

14 Q All right. And if you look at page 30
15 of your rebuttal testimony, Figure 1. The result of
16 having that demand or vector turned on is that, for
17 the various options that you evaluated, there was an
18 assumption of significantly higher -- a significantly
19 higher need to purchase power than if the demand
20 vector was turned off, correct?

21 A That's correct. For this -- for that
22 particular simulation run, that 50th percentile run,
23 which was the focal point.

24 Q And it was run for all options analyzed?

25 A Yes, but the focal point for this

1 exercise was to basically compare that to an analysis
2 that Dr. Fisher had -- had incorporated that looked at
3 just the 50th percentile result, and I think it was
4 his Figure 7.

5 Q And if you look at Figure 1 on page 30
6 of your testimony, on the left side, it is cost of
7 market purchases; is that correct?

8 A Yes.

9 Q Okay. And the graph ranges from a
10 million dollar -- or a billion dollars of sales to up
11 to \$4,000,000,000 of purchases?

12 A Yes.

13 Q Okay. And you model -- you have placed
14 on the graph here three of the options and the amount
15 of market purchases assumed for each of those options
16 under three different modeling scenarios; is that
17 correct?

18 A This basically just has two Aurora
19 scenarios. And what doesn't show up here -- it's kind
20 of a bad chart. You really have to look at my
21 Exhibit 6 to see the chart the way it needs to be
22 viewed.

23 Q Okay. I have -- I have a color copy,
24 but we can turn to Exhibit 6.

25 A The yellow doesn't show up.

1 Q Okay. If you -- if you don't have a
2 color copy, the Exhibit 6 is also in color. The
3 yellow is the Strategist modeling, right? Correct?

4 A Yes.

5 Q And --

6 A Dr. Fisher was -- Dr. Fisher was
7 basically pointing and perform -- attempting to
8 perform a reconciliation between the results for
9 market purchases versus a single simulated iterated
10 run from the Strat -- from the Aurora tool.

11 Q Okay. And for -- under the Strategist
12 run for Option 1, you assumed around \$600,000,000 in
13 net energy sales; is that correct?

14 A If --

15 Q Okay.

16 A That approximately looks like where the
17 number rep -- is represented, yes.

18 Q Okay. And in your initial Aurora
19 modeling run with the 20 percent demand vector turned
20 on, Option 1, that had more than \$1.5 billion in
21 energy purchases, correct?

22 A That's correct.

23 Q And when you turned the demand vector
24 off, you're down to \$500,000,000 in energy purchases;
25 is that correct?

1 A For Option 1; that's correct.

2 Q For Option 1. And for Option 2, the
3 Strategist modeling had a little less than
4 \$500,000,000 of energy purchase -- or energy sales?

5 A Yes.

6 Q And once you turn the demand vector on
7 in Aurora, you had over \$2.5 billion in energy
8 purchases?

9 A Again, for that -- it's for that
10 single --

11 Q For that --

12 A -- simulated iterated profile out of the
13 Aurora -- out of -- one simulation out of 100; that's
14 correct.

15 Q And when you turn the vector off,
16 suddenly you're back down to \$500,000,000 of --

17 A That's correct.

18 Q -- of energy purchases, because there's
19 no longer an assumption of 20 percent higher load
20 or -- and/or lower supply, correct?

21 A That's correct.

22 Q Okay. And then for Option 4B, under
23 Strategist you assumed -- or you found that there
24 would need to be 750,000,000, approximately, of energy
25 purchases, but when you did the Aurora modeling

1 according to Exhibit 6, SCW-6R, with the demand vector
2 on, you're at almost \$3.5 billion of energy purchases?

3 A That's correct.

4 Q Okay. And when you turn the demand
5 vector off, you're down to under 1.5 billion?

6 A That's correct.

7 Q Okay. So the Aurora modeling with the
8 demand vector off overstated energy purchases for
9 Option 4B by approximately \$2 billion?

10 A Well --

11 Q Yes or no?

12 MR. OVERSTREET: Let him --

13 A Are you talking about Aurora comparing
14 the with and without vector?

15 Q Yes.

16 A It's just a difference in result. I
17 wouldn't use -- categorize it by saying the word
18 "overstated."

19 Q So a difference in the result?

20 A It's a different presumption in terms of
21 having the demand vector incorporated, which was in
22 the modeling, versus not.

23 Q And it's \$2 billion of energy purchases,
24 correct, approximately?

25 A For that particular single iteration.

1 Again, this is a 30-year analysis period that we're
2 looking at, present value.

3 Q It's \$2 billion?

4 A Right.

5 Q Correct?

6 A That's correct.

7 Q The commodity price inputs into the
8 Strategist modeling, I believe we discussed earlier,
9 were developed through Aurora modeling; is that
10 correct?

11 A It's my understanding, and
12 Mr. Bletzacker can discuss it, it's a different
13 version of the tool. It's a linear programming
14 version, not a stochastic model version of the tool,
15 so it's creating a single set of nodal pricing results
16 for the entire Eastern Interconnect plus ERCOT.

17 Q And do you know if the 20 percent demand
18 vector was turned on when those figures were
19 developed, those commodity prices?

20 A I don't know.

21 Q Okay. Did you check?

22 A I didn't -- I did not. That's part of
23 the Fundamental Analysis. We rely upon that
24 organization. And I don't even know if it's -- it's
25 available to turn on as part of the linear programming

1 aspect of the tool, as opposed to the stochastic or
2 risk-modeling aspect of the tool.

3 Q So you submitted -- in your rebuttal
4 testimony you did new modeling turning the 20 percent
5 demand vector off, correct?

6 A I appended the -- the modeling to
7 incorporate eliminating or turning off the demand
8 vector; that's correct. And the reason for that -- if
9 I can just elaborate, the reason is very simple, just
10 to be, you know, transparent in terms of this -- this
11 was a capability that was afforded within this
12 stochastic model, so to basically identify the
13 relevant implications, so it was -- it was decided
14 that we would turn it off and allow it to run again
15 and -- and do that comparison, effectively creating
16 now a range of revenue requirement at risk results
17 that I discuss, I believe it's on my Exhibit 5R.

18 Q And when you turn it off, the 20 percent
19 demand vector, then the demand assumptions that went
20 into the Aurora modeling were consistent with the
21 demand assumptions that -- the demand forecast
22 assumptions that the Company believes are more likely
23 to occur?

24 A Again, based on not knowing what was
25 incorporated into the Fundamental Analysis modeling in

1 terms of any changes in load, contingent upon that
2 knowledge, I would agree with that.

3 Q All right. Do you know if any other
4 toggles were erroneously left on or off in the Aurora
5 modeling?

6 A It was eyes wide open. There were no --
7 there was nothing erroneous, it was the model --
8 stochastic model was allowed to run with the vector
9 and then we appended the analysis to simply turn it
10 off and create -- thereby creating a range of results
11 that you see on my Exhibit 5R.

12 Q Have you used Aurora modeling in other
13 proceedings?

14 A Yes.

15 Q In fact, I believe you submitted
16 testimony in February in the Arkansas PSC that used
17 Aurora modeling?

18 A Yes.

19 Q Okay. And do you know if you -- when
20 you did that Aurora modeling, if the 20 percent demand
21 vector was on or off?

22 A I don't know.

23 Q Did you check?

24 A No.

25 Q All right. And if you turn to your

1 direct testimony Exhibit SCW-5, and we have Figure 5-1
2 on this page; is that correct?

3 A Figure 5-1, you said?

4 Q Yes.

5 A Yes.

6 Q And this is a graphical representation
7 of the results of your initial Aurora modeling; is
8 that correct?

9 A That's filed with my direct testimony;
10 that's correct.

11 Q Okay. And so this -- this table --
12 Figure 5-1 reflects the 20 percent demand toggle on;
13 is that correct?

14 A That's correct.

15 Q Okay. And the cumulative present worth
16 figures along the bottom of the chart starts at
17 \$5,000,000,000 rather than zero; is that correct?

18 A I'm -- yes. That's correct.

19 Q And did you present a revised version of
20 this Figure 5-1 to present the results of your Aurora
21 modeling with the 20 percent demand toggle off?

22 A Not in this form.

23 Q And below Figure 5-1, there is a box
24 that I believe presents the -- the numbers from the
25 Aurora modeling results that are reflected in Figure

1 5-1; is that correct?

2 A At -- specifically at the -- focusing on
3 that 95th and 50th percentile; that's correct.

4 Q Okay. And if you look in the bottom
5 right corner, there is a reference to the -- the delta
6 for the -- the NGCC option, the repower option, and
7 the market to 2025 option; is that correct?

8 A Yes.

9 Q Okay. And it lists both the dollar
10 figures for the RRAR and the percentages; is that
11 correct?

12 A It -- it represents the relative dollar
13 figures and relative percentages; that's correct.

14 Q Okay. If you turn to your rebuttal
15 testimony, Exhibit -- Rebuttal Exhibit SCW-5R.

16 A I'm there.

17 Q Okay. And if you look, there's a --
18 there is a box on this page that says range of
19 potential RRAR; is that correct?

20 A Yes.

21 Q Okay. And the top part of that box says
22 (Reading) Per original filing, Exhibit SCW-5?

23 A Yes.

24 Q Okay. And if you look over to the right
25 side, there's once again the delta for the retrofit

1 NGCC, retrofit repower, and market to '25 -- 2025; is
2 that correct?

3 A That's correct.

4 Q Okay. And the dollar figures for the
5 RRAR are the same as what is in the -- in your
6 original Exhibit SCW-5; is that correct?

7 A I believe they are, yes.

8 Q Okay. And the percentages are
9 different; is that correct?

10 A They appear to be different. Obviously
11 they must be using a different denominator.

12 Q Did you do the -- did you create this --

13 A I --

14 Q -- box?

15 A I did, yes.

16 Q Okay. And do you know why the
17 percentages are different?

18 A I would -- subject to check, I don't
19 know.

20 Q All right. Turn with me --

21 A I would imagine it's probably just
22 comparing to an incorrect column.

23 Q But you don't know?

24 A I have not done that calculation.

25 Q Okay. If you turn to Exhibit S --

1 Rebuttal Exhibit SCW-7R, and the chart on this page
2 plots the results of your initial Aurora modeling and
3 the revised Aurora modeling; is that correct?

4 A The as-filed versus the recast; that's
5 correct.

6 Q Okay. And so the left side is the
7 as-filed with the 22 percent demand vector on?

8 A That's -- that's correct.

9 Q And on the right side is the Aurora
10 modeling with the 20 percent demand vector off?

11 A That's correct.

12 Q Okay. And this chart plots the absolute
13 values generated by your modeling, not the
14 differential values, correct?

15 A No, it identifies revenue requirement at
16 risk, which is denoted on the Y axis.

17 Q But these are the -- it's the absolute
18 values --

19 A It's --

20 Q -- of the revenue requirement --

21 A It's --

22 Q -- at risk, isn't it?

23 A No, I believe it's the relative -- or
24 it's the absolute revenue requirement at risk. It's
25 not an absolute 50th percent or 95th percent; that's

1 correct. That's correct.

2 Q Okay. And the blue diamonds portray the
3 relative revenue -- revenue requirement at risk of
4 Options 1, 2, 3, and 4B?

5 A That's correct.

6 Q Okay. And if you look at the left side,
7 when you had the 20 percent demand vector on, the blue
8 diamonds range from around 800,000,000 for Option 1 to
9 close to 1.2 million -- billion for Option 4B?

10 A That's correct.

11 Q Okay. And when you turn the demand
12 vector off, Option 1's relative -- or revenue
13 requirement at risk is down to around 600,000,000, and
14 Option 4 is a little under 800,000,000?

15 A Yes. It's the range that's represented
16 in Exhibit 5R.

17 Q Okay. So how -- by having the
18 20 percent demand toggle on, the rela -- the revenue
19 requirement at risk for Option 4B -- strike that.

20 Comparing -- so the -- the gap between
21 the revenue requirement at risk in Option 1 and Option
22 4B in your initial modeling, subject to check, is
23 about \$363,000,000?

24 A Subject to check, that's right.

25 Q Right.

1 A It would be -- the absolute number I
2 think was not being questioned, it was 363,000,000;
3 that's correct.

4 Q And when the demand vector is turned
5 off, that actual value goes down to 166,000,000; is
6 that correct?

7 A As shown as Exhibit 5R.

8 Q Okay.

9 A That's correct.

10 Q So by having the demand vector on, the
11 relative risk of Option 4B is 118 percent higher than
12 it is -- in comparison to Option 1 is 118 percent
13 higher than it is when you turn the demand vector off?

14 A If that's the arithmetic, I'll trust you
15 on that.

16 Q Okay. Subject to check, 166 is --

17 A Subject to check.

18 Q -- and 363?

19 A Uh-huh.

20 Q Okay. And these figures -- these
21 figures of the level of revenue requirement at risk,
22 this is at the 95th percentile, correct?

23 A It's -- again, it's the delta between
24 the 95th and the 50th percentile.

25 Q So there's a five percent chance of --

1 A There's a five percent chance that that
2 revenue requirement at risk dispersion range would be
3 exceeded, or could be exceeded.

4 Q Okay. Okay. And in your Aurora
5 modeling, you modeled 60 input variables; is that
6 correct?

7 A That's correct.

8 Q And I believe, as we discussed earlier,
9 there was a discussion of how those were correlated?

10 A That's correct.

11 Q Okay. And in Dr. Fisher's testimony, he
12 criticized your correlations; is that correct?

13 A Yes.

14 Q And he offered his own alternative
15 correlations?

16 A Yes.

17 Q Okay. And did you rebut his alternative
18 correlations?

19 A As I said in my rebuttal testimony, from
20 the standpoint of reserving the -- the veracity of his
21 assumed correlations, but for purposes of being open
22 and transparent in our process, we invited the
23 incorporation of the -- of the correlations that he
24 had set forth in his Table 10, incorporated those into
25 the analysis.

1 And basically the answer is, is that the
2 relative difference from a revenue requirement at risk
3 standpoint did not change. The relative ranking did
4 not change if you're looking at specifically even a
5 scenario that looks at Dr. Fisher's correlations,
6 which is represented as -- I don't know if you've got
7 a color version, but a green triangle, comparing that
8 versus -- and I'm on the right-hand side without
9 demand vector, versus the value associated with Option
10 1, that same relative difference in terms of Option 4B
11 having a higher risk than Option 1 was very similar
12 using Dr. Fisher's correlations versus the Company's
13 own correlations.

14 Q So you're referring to Rebuttal Exhibit
15 SCW-7R?

16 A That's correct. The right-hand side,
17 very specifically.

18 Q But those relative risks on the
19 right-hand side are -- are -- between Option 4B and
20 Option 1 are significantly smaller than the relative
21 risks that you identified in your initial filing; is
22 that correct?

23 A They're smaller but they are still real.
24 And the results effectively did not flip. It did not
25 show that, hey, if we incorporate the suggested level

1 of correlations that we've created a different
2 relative result between -- by -- by virtue of use --
3 excuse me -- of using his model or his recommended
4 correlations.

5 Q And if you turn the correlations off, if
6 you look at the right side of the page of Exhibit --
7 Rebuttal Exhibit SCW-7R, the relative revenue at risk
8 is compared of 4B versus 1, Option 1, is under
9 \$50,000,000?

10 A Possibly. I don't have the -- the
11 detail behind it here.

12 Q Subject to check, it appears to be
13 around 50,000,000?

14 A Subject to check.

15 Q And in your initial modeling, you had a
16 difference of \$363,000,000?

17 A Well, again, that's not with no
18 correlations. No correlations, the difference would
19 be, again, not having the data here, roughly 820
20 versus 680.

21 Q But I'm saying --

22 A Comparing --

23 Q -- your initial modeling --

24 A That's correct.

25 Q -- you gave a figure of \$363,000,000 as

1 the increased revenue at risk for Option 4B versus 1?

2 A But you're comparing apples and oranges
3 by virtue of showing a no-correlation perspective
4 versus a perspective that did reflect the Company's
5 correlations.

6 Q Okay. So from the no-correlation
7 perspective, your initial modeling would have had a
8 difference between 4B and 1 of 150,000,000 and --

9 A Rough numbers, again, without having the
10 data points here.

11 Q And then once you turn the demand vector
12 off, you're down to 50,000,000?

13 A That's correct.

14 Q Approximately?

15 A But --

16 Q So about one-third?

17 A Right. But -- but the point is, rela --
18 the relative -- the relative revenue requirement at
19 risk between Option 4B and -- versus Option 1 is still
20 greater.

21 Q So your initial modeling with
22 correlations overstated the risk of 4B as 118 percent
23 higher than it would with the modeling -- with the
24 demand vector off?

25 A Well, again, I --

1 Q And your -- with no correlations, your
2 initial modeling identified a risk for 4B over 1 of --
3 that is three times as high as if you turn the
4 model -- turn the correlations off?

5 A Right.

6 Q Is that correct?

7 A The way -- the way I'm setting this
8 forth is a range --

9 Q Right. But is that -- is that
10 correct --

11 A -- of relative results. Yes, the
12 arithmetic you stated was right.

13 Q Okay.

14 A But it's -- remember, there's a range of
15 relative revenue requirement at risk between those two
16 perspectives.

17 MR. FISK: I'm going as fast as I can.

18 Q I'm passing out Exhibit 16, which is
19 an integrated resource plan submitted by Indiana
20 Michigan Power Company to the Indiana Utility
21 Regulatory Commission dated November 1st, 2011; is
22 that correct?

23 A That's what it indicates, yes.

24 Q Okay. And did you have any involvement
25 in this plan?

1 A Members of my staff were primarily
2 responsible, but I certainly reviewed it on a periodic
3 basis.

4 Q Okay. And November --

5 MR. HOWARD: Excuse me. Excuse me.

6 MS. HANS: He's getting it.

7 MR. FISK: Oh, I'm sorry.

8 MR. HOWARD: I'm sorry.

9 MR. CHILDERS: I'm still getting them.

10 MR. FISK: Oh, sorry.

11 MR. CHILDERS: That's okay.

12 Q And November 1st, 2011, that was about a
13 month before Kentucky Power filed in the present
14 proceeding; is that correct?

15 A Yes.

16 Q Okay. And if you turn to page 1 of the
17 executive summary of this exhibit.

18 MR. OVERSTREET: What number is this?

19 MR. FISK: Exhibit 16. Sixteen?

20 MR. HOWARD: Fifteen?

21 MR. FISK: Sixteen.

22 MR. HOWARD: Sixteen. Thank you.

23 MR. FISK: Yes.

24 Q If you look at the bottom of the first
25 paragraph of that page, executive summary page 1,

1 three different portfolios are being modeled, one that
2 retires -- or I mean one that retrofits Rockport and
3 Tanners Creek, one that retires Tanner Creek Unit 4
4 and replaces it with a natural gas combined cycle, and
5 one that replaces Tanner Creek 4 with market
6 purchases; is that correct?

7 A That's correct.

8 Q And if you turn to page 8-12, and
9 there's a reference there that Aurora modeling was
10 done as part of this analysis; is that correct?

11 A Yes.

12 Q Okay. And if you turn to page 8-16, you
13 have the results of that Aurora modeling for the
14 retrofit natural gas and market alternatives, is that
15 correct, at the top of the page, Figure 8-2?

16 A You say natural gas, you mean the
17 retirement of Tanners Creek Unit 5 and its replacement
18 with natural gas combined cycle?

19 Q Yes. Yes.

20 A Yes.

21 Q Okay. And the -- the differences in the
22 revenue at risk in -- is around -- well, for the --
23 it's around between 20 and \$74,000,000; is that
24 correct?

25 A That's what it indicates.

1 Q Okay. And if you flip back to page --
2 if you flip back to page 8-15, in the full paragraph
3 that's on that page, about halfway down, it says,
4 (Reading) As the table below Figure 8-2 shows, the
5 difference between the 50th and 95th probability
6 percentile is fairly consistent for each portfolio.
7 This leads to the conclusion that the effects of
8 market risks are similar to the risks associated with
9 construction costs and fuel prices.

10 Is that correct?

11 A That's what it reads.

12 Q Okay. And then if you go down to the
13 last sentence, it says, (Reading) This reinforces the
14 conclusions from the Strategist optimization analysis
15 that there is no particular advantage or disadvantage
16 between the base, gas, and market portfolios.

17 Is that correct?

18 A That's what it indicates, but I would
19 qualify that by virtue of the fact that when you look
20 at the, I'll call them absolute similar results for
21 I&M, they're fairly significant, particularly if you
22 compare the -- one would compare them to Kentucky
23 Power's. These are numbers that are approaching 18 to
24 \$20,000,000,000 range, so therefore a variance of 19
25 to 74,000,000 from a relative standpoint, from an I&M

1 perspective, that's a relatively small percentage.

2 Q Okay. All right. But you -- in your
3 rebuttal testimony, you -- you criticize Dr. Fisher
4 for -- purportedly for looking at absolute values
5 created by Aurora modeling rather than differential;
6 isn't that correct?

7 A It's one of 100 simulated, iterated
8 results; that's correct.

9 Q And you --

10 A And that's not the purpose of the model.
11 The purpose is to look at an entire simulated range
12 and do a comparison between, again, the 50th and 95th
13 percentile.

14 Q And you testified that the important
15 result from Aurora is the differential, correct?

16 A Between that differential and then
17 comparing those relative results versus -- amongst the
18 various options.

19 Q Okay. So under similar Aurora modeling
20 results in Indiana, that AEP affiliate has told the
21 Utilities Commission that the option -- options with
22 revenue at risk differentials that are in the 20 to
23 \$74,000,000 range are essentially equivalent from a
24 risk perspective?

25 A Again, your denominator there is 18 to

1 \$20,000,000,000 of overall CPW. When you look at
2 those results versus, say, a \$7,000,000,000 billion
3 level for Kentucky Power. So it's orders of magnitude
4 of almost three times is what we're talking about when
5 we're talking about I&M versus Kentucky.

6 Q But I'm saying if you look at the
7 differential, which is what your rebuttal testimony
8 has said to look at, in terms of the differentials,
9 Indiana Michigan Power Company has told the Indiana
10 Utility Rate Regulatory Commission that distinctions
11 of 20 to 70,000,000, approximately, of revenue at risk
12 is essentially equivalent from a risk factor
13 perspective --

14 A That's true, but I --

15 Q -- is that correct?

16 A -- I truly believe that you have to look
17 at it from the perspective of the breadth and size of
18 the companies, their overall cost of services, their
19 overall revenue requirement in order to get a
20 perspective when you're dealing what is the
21 implication to a customer.

22 Q So now you're saying that the total
23 cumulative present worth created by Aurora is
24 relevant?

25 A I'm just comparing and contrasting two

1 different views and two different outtakes from
2 separate -- completely separate set of analyses that
3 may have had a completely different set of input
4 variables as -- when -- when that particular Aurora
5 modeling was executed versus what was being performed
6 and executed in this filing, this Kentucky filing.

7 Q One month apart? They were filed one
8 month apart, correct?

9 A That's correct.

10 Q Okay.

11 A But I can't sit here and say variables
12 may not have been unique.

13 Q All right.

14 A They probably were.

15 Q On direct testimony, page 38, line 8,
16 going through page 42 of your direct testimony, you
17 discuss --

18 A I'm sorry. I beg your pardon. Where
19 are you at now?

20 Q Oh, I'm sorry. Direct testimony.

21 A Yes.

22 Q Page 38.

23 A Okay.

24 Q Line 8.

25 A Yes.

1 Q And then running through page 42, you
2 discuss various concerns regarding the market purchase
3 replacement alternative?

4 A Yes.

5 Q And in particular Option 4B, correct?

6 A Yes.

7 Q Okay. And page 38, line 13, you
8 specifically refer to Option 4B, quote, potentially
9 subjects Kentucky Power Company and its customers to
10 additional pricing and performance risks. Do you see
11 that?

12 A I'm sorry, I'm -- I'm on 38, line --

13 Q Line thir -- well, line 12 to 13.

14 A Okay. Could you reread that, please?
15 I'm sorry.

16 Q Certainly. You state there that Option
17 4B --

18 A I --

19 Q -- quote -- or -- or, well, a market
20 purchase option, correct, is what's being discussed
21 here?

22 A Right. Okay.

23 Q Yes. Potentially subjects --

24 A Okay.

25 Q -- Kentucky Power Company and its

1 customers to additional pricing and performance risks?

2 A That's correct.

3 Q Okay. And by "performance risk," are
4 you -- are you referring to a concern that there's no
5 assurance that future capacity required, like PJM,
6 will be built?

7 A That's one concern. It's basically
8 concern over the construct itself. I go on to talk
9 about the fact that the RPM or the capacity market in
10 PJM is relatively immature. It does not -- it only
11 focuses on a single three-year-ahead view of capacity,
12 so therefore questions in terms of performance can be
13 raised in terms of its sustainability.

14 And the experience to this point has
15 been that there has been relatively little thermal
16 capacity being -- that has been added as -- as -- or
17 been introduced as part of prior base residual
18 auctions within PJM. So, yes, it's performance of --
19 of the model itself.

20 Q So the concern would be that the
21 capacity that is needed wouldn't actually appear
22 through them?

23 A Which could then potentially lead to
24 price volatility.

25 Q Okay. And are you aware that on

1 March 30th, 2012, AEP Ohio filed an application with
2 the Ohio Public Utility Commission under which,
3 starting in 2015, AEP Ohio is proposing to begin
4 acquiring its capacity and energy using a competitive
5 bid process?

6 A I am vaguely familiar --

7 Q Okay.

8 A -- with that filing, yes.

9 MR. FISK: All right. I'm handing out
10 Exhibit 17, I hope.

11 I apologize. I realized I forgot to
12 move Exhibit 16 into evidence, the Indiana IRP.

13 COMMISSIONER ARMSTRONG: Any objection?

14 MR. OVERSTREET: No objection. I'm
15 sorry. No objection.

16 COMMISSIONER ARMSTRONG: So ordered.

17 (Sierra Club Exhibit 16 admitted.)

18 MR. FISK: Thank you.

19 Q Okay. I've handed you the Exhibit 17,
20 which is the direct testimony of Robert P. Powers that
21 was submitted in the Public Utilities Commission of
22 Ohio. Do you see that? Is that correct?

23 A That's what it indicates.

24 Q It's dated March 30th, 2012?

25 A That's what it says.

1 Q Okay. And do you know Mr. Powers?

2 A I know who he is.

3 Q Okay. And who is he?

4 A He's executive vice president of
5 utilities, I believe. I'm not sure of the exact
6 title.

7 Q For AEP?

8 A That's AEP Service Corporation --

9 Q Service Corporation.

10 A -- AEP.

11 Q Okay. And if you turn to page 23 of
12 this exhibit.

13 A I'm sorry. What page again?

14 Q Twenty-three. There is a discussion --
15 there is a question at the top of that page, (Reading)
16 How will the planned retirements of AEP Ohio
17 generation assets -- assets impact the availability of
18 adequate capacity for Ohio customers?

19 Do you see that?

20 A Yes.

21 Q And the second sentence -- second
22 sentence of the answer, starting at line 6, is,
23 (Reading) Any retirements would ultimately be offset
24 by existing capacity or new capacity additions in PJM
25 that could be built by other market participants.

1 Do you see that?

2 A Yes.

3 Q Okay. And then line 9 is the second
4 question. (Reading) Please explain how AEP Ohio
5 intends to ensure adequate capacity on an ongoing
6 basis. Do you see that?

7 A Yes.

8 Q Okay. And if you go down to line 17, it
9 says, (Reading) Adequate -- the assurance of adequate
10 capacity will become a function and obligation of PJM.

11 Do you see that?

12 A That's what it indicates.

13 Q Okay. And then he refers to the
14 testimony of Company Witness Graves; is that correct?

15 A That's what it indicates.

16 Q All right. I am passing out Exhibit 18,
17 which is the direct testimony of Frank Graves filed in
18 that same Public Utility Commission of Ohio docket; is
19 that correct? Oh, you haven't gotten it yet.

20 A I don't know.

21 MR. CHILDERS: Sorry.

22 A That's what it indicates.

23 Q Okay. And also filed March 30th, 2012?

24 A Yes.

25 Q Okay. And do you know who Mr. Graves

1 is?

2 A I do not.

3 Q You do not?

4 A Do not.

5 Q Okay. If you turn to page 14 of
6 Mr. Graves' testimony. Wait a minute. I'm sorry. I
7 have the wrong page number. Strike page 14.

8 Give me one second. I just need to find
9 the page.

10 Okay. I'm sorry. Page 2 of that -- of
11 Mr. Graves' testimony, starting at line 15, his
12 testimony is, (Reading) The PJM capacity markets have
13 been functioning effectively since 2007.

14 Do you see that paragraph?

15 A Yes.

16 Q Okay. And it says -- well, if you could
17 read that paragraph and the next paragraph. You can
18 just read them to yourself is fine. And let me know
19 when you're done.

20 A Okay. I've read it.

21 Q Okay. So in this -- in starting at line
22 15 on page 2 and then over to line 6 on page 3,
23 Mr. Graves' testimony notes that the prices in the PJM
24 capacity markets have generally been below the
25 annualized net cost of new energy in most regions of

1 PJM; is that correct?

2 A That's what it indicates.

3 Q Okay. And he also testifies that these
4 auctions are designed to assure that there is an
5 adequate supply reserve margin three years forward,
6 and in that regard they have succeeded very well; is
7 that correct?

8 A Perhaps up to this point, but there --
9 there are other extenuating factors.

10 Q Okay.

11 A I mean, we've gone through an economic
12 recession in which the demand for power and energy has
13 been somewhat depressed. A goodly portion of the
14 contributions to the demand market, the RPM market in
15 PJM has been through demand reduction, and I think the
16 last figure I saw indicated that that demand reduction
17 level has now exceeded ten percent, which is a fairly
18 significant number. It's higher than any other -- as
19 far as -- as far as the knowledge I know or the
20 knowledge I have from looking at research materials,
21 any other RTO that has -- captures a demand response.

22 And the other factor is, in just reading
23 these paragraphs, is that it does not yet reflect the
24 significant exposure associated with coal fire
25 capacity.

1 He clearly mentions, on the top of page
2 3, (Reading) Despite likely coal retirements, having
3 read PJM's most recent assessment to -- to basically
4 pull together what they believe is the impact, I think
5 they've identified 25,000 megawatts of capacity that's
6 at -- that's at risk. That's a significant portion.
7 I think it's one-third of their overall 78,000
8 megawatts of coal capacity, so --

9 Q And if you look at --

10 A -- up to this point, up to this point I
11 think one could argue inasmuch as the clearing prices
12 have been indeed below Net CoNE. Time will tell.

13 Q And looking at line 1 of page 3,
14 Mr. Graves goes ahead and continues to testify on
15 behalf of AEP that despite likely coal plant
16 retirements over the next year -- few years, it does
17 not appear that there is any reason to fear a supply
18 adequacy problem.

19 Is that correct that that's what he has
20 testified?

21 A Yes. Capacity gets built, and the
22 first --

23 Q Is that -- is that correct?

24 A That's what it reads.

25 Q Okay. And lines 4 through 6 says,

1 (Reading) Furthermore, the RPM auctions occur far
2 enough in advance that even if a pending shortfall
3 appeared likely, there would be sufficient time for
4 new resources to be developed.

5 Is that what it -- is that what
6 Mr. Graves has presented to the Ohio PUC?

7 A That's -- that's what it suggests,
8 and --

9 Q Okay.

10 A -- my comment to that, if I can, is that
11 if it's a three-year-forward auction and you need to
12 build, and depending upon -- Mr. Walton can probably
13 describe better than I the time frame it takes to
14 permit, design, build, engineer, and construct a
15 combined cycle facility, is probably not too far --
16 too much different than -- than the time frame he has
17 represented for a retrofit option, in that 50- to
18 60-month time frame.

19 So depending upon where they're at in
20 the production queue, which is another important point
21 to realize -- just because you're in the queue doesn't
22 mean the particular capacity is going to get
23 ultimately developed and built. There's a lot of
24 projects that get thrown into PJM, into that
25 production queue, that never -- again, never see the

1 light of day because of funding issues or it's a poor
2 site or what have you, can't get appropriate
3 financing, can't get permitting.

4 Q So you disagree with Mr. Graves'
5 testimony as --

6 A I'm just saying --

7 Q -- filed by AEP --

8 A Sorry.

9 Q -- in the Ohio PUC Comm -- Public
10 Utilities Commission? You are presiding -- presenting
11 a different opinion to the Ind -- to the Kentucky
12 Public Service Commission than AEP currently is also
13 preventing -- presenting to the Ohio PUC?

14 A I'm just suggesting there are risks.

15 Q And you are disagreeing with Mr. Graves'
16 testimony?

17 A He's certainly entitled to his opinion.
18 I just think there are risks that have to be
19 considered. Ohio is under a mandate. They -- the
20 legislation that they -- they will be migrating to a
21 market environment. Kentucky is not under the same
22 type of onus.

23 Q And if you just -- let me -- you also
24 refer in your rebuttal testimony -- no, I'm sorry,
25 your direct testimony, starting around page 38, to

1 pricing risks of relying -- of purchasing off the
2 market; is that correct?

3 A Okay. You're on page 38 of my direct?

4 Q I believe, yes.

5 A Okay. Go ahead. I'm sorry. Could you
6 ask me a question?

7 Q Lines 12 and 13 that we discussed
8 earlier --

9 A Yes.

10 Q -- you also have a reference to pricing
11 risks; is that correct?

12 A That's correct.

13 Q Okay. You ran five different scenarios
14 of capacity prices in the Strategist modeling; is that
15 correct?

16 A That's correct.

17 Q And did you include this pricing risk
18 that you're referring to starting on page 38 of your
19 direct testimony in those -- in that Strategist --
20 Strategist modeling?

21 A The Strategist modeling only
22 incorporated whatever the Fundamental Analysis
23 profiles for those unique scenarios reflected. So
24 what this is suggesting is, in recognition of that,
25 there could be other pricing risks that were not

1 necessarily manifested in those fundamental prices.

2 Q And did you run any Aurora models that
3 evaluated this pricing risk?

4 A Not on capacity specifically. Energy,
5 yes.

6 Q Have you quantified this pricing risk in
7 any way?

8 A Well, it's -- as it relates to energy
9 risk, it's all part -- I can't isolate specifically
10 how much pricing risk, energy pricing risk, had on the
11 overall set of results.

12 Q So you -- you --

13 A It's a holistic model.

14 Q So you haven't quantified the pricing
15 risk in any way that you're referring to on page 38?

16 A Not specifically as it relates to
17 energy.

18 Q Have you documented your pricing risk in
19 any way?

20 A No.

21 Q Okay. And your -- your market prices
22 were developed and were generated by AEP Fundamentals?

23 A That were used in the --

24 Q In the Strategist modeling.

25 A -- Strategist modeling, yes, Fundamental

1 Analysis.

2 Q Okay. And they do not include pricing
3 risks that you are now raising in your testimony?

4 A They include unique scenarios, five
5 unique scenarios that have unique sets of energy
6 pricing associated with a lower band of -- of
7 alternative commodities, such as natural gas, various
8 coals, emissions, versus a higher band, as well as
9 views that look at an earlier view of carbon and no
10 carbon. So implicit within those unique scenarios,
11 pricing scenarios, are different and implied levels of
12 risk associated with energy.

13 Q Okay. But you are referring, on page 38
14 of your testimony, to other pricing risks that were
15 not incorporated into those AEP Fundamentals --

16 A By virtue --

17 Q -- that have -- that have already been
18 put into the Strategist modeling?

19 A By virtue -- looking at it in the
20 context of effectively an exposed Kentucky Power
21 Company -- when I say "exposed," 1,100 megawatts of
22 former native generation has now been displaced with
23 market, whereas when it's -- when those units were in
24 Kentucky Power's portfolio, there was relative
25 certainty in terms of -- reasonable certainty in terms

1 of what those costs profiles, fuel-generation costs
2 would be, versus a market environment, which it's
3 the -- you're dealing with the vagaries of a market.

4 Q So you are -- you are asking the
5 Commission to reject or -- or to find that Option 4B,
6 which in the Strategist modeling was identified as
7 having a \$47,000,000 lower cumulative present worth on
8 the basis of pricing risks, in part, at least, that
9 you haven't modeled, that you haven't quantified, that
10 you haven't documented, and they were not included in
11 AEP Fundamentals' projections of energy prices; is
12 that correct?

13 A They were incorporated into the Aurora
14 modeling. The Aurora modeling took into consideration
15 pricing risk, relative pricing risk.

16 Q So the pricing risk that you were
17 discussing in your testimony is just the pricing risk
18 that's included in Aurora?

19 A No, I'm saying -- this is -- this is
20 completely different. This is looking at a model
21 that's -- that's -- that's potentially still immature,
22 particularly when it comes to capacity value.

23 Q So there's a pricing risk that you
24 are -- you are urging justifies the rejection of the
25 Option 4B that is not reflected in either the

1 Strategist model or the Aurora model, correct?

2 A Over and above --

3 Q Okay.

4 A -- those models.

5 Q And you have not modeled that risk, you
6 have not quantified it, you have not documented it,
7 and it was not included in AEP's Fundamentals'
8 projection of energy prices; is that correct?

9 A We have not --

10 Q Yes or no?

11 A We have not documented a unique set of
12 risks, but there is risk implicit within both the five
13 ranges, the five scenarios of Strategist, as well as
14 the Aurora modeling.

15 MR. FISK: That's all. Your witness.

16 COMMISSIONER ARMSTRONG: Questions.

17 MS. HANS: I have no questions.

18 MR. KURTZ: Your Honor, I do.

19

20 * * *

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25

CROSS-EXAMINATION

1
2
3 By Mr. Kurtz:

4
5 Q Good evening, Mr. Weaver.

6 A Good evening.

7 Q I'd like to ask you some questions about
8 this report that was handed out at the break, your --
9 your October 7, 2011, preliminary study, sensitivity
10 study that was referred to earlier. Do you have that
11 in front of you?

12 A What is the document again?

13 MR. OVERSTREET: That's --

14 Q It's the document that was handed out at
15 the break.

16 A Yes. I'm sorry. Okay.

17 Q Just so I make sure that I understand
18 how this reads, the option, what is now known as 4B,
19 the ten-year market option and then the combined cycle
20 plant, that's the -- the market to 2025 in this
21 document here?

22 A Yes.

23 Q Okay. And this document, this
24 preliminary October 7, 2011, document shows that on a
25 net present value basis, the market -- the ten-year

1 market purchase option has a net present value benefit
2 of \$140.48 million?

3 A That's what it indicates.

4 Q And just to put this in context, the --
5 the evidence in the record from your direct testimony,
6 under the same analysis, is a \$47,000,000 net present
7 value benefit, correct?

8 A That's correct.

9 Q And then as I understand your rebuttal
10 testimony, making an adjustment for the off-system
11 sales, it bumped up to 80,000,000 of benefit under the
12 ten-year market purchase option?

13 A The -- you're talking about the 47 and
14 with the adjustment, yes, the \$80,000,000, yes.

15 MR. HOWARD: Mr. Kurtz, and I'm sorry, I
16 was just now was able to locate the document. Can you
17 show me the numbers to which you are referring? Thank
18 you, sir.

19 COMMISSIONER ARMSTRONG: Mr. Overstreet,
20 Missy didn't have that document.

21 MR. OVERSTREET: I'm sorry, Your Honor?

22 COMMISSIONER ARMSTRONG: We don't have
23 that document he's referring to.

24 MR. OVERSTREET: I apologize.

25 Q Just to recap, then, column one, two,

1 three, four, five over shows a \$140,000,000 net
2 present value benefit of the ten-year market purchase
3 compared to the Big Sandy scrubber option?

4 A That's what it indicates.

5 Q Okay. And this Big Sandy scrubber net
6 present value is exactly to the tee, to the dollar,
7 the 6,838,879,000 is exactly the number that appears
8 throughout your testimony, correct?

9 A Subject to check.

10 Q So what has happened is, the market --
11 the market scenario between October '7 and 2011, when
12 you filed your case two months later, essentially got
13 worse by about \$100,000,000?

14 A To be -- to be frank with you, I've not
15 seen this.

16 Q Oh.

17 A This is the first time I've seen this
18 analysis.

19 Q Okay.

20 A This is the first time I've seen it,
21 about two hours ago, in fact. I have no knowledge as
22 to the basis, no knowledge as to the underlying
23 parameters that were utilized in this -- in this
24 representation of cost.

25 Q Weren't you the -- the person in charge

1 of this type of modeling?

2 A Certainly, but evaluations are
3 constantly being reupped based on parameter tweaks.
4 And again, I just can't -- I can't comment on a figure
5 here that happens to differ from what I'm setting
6 forth. I'm standing behind and supporting the data
7 points that are represented in my Exhibit 4.

8 Q Now, just -- just so I understand, the
9 column two is the sensitivity where, after 15 years,
10 the Big Sandy 2 scrubber would be retired; is that
11 correct?

12 A That's correct.

13 Q Okay. And as I understand this
14 document, it shows that retiring this -- the unit
15 after 15 years of operation in 2025, that's a
16 \$202,177,000 hit, increase to the present value of --
17 of the preferred option, the Big Sandy option,
18 correct?

19 A I believe that was the approximation I
20 gave earlier today; that's correct.

21 Q Well, do you see it, cost over retrofit
22 two oh two one seven seven in the bottom line?

23 A Yes.

24 Q Okay. And so if you retire the unit
25 after 15 years, the benefit, at least under this

1 document, of the market purchase would be 140.480
2 million plus two hundred and two one seven seven, for
3 a benefit of 342,000,000 net present value of
4 purchasing versus the Big Sandy scrubber; is that
5 correct?

6 A Well, again, let me just reiterate. I
7 think I mentioned this morning that this was a
8 sensitivity run, does not represent an alternative
9 analysis that we have set forth, which establishes the
10 service life of Big Sandy Unit 2 being 70 years, or
11 approximately 70 years, through the full 2040 study
12 period. This represents pure and simple a sensitivity
13 analysis that would look at the prospect of retiring
14 the unit and replacing it with near like size
15 capability earlier.

16 Q But if that were to occur -- occur, this
17 sensitivity shows that there would be a \$202,000,000
18 additional cost to the Big Sandy scrubber option on a
19 net present value basis, correct?

20 A Yes. It would also show that it would
21 still be lower than Options 2 and 3. They are flipped
22 here. Option 2 in my testimony is the NGCC
23 replacement, which is the fourth column from the left,
24 and my Option 3 is the repower, which is the third
25 column from the left.

1 Q Okay. Under the ten-year market
2 purchase, just to be clear, the ten-year market
3 purchase would be \$340,000,000 better than the Big
4 Sandy scrubber option, net present value, if the
5 Big -- if the useful life was only 15 years?

6 A I am not supporting -- I cannot support
7 the column the second from the right labeled Market to
8 2025. I have no knowledge as to what is in that
9 number. It could have been -- it could have been an
10 estimate that was predicated upon some revised input
11 parameter that was not in sync or consistent with the
12 overall suite of input parameters that were
13 incorporated into my filing.

14 Q Just -- the market-only option, the far
15 far right, which was not presented in this case, is
16 presented in this preliminary run as being cheaper
17 still than anything else that AEP considered, correct?

18 A Again, I would -- I would refer that --
19 if you want to refer that to as a sensitivity done,
20 again, using parameters that were -- I can't comment
21 on or speak to directly, that perhaps were not be
22 consistent with the overall set of input parameters
23 that were employed within Strategist at that
24 particular point in time.

25 Q Let's just go back to the \$202,000,000

1 cost, net present value if Big Sandy only operated for
2 15 years, the Big Sandy 2 scrubber.

3 You're aware that -- that Kentucky Power
4 has proposed a 15-year depreciation because of the
5 risk that the environmental rules may cause premature
6 retirement of the unit. Are you aware of that?

7 A I'm aware of that.

8 Q And if that were to come to pass, then
9 there would be a \$202,000,000 net present value
10 negative consequence to the scrubber option?

11 A Well, the operative word is "if." And
12 we believe that based on the level of ongoing capital
13 expenditures we've incorporated into this modeling,
14 and based on the discovery responses we have made,
15 that we believe the unit will be viable through 2040.

16 Q Well --

17 A That's a realistic and practical
18 representation of what we feel is the correct approach
19 to take in terms of representing that option.

20 Q Somebody must have felt there was a
21 risk, otherwise they wouldn't have asked for the
22 15-year recovery, which I understand you're asking for
23 in Indiana, and I think the testimony was Arkansas,
24 with a 15-year recovery on these environmental
25 investments?

1 A That's correct.

2 Q So somebody at AEP must think that
3 there's a premature retirement risk.

4 A Well, I think with Indiana, there's a
5 statute that affords the ability to recover
6 incremental environmental costs over a 10- to 20-year
7 time frame.

8 Q Can I ask you to refer to your rebuttal
9 testimony, please? Page 13. And let me know when you
10 have it there.

11 A Yes.

12 Q Okay. The far left column is the Big
13 Sandy retrofit Option 1, the -- basically the total
14 system revenue requirements with the scrubber by year;
15 is that correct?

16 A Yes, the nominal revenue requirements
17 that were established by Strategist for that
18 particular office.

19 Q And, in fact, the way you modeled this,
20 you modeled the fixed cost of the -- of the scrubber
21 kind of like a mortgage, where it's levelized and
22 fixed over a period of time, rather than the declining
23 rate base which -- which actually occurs; is that
24 correct?

25 A Again, as I said in my direct testimony,

1 we're not looking at this as a cost of service
2 approach. It's a levelized -- it's a 30-year study
3 period, so we're looking at it over a 30-year time
4 frame.

5 Q Well --

6 A To bifurcate and look at it over ten
7 years, Counselor, is really not the right approach to
8 take, as I indicated in rebuttal testimony.

9 Q Yeah, and I just want to just make clear
10 that this 621,065,000 would actually be higher in
11 terms of what customers would pay, because the capital
12 costs are not recovered like a mortgage, levelized,
13 it's recovered on a declining rate base?

14 A Fully understand that.

15 Q Okay. And that -- so that -- the first
16 year cost to consumers would be more than this?

17 A Yes. As I said in my testimony, the
18 year one cost, which is not what the Strategist tool
19 identifies, would have been identified by Witness
20 Munsey in her testimony.

21 Q Now, Mr. Kollen calculated that first
22 year revenue requirement, what consumers would really
23 pay, is \$36,000,000 more than the first year that's
24 shown here. You guys did not rebut that. Is that --
25 is that accurate?

1 A Inasmuch as over the course of looking
2 at these results over the full 30 years, it really
3 makes no difference. You get back to the same point.

4 Q I understand that, and that -- that's --
5 I'm sure that -- I know that's correct. The first
6 year, though, if we just went year by year, there is a
7 difference?

8 A If one wanted to go year by year, that's
9 a true statement.

10 Q Okay. So what this -- what this shows
11 is that Big Sandy would be -- would have this total
12 system revenue requirement, six twenty-one oh
13 sixty-five, plus 36,000,000. The market replacement
14 is 509,000,000. So the first year savings that
15 consumers in Kentucky would get is \$111,000,000 plus
16 36,000,000, \$146,000,000, \$147,000,000 savings to the
17 economy, to consumers, by buying market power rather
18 than doing the scrubber?

19 A Again, if you're looking at it from an
20 isolated year one perspective, recognizing the
21 potential risks that we've just been discussing in
22 testimony, that would be the case, but we're looking
23 at this over a 30-year time frame because you're
24 building a long-lived asset that's going to benefit
25 not just today's customers of Kentucky Power, but

1 tomorrow's customers and those customers 20 to -- 20
2 to 25 years from now.

3 Q Understood. So there would be
4 \$147,000,000 savings to consumers in that first year,
5 which is why Mr. Kollen testified that the rate impact
6 would be 10 to 12 percent versus 35 percent? You
7 don't -- you don't dispute that, do you?

8 A I did not validate the arithmetic in
9 terms of what is -- I'm sorry. You had said 147? Am
10 I hearing?

11 Q Yeah. Well, 111 plus 36, because the
12 revenue requirement would not be levelized.

13 A Understood.

14 Q Fixed cost recovery would be the extra
15 36. Okay?

16 A Yes.

17 Q Okay. So then -- and as we keep going
18 further, you show the present value numbers, which --
19 and you show a present value savings in year one of
20 73,763,000; is that correct?

21 A That's correct.

22 Q Okay. Now, you've discounted back to
23 2011. If we -- if we discounted back to when these
24 costs start to be incurred to 2016, the first year
25 nominal and the first year present value would be a

1 lot closer, wouldn't it?

2 A I'm -- everything that we're doing in
3 our modeling is looking at it from the perspective of
4 2011 dollars, today's dollars, and so it's just
5 basically to bear out consistency, and ultimately, in
6 that lower right-hand figure, I wanted to tie back and
7 cross-reference to my Exhibit SCW-4.

8 Q So let's just go back to the cumulative
9 nominal dollar savings. In year 2017 consumers would
10 save, versus the scrubber, an extra 62.9 million, plus
11 the effect of this mortgage versus rate base, and so
12 there would be a cumulative savings of at least
13 \$174,000,000 to consumers and to the economy, just in
14 that second year?

15 A Again, if you're taking a snapshot view,
16 which is not the intent of the overall economic plan,
17 we're looking at a long-lived asset.

18 Q Okay.

19 A And I talked about, you know, downstream
20 costs that would occur within a particular option,
21 such as Option 4B. You're -- you're basically being a
22 price-taker from the market based on the -- granted,
23 the prices that we've incorporated from the
24 Fundamentals, but recognizing that downstream there
25 would be a need for an investment, and in the case of

1 Option 4B, it would be a gas combined cycle,
2 significant gas combined cycle investment at that
3 point.

4 So, again, it's looking at the entire
5 spectrum as opposed to breaking it out into individual
6 years.

7 Q Okay. Now, you've got the first ten
8 years here, 2016 to 2025, and consumers would have
9 saved 588,000,000 plus that mortgage-versus-levelized
10 effect that Mr. Kollen calculates at 43,000,000. So
11 consumers would have saved, nondiscounted, just
12 nominal, over \$600,000,000 by purchasing power rather
13 than building the scrubber over the first ten years?

14 A But likewise, if you move further down
15 this list, customers will pay more, significantly.

16 Q Yeah, but that -- it's correct, though,
17 just through -- just through 2025, consumers would
18 have saved over \$600,000,000 nominal?

19 A Nominal, but, again, this is a
20 long-lived study.

21 Q Now, present value, over -- through
22 2025, consumers would have saved 301.132 million
23 discounted all the way back to 2011. That's the
24 present value savings that consumers in Kentucky would
25 have experienced, correct?

1 A I -- the 321, I can't --

2 Q The 301. It's what you have in the box.

3 A The 301.

4 Q Is that correct?

5 A That's correct.

6 Q Okay. Now, if we move down just five
7 more years to 2030, we see the cumulative savings
8 start to go down. It's -- it's 469,000,000 of
9 cumulative savings to the economy and 271,000,000
10 present value savings to the economy. Do you see
11 that?

12 A Yes.

13 Q Okay. Now, if this was the year that --
14 this is 15 years of useful life, so if -- if the
15 machine got prematurely retired here, there -- there
16 would be that \$202,000,000 of extra present value
17 savings associated with buying power versus building
18 the scrubber, correct?

19 A But, again, that's -- that's a
20 sensitivity view, that's not our established view in
21 terms of the life cycle expectation for Big Sandy Unit
22 2 that was established and agreed to as an appropriate
23 alternative basis in our analysis.

24 Q Part of -- you -- you assume the same
25 level of load in 2016, customer internal load in

1 Kentucky, whether there's a 10 to 12 percent rate
2 increase or a 35 percent rate increase? In other
3 words, you didn't do any demand elasticity saying
4 people get hit with this big increase, usage will go
5 down, and you -- you've assumed the same usage in all
6 of these runs, correct?

7 A We used AEP Economic Forecasting, which
8 is a forecasting group, their load forecast, and I
9 believe they incorporated elasticities associated with
10 the recognition there would be higher relative levels
11 of electric -- electricity rates impacting customers.

12 Q Well, I think --

13 A I believe they used a number of two
14 percent above inflation to -- to -- to dial those
15 elasticities in the load forecast that we then used.

16 Q Well --

17 A So I think it's -- it's implicitly been
18 dialed in to the load forecast itself.

19 Q You have the same customer usage in
20 every one of your scenarios, you -- even in the
21 scenario where there's a 35 percent rate increase,
22 which is 10 to 12.

23 A Well, I guess the point is: No matter
24 the -- the options we're looking at, rates are going
25 to be going up.

1 Q Now, if there's --

2 A If you build a CC --

3 Q If there's a 35 percent rate --

4 MR. OVERSTREET: Excuse me. Let --

5 Q I'm sorry. Go ahead.

6 MR. OVERSTREET: Let the witness finish
7 his answer.

8 A If you build a CC, Option 2, or you
9 repower, Option 3, or -- or ultimately you go with a
10 market solution that has attendant exposure associated
11 with it, costs are going to be going up, and those --
12 my point is, is that the Economic Forecasting group
13 did incorporate price elasticity associated with cost
14 increases at two percent above general inflation,
15 which I incorporated.

16 Q If there's a 35 percent rate increase in
17 2016, it's possible some of your large industrial
18 customers would -- would shut down, isn't it, not be
19 able to operate?

20 A I don't have command of their income
21 statements and balance sheets to be able to comment on
22 that.

23 Q Is it possible that this \$500 per year
24 increase on -- on the rural -- on the residential
25 consumers in this impoverished area, it's possible

1 that some of those people wouldn't be able to pay
2 their bills and go on the disconnect list, et cetera?
3 Isn't that possible?

4 A Certainly there is cost exposure. I
5 think we all know that as we're migrating down this
6 path of -- of meeting the requirements, the legal
7 requirements, regulatory requirements, being
8 exposed -- that Kentucky Power and other utilities are
9 being exposed to, there is necessarily going to be a
10 cost increase.

11 Q If some big industries close or people
12 use less because of a 35 percent rate increase, you're
13 still going to have the same costs of the scrubber to
14 recover, aren't you, just over -- over fewer
15 consumers, over less usage?

16 A Economically, or the way -- the way
17 regulatory costs would work, yes, you're -- you would
18 need to spread those fixed costs over a potentially
19 smaller base, but I can't comment in terms of what the
20 overall exposure, who would decide to close down, how
21 incremental load would be affected. If the economy
22 begins to, hopefully, take off, there will be some
23 other incentives to allow other entities, industrial
24 customers, whomever, to support their cash flow such
25 that they would be able to bear these incremental

1 costs. I'm not an economist and I don't want to go
2 any deeper than -- than offering that high-level
3 representation.

4 Q Now, if this 35 percent rate increase on
5 top of the 90 percent rate increase over the last
6 eight years that has actually been experienced, it did
7 cause customers to go out of business and people to
8 use less, that means the rate increase would be even
9 bigger than the 35 percent, we would have this death
10 spiral or spiraling impact, wouldn't we?

11 A Well, I -- again, I don't want to
12 conjecture.

13 Q Should the Commission be concerned about
14 those type of issues when deciding this, this case?

15 A The situation here is, the Company has
16 been placed into a situation where it has to make a
17 decision around the disposition of a generating
18 facility, and, in fact, it's not just Big Sandy 2,
19 it's also Big Sandy 1, and that disposition comes with
20 the attendant costs to remediate that, that
21 disposition requirement. Whether it's replacement,
22 going to a market, whatever the case may be, a
23 decision point has been reached.

24 Q The -- let me ask you about the
25 Strategist model runs you've done. The ones you've

1 submitted in this case did not include the transfer
2 from Ohio Power to Kentucky Power of 312 megawatts of
3 the Mitchell unit; is that correct?

4 A Right. They were not reflected in this
5 case.

6 Q Okay. Mitchell, just to recap, is --
7 right now the net book cost -- and that is AEP's
8 intent, isn't it? That's AEP's intent, to transfer
9 those units?

10 A You know, I'm -- I'm going to state what
11 Mr. Wohnhas indicated yesterday, it's an option. But
12 right now it's been pulled, and I don't know where
13 things are going to shake out in Ohio in terms of the
14 ability or the desire to transfer any assets, be it
15 from Mitchell or whomever.

16 Q Well, that's AEP's intent, though?
17 That's what AEP wants to do, isn't it?

18 A That certainly was the intent.

19 Q Okay. It's its current intent as well,
20 isn't it?

21 A It's my understanding that there is a
22 propose -- that the intent is to refile at some point
23 in time. In terms of what that refiling is going to
24 look like, I don't know.

25 Q Well, Mr. Powers is the big boss, right?

1 His testimony was -- was introduced here by Sierra
2 Club in the Ohio case. I mean, he's a big boss.
3 He's -- he's the highest level executive other than, I
4 think, the CEO, isn't he? Isn't he one level below?

5 A He may be. I think he reports to the
6 CEO.

7 Q Okay. Well, he says on page 21, line
8 20, in another separate application with the FERC,
9 certain generating assets, the Mitchell generating
10 plant and Ohio Power share Unit 3 of the Amos
11 generating plant, will be transferred at net book
12 value from the Genco to Appalachian Power Company and
13 Kentucky Power.

14 A Could you re --

15 Q He doesn't say it's an option, he's
16 telling the Ohio Commission it will happen. That's
17 their -- that's his intent.

18 A Would you please refer me to the page?

19 Q Yeah. Page 21, line 20.

20 A That's what it indicates.

21 Q So that is AEP's intent. And if that
22 were -- if that were to come to pass, your Strategist
23 model runs would be certainly incomplete, because it
24 would not have modeled in the Mitchell capacity; isn't
25 that correct?

1 A Well, we did do a, I'll call it a
2 sensitivity, that was offered up in response to Sierra
3 Club Discovery 1-52.

4 Q That's the document that -- that I asked
5 Mr. Wohnhas about in the under seal portion of the
6 hearing. Were you here yesterday?

7 A Yes.

8 Q Okay. That's the -- the Mitchell where
9 Kentucky Power is even a bigger merchant generator,
10 with 30 to 40 percent of its output to sell
11 off-system. Do you remember that?

12 A I don't recall the 30 to 40 percent of
13 output available to sell off-system.

14 Q Okay. So -- but if the Mitchell
15 transfer does come to pass, then the analysis that --
16 that you've done would be incomplete in the record, in
17 your direct testimony?

18 A It still may not change the resolution
19 as -- as it relates to the disposition decisions
20 around Big Sandy 2. Again, what's creating this need
21 for capacity for Kentucky Power Company is, in fact,
22 and I think Mr. Wohnhas identified this, the
23 retirement of Big Sandy Unit 1. It's a 270 meg --
24 278-megawatt unit that will create, once it's retired,
25 a capacity deficiency for a stand-alone Kentucky Power

1 Company, NPJM.

2 So the 312 megawatts, again, was -- I
3 think I testified earlier, was intended, along with
4 the transfer to Appalachian Power Company, to
5 equilibrate the relative reserve margins among the
6 three remaining cost-based operating companies.

7 Q And you could satisfy that reserve
8 margin requirement with a combustion turbine, with
9 a -- with a PJM RPM capacity purchase, with demand
10 response. It doesn't have to be base load coal, does
11 it?

12 A Again, I think that the -- that the
13 notion of transferring a base load asset was to not
14 only focus on the reserve margin, the capacity reserve
15 margin, but also the attendant energy positions, to
16 make sure that the three surviving companies would
17 have also roughly equilibrated, to the extent you can
18 when you're dealing with large lumps of capacity being
19 transferred back and forth, but the energy positions
20 would be equilibrated.

21 As a result of that, then the energy
22 pool that is -- was being proposed, it's my
23 understanding, under the PCSA, would seek to
24 effectively create a -- what I'll call a loose pool,
25 such that there would be relatively little need to

1 transfer energy amongst the companies, because with
2 the transfer of the assets you've increased not only
3 the capacity reserve margin but also the respective
4 attendant energy position.

5 The only time that energy would transfer
6 under this loose pool would be when you have a
7 situation during a given month where you've got -- or
8 a given hour, for that matter, a long company and a
9 short company. If all three companies are long,
10 there's no transactions, no energy transactions. If
11 all three companies are short, there's no energy
12 transactions. That's the intended nature of this
13 pool. So it took that type of asset to be transferred
14 to cause that to happen.

15 Q So if -- if your scrubber application is
16 approved here and if the Mitchell transfer, which is
17 AEP's intent, goes through, that Kentucky Power would
18 be 100 percent base load coal with no fuel diversity,
19 no peaking intermediate base load diversity, nothing,
20 it would be -- it would be a hundred percent relying
21 on coal?

22 A In terms of what would reside in their
23 portfolio, yes, but as -- by virtue of the fact that
24 these companies are part of PJM, that, for -- for
25 energy purposes, that's -- that's an energy pool to a

1 certain extent. PJM has, in terms of what -- what is
2 offered at a given point in time, they've got peaking
3 capacity, various types of capacity sources.

4 But the direct answer to your question
5 is, obviously, yes, it would be -- the Kentucky Power
6 native portfolio would, at that juncture, be
7 100 percent coal.

8 Q I asked Mr. Wohnhas if he knew any
9 utilities in Kentucky that were 100 percent base load
10 coal. He didn't know. Do you?

11 A I don't.

12 Q Do you know any utilities in the United
13 States that are 100 percent base load coal?

14 A I'm sure there are some, but I don't
15 know specifically.

16 Q Do you understand that the utilities in
17 this state are diversifying, LG&E, KU with -- with
18 combustion turbines; East Kentucky has combustion
19 turbines; Duke has coal and gas assets here. Do you
20 understand that? And Big Rivers even has a little bit
21 of gas, although they're almost a hundred percent
22 coal, too. Do you understand -- do you --

23 A I understand.

24 Q You knew? Okay. Now, your analysis
25 also assumed that the Rockport -- the 300 megawatts,

1 390 megawatts at Rockport, 15 percent of Units 1 and
2 2, would be through the entire 25-year study period,
3 2024; is that correct?

4 A That's correct.

5 Q Okay. Now, you understand that those
6 contracts terminate around 2023?

7 A Yes. An assumption was made that they
8 would effectively be extended at the same relative
9 terms.

10 Q Okay. Now, if those contracts were not
11 extended, then your analysis would -- would be
12 inaccurate?

13 A It would need to be appended; that's
14 correct. But I have no reason to believe that that --
15 that is not going to be an outcome, i.e. the extension
16 of the current unit power agreement terms.

17 Q Yeah, that could be a very good deal for
18 Kentucky Power. I mean, that's -- it could. We
19 just -- it's just not known whether the contracts will
20 be extended, right?

21 A Right. We assumed they will, though.

22 Q Now, talking about Mitchell versus Big
23 Sandy, just to be clear, Mitchell is \$650 per kW,
24 total plant, scrubbed, SCR, the precipitator is going
25 to be adequate, versus \$1,175 just for the new

1 scrubber, per kW, on Big Sandy, right?

2 A I'm not sure about the \$650 per kW.

3 Q That's what --

4 A That number seems a little --

5 Q -- that's what Kentucky Power told this
6 Commission on January 19 in an informal conference.

7 A Okay. I just -- having looked at the
8 data response, I seem to recall a net book value as of
9 12-31-2001 of approximately 1.253 billion, so if I
10 were to take that, divide it by 1560. It was -- that
11 was a total plant net book value.

12 Q Okay.

13 A I get \$803 a kW as of December 31, 2011.

14 Q There's a discrepancy, because the
15 presentation here was 650.

16 A I'm just looking at the data, so perhaps
17 the data response is incorrect, but that's the number
18 I saw.

19 Q Okay. If it's 650, then -- then the
20 Mitchell would be roughly almost -- almost half the
21 price just of the Big Sandy scrubber?

22 A If -- if that were the price, but also I
23 think it was recognized earlier today, I believe in
24 Mr. McManus's testimony, that there is, near term,
25 work that is in the process of being performed at

1 Mitchell plant related to effluent guidelines,
2 regulations. I'm not sure how much that is, but I
3 think that's going to be incorporated into their net
4 book value, theoretically, prior to any transfer date,
5 whenever that might occur.

6 Q Okay. That's good to know. So if -- if
7 AEP does transfer the plant, there's going to be --
8 it's going to have those additional environmental
9 costs on top of what the current net book cost is?

10 A It would be -- if it's at net book
11 value, it would be whatever the net book value is at
12 that point in time.

13 Q Okay. Demolition and removal costs
14 associated with the boiler modifications and the
15 electrostatic precipitator, those were not included in
16 your 940,000,000; is that correct?

17 A I don't know.

18 Q Okay. So if any of these -- these
19 things, the Mitchell transfer, the Rockport contract
20 extension, the demolition costs, the -- the
21 assumption -- the assumption that demand, internal
22 demand is the same if it's a 35 percent rate increase
23 or a 10 to 12 percent rate increase, if any of those
24 assumptions are wrong, then -- then the modeling
25 you've done would be changed?

1 A Changed, but the result may not be any
2 different, inasmuch as if the relative impact of --
3 let's say extracting 390 megawatts at Rockport, you'd
4 be doing that in all the scenarios, so any -- any
5 implication it would have on an ultimate resource
6 profile represented by cumulative present worth of
7 revenue requirements would potentially change very
8 consistently amongst the options analyzed.

9 Q This -- I know this isn't your area, but
10 you understand that on this \$940,000,000 scrubber
11 investment, that AEP is proposing to earn a 16 and a
12 half percent pretax rate of return on their equity
13 investment?

14 A I -- so I heard. I don't know what the
15 overall return is inasmuch as obviously equity is just
16 a portion of your overall capitalization.

17 Q Forty-three, 44 percent, but that is
18 just a passthrough of your costs. The profit is in
19 your equity return, right?

20 A That's correct.

21 Q Okay. Now, how much profit does
22 Kentucky Power earn on a purchase power option?

23 A I'm not a regulatory person. If --
24 assuming there's no type of -- of, you know, equity,
25 equity equivalent that's dialed in, it would be zero.

1 It's just dead.

2 Q So --

3 A It's just dollar-for-dollar recovery.

4 Q So that -- all else equal, that might be
5 a reason why management might prefer the scrubber
6 investment, to grow earnings and rate base?

7 A From my perspective in terms of
8 performing the analytics that were reviewed by senior
9 management, the notion of profitability, I never
10 recall one mention of that.

11 Q Do you recall the data request from
12 Staff asking you to update your -- your Strategist
13 model runs?

14 A Yes.

15 Q And your answer was nothing's changed,
16 and therefore there's no reason to rerun it?

17 A The -- that's correct. The -- the
18 fundamental pricing profiles, load forecast, cost,
19 installed cost of alternatives, various other input
20 parameters, are consistent with those that were used
21 to establish the data that went into the filing.

22 Q Well, between October 7, 2011, this --
23 this document we talked about earlier, and your
24 December 5th filing, a lot of things changed. The
25 market -- the market option went from \$140,000,000

1 benefit to only 47, still significant, but in two
2 months there was that \$100,000,000 net present value
3 swing. Nothing has changed since December 5th,
4 four -- four months?

5 A I've got no clue as to the veracity of
6 that column you're pointing to. I don't know what
7 input parameters were incorporated. I can't comment
8 on the veracity.

9 Q Okay. Let me -- I'd just like to pass
10 out some documents to you.

11 MR. HOWARD: You want me to do that,
12 Mike?

13 MR. KURTZ: That would be great.

14 MR. HOWARD: Be glad to get out of my
15 chair for a minute.

16 MR. KURTZ: No, not those. Not those.

17 MS. HANS: Not those.

18 MR. KURTZ: Put those back down.

19 MR. OVERSTREET: Mr. Kurtz, how much
20 longer do you anticipate? He's been on the stand
21 another hour and 40 minutes.

22 MR. KURTZ: No, no, no. Ten minutes,
23 15 minutes.

24 Q This is just a data request, when Staff
25 asked you in their fourth set to rerun the studies,

1 and you just indicated that nothing had changed.

2 MR. KURTZ: Can I have that marked as
3 KIUC Number 8?

4 MS. GILLUM: You need to give it to me.

5 MR. HOWARD: I'm coming that way right
6 now, ma'am.

7 THE WITNESS: Thank you.

8 MS. GILLUM: Everybody seems to pass me
9 up all the time.

10 Q I guess that this is just by way of
11 background. That -- that -- you say on page 2, at
12 this point there have been no meaningful changes to
13 the primary drivers and accordingly there would be no
14 material differences if the analysis were run to
15 reflect the April 1, 2012, condition in the industry.
16 Did I read that correctly?

17 A Yes.

18 Q Okay. Now, this one I'd like to have
19 marked as KIUC 9. This is -- this is just for
20 convenience. This is a -- this is a page from your
21 direct testimony. I believe Mr. Fisk asked you
22 questions. This is just the Fundamentals contained in
23 your -- in your analysis. Do you recognize that?

24 A Yes.

25 Q Okay. The gas prices, there haven't

1 been -- you don't think there's been a change in
2 natural gas prices between the -- when this was done
3 and today, for example?

4 A I think the important point here is
5 that, particularly when you're dealing with the
6 disposition analysis that we're focused on here, the
7 relative impact of -- of Option 1 versus 2 versus 3 is
8 really impactful effective in the year 2016. And
9 Mr. Bletzacker, I'm sure, can address, from a
10 Fundamental standpoint, his position around the
11 meaningfulness or the -- the continued accuracy,
12 recognized it's a forecast, of course, of these
13 figures versus what he may believe they should be
14 today.

15 Q Well, you sponsored this request when
16 their -- when you said that nothing really has
17 changed, but you would agree that natural gas prices,
18 the futures, the Henry Hub Natural Gas Futures are
19 much lower today than what you included in your
20 Strategist model?

21 A Again, for the years 2012 through '15,
22 it would have a consistent relative impact across all
23 options. As I said in my direct testimony, it's a
24 relative analysis we're looking at here. We're not
25 looking at a bottom-up, this is a revenue requirement.

1 It's a relevant analysis. That's -- that's what we're
2 focused on.

3 Q But after --

4 A And --

5 Q But 2016, beginning, the natural gas
6 prices would have a major impact, wouldn't it?

7 A If, in fact, any current view of what
8 these natural gas prices are were obviously to differ
9 from here. And it's my understanding from talking to
10 Mr. Bletzacker is these numbers are still good.

11 MR. KURTZ: Okay. Can I have this
12 marked as KIUC Number 9?

13 Q This is --

14 MR. HOWARD: Is that 9 or 10, Mr. Kurtz?

15 MS. GILLUM: Ten.

16 MR. KURTZ: Ten. Sorry.

17 Q These are -- these are the NYMEX gas
18 futures prices as of today for Henry Hub Natural Gas.
19 Let's just go -- let's just go back to your summary
20 document. For 2016, you, for natural gas, in the
21 left-hand corner of the document, under the five
22 different pricing scenarios, natural gas for a year
23 goes from \$5.99 per M -- per MMBTU, MCF, same thing,
24 694, 527, 599, and 599? Those were the gas price
25 assumptions in the model?

1 A Correct.

2 Q Okay. Let's take a look at what you can
3 actually buy natural gas for on the -- on the NYMEX
4 market in 2000 -- for 2016. This is by month. It
5 would have been easier if I put it by year, but you
6 see that the prices range from -- what you could
7 actually buy gas for, high of \$4.50 to a low of \$4.19,
8 considerably -- a dollar, \$2 less than what's in your
9 model?

10 A You're talking about hedging issues that
11 I, quite frankly, don't want to address. We've got,
12 you know, a rebuttal witness in Mr. Bletzacker who
13 could address this and these differences, if you will,
14 far better than I.

15 Q Okay. But if we -- in the real world,
16 if we were buying natural gas, we would -- we could
17 buy it forward on the NYMEX natural gas exchange,
18 couldn't we?

19 A Depending upon what your appetite is for
20 hedging.

21 Q Well, if we locked in the price, we're
22 locked in. I mean, we would know for sure what the
23 gas price would be.

24 A Again, depending upon -- this is a
25 long-term analysis. I'll let Mr. Bletzacker talk

1 about the appropriateness of using a fundamental
2 profile as opposed to forward instruments.

3 Q Now, is he the right guy to ask
4 questions about with respect to forward power prices
5 too, on-peak and off peak?

6 A Better than I.

7 Q Okay. Now, natural gas is a very
8 important component of your -- of your study, for
9 obvious reasons, isn't it?

10 A Certainly.

11 Q If natural gas prices go down, the
12 combined cycle looks better and the scrubber looks
13 worse, all else equal, right?

14 A All else equal, that's -- that's a good
15 point. It depends upon how other prices would move in
16 unison -- or in -- would be correlated.

17 Q Do you follow the power markets and the
18 gas markets at all?

19 A Given that my role is largely long-term
20 planning, for the most part, we -- we're focused more
21 predominantly in IRP-type purposes where we're looking
22 out, you know, 15, 20, or even 30 years on -- on
23 Fundamentals.

24 Q Do you know that natural gas right now
25 is just a little bit over \$2 per Mcf, very, very low,

1 very depressed today?

2 A I'm aware of that.

3 Q And that correspondingly the market
4 price for electricity -- because natural gas sets the
5 clearing price, and the PJM LMP market, on-peak,
6 et cetera, so the electricity price is low as well?

7 A That's a -- that's -- I'll call it a
8 short-term phenomenon given to the record high -- or
9 record low, I should say, heating degree days and
10 record high storage for natural gas.

11 Q Okay. So we have low gas prices and low
12 power prices right now, short-term?

13 A That's correct.

14 Q Okay. But we still have high coal
15 prices, correct?

16 A Relatively speaking, I can't comment on
17 that.

18 Q Well, a lot of time the AEP coal units
19 don't even clear the market because the combined cycle
20 gases is cheaper; isn't that right?

21 A That may or may not be the case. I
22 don't follow day-to-day offers into PJM from our
23 units.

24 Q Okay. Let me -- just one last thing.
25 Your direct testimony, Exhibit SCW-1, page 12 of 14.

1 Can I ask you to turn to that? And let me just read
2 the first --

3 COMMISSIONER GARDNER: What was that?
4 What was that page again? I'm sorry.

5 MR. KURTZ: SCW-1, the exhibit, or the
6 appendix, page 12 of 14.

7 Q Okay. Do you have that, Mr. Weaver?

8 A Yes.

9 Q Do you see the first -- second full
10 paragraph, (Reading) It might be assumed that the very
11 worst possible futures for the Big Sandy Retrofit
12 Option 1 would be characterized by high fuel and CO2
13 emission prices but low power prices, but according to
14 the analysis of the historical values of risk factors
15 that underlies this study, such futures have
16 essentially no chance of occurring. Any possible
17 future with high fuel prices would essentially always
18 have higher power prices.

19 That possibility that it essentially has
20 no chance of occurring is occurring right now, isn't
21 it? High -- high -- low power prices because gas
22 prices are low, but coal prices are -- are still high.

23 A Well, I think this was taken in the
24 context with CO2 environment as well. So it's not
25 just fuel in relation to power, but it's also fuel

1 with CO2 pricing.

2 Q But right now we have low power prices,
3 low gas prices, high coal prices?

4 A But there's no CO2.

5 Q Yeah, but this is -- this is the worst
6 possible scenario for building a scrubber, if -- if
7 coal prices stay high and market prices are low, why
8 would you want to build a scrubber?

9 A Well, I -- our analysis is -- again,
10 it's effectively looking at results that occur -- the
11 disposition, the comparative disposition is occurring
12 in 2016.

13 Q What we have here --

14 A The unique phenomenon that's occurring
15 in 2012 is preceding that.

16 Q This is just an anomaly, then?

17 A I'm going to let Mr. Bletzacker talk
18 about that. I think he can address that point.

19 MR. KURTZ: Thank you, Mr. Chairman.

20 COMMISSIONER ARMSTRONG: Mr. Kurtz.

21 MR. KURTZ: Yes, sir.

22 COMMISSIONER ARMSTRONG: I have exhibits
23 8 through 10.

24 MR. KURTZ: Yes, sir, and I move their
25 admission.

1 COMMISSIONER ARMSTRONG: Any objection?

2 MR. OVERSTREET: No.

3 COMMISSIONER ARMSTRONG: So ordered.

4 (KIUC Exhibits 8, 9, and 10 admitted.)

5 MR. FISK: Your Honor, I believe I
6 forgot to move Exhibits 16 and 17 for Sierra Club.

7 MR. OVERSTREET: No objection.

8 COMMISSIONER ARMSTRONG: No objection.
9 So ordered.

10 (Sierra Club Exhibit 17 admitted.)

11 MR. FISK: Thank you.

12 MR. HOWARD: And then if I can get some
13 clarification on this particular document, which is
14 entitled Preliminary Big Sandy 2 UD Analysis Under
15 FTCA, CSAPR, Commodity Pricing. What document was
16 that?

17 MR. FISK: I didn't --

18 MR. HOWARD: It just materialized at one
19 point in time.

20 MR. FISK: That was me.

21 MR. HOWARD: There was a reference made
22 to it. Mike, you made some references to it.

23 COMMISSIONER ARMSTRONG: It was the
24 sensitivity test.

25 MR. HOWARD: I'm sorry?

1 MR. OVERSTREET: Sensitivity analysis.
2 No one's moved to admit it, Dennis.

3 MR. HOWARD: Oh, okay. That's why. I
4 was just checking.

5 MR. KURTZ: Well, Your Honor, that's a
6 good point. I would move to have it admitted since
7 there has been cross-examination on it.

8 MR. HOWARD: Again, I just want to know
9 what's in the record and what's not, Mr. Chairman.

10 COMMISSIONER ARMSTRONG: I know.
11 Without objection, so ordered.

12 (KIUC Exhibit 11 admitted.)

13 MR. OVERSTREET: The only objection is
14 Mr. Weaver's statement. He saw it two hours ago, he
15 didn't rely upon it in his analysis, and he can't
16 vouch for any -- any of the market numbers in it.

17 COMMISSIONER ARMSTRONG: That's in the
18 record.

19 MR. OVERSTREET: Okay.

20 MR. HOWARD: So what exhibit number and
21 to whom --

22 COMMISSIONER ARMSTRONG: KIUC 11.

23 MR. FISK: KIUC, yeah, 11.

24 MR. HOWARD: Thank you.

25 COMMISSIONER ARMSTRONG: Are you ready?

1 MR. FISK: What?

2 COMMISSIONER ARMSTRONG: Are you going
3 to look at this over dinner?

4 MR. FISK: Oh, I was going to ask
5 questions on this after dinner, on this KIUC 11, if
6 that's okay now.

7 COMMISSIONER ARMSTRONG: Anything
8 further?

9 MS. GILLUM: So is KIUC 11 the
10 sensitivity document?

11 MR. FISK: Yes.

12 MS. GILLUM: I need that too then.

13 MR. HOWARD: Mike, do you have another
14 one?

15 MR. OVERSTREET: I've given out all my
16 copies.

17 MR. FISK: I marked my copy.

18 THE WITNESS: I have one. Here's one.

19 MR. OVERSTREET: Well, no, you keep it,
20 because he's going to ask you questions. Good try.

21 MS. GILLUM: Thank you.

22 MR. HOWARD: Do you have questions
23 first?

24 MS. BURNS: Yeah. You do too? I can
25 wait until after you, that's fine.

1 COMMISSIONER ARMSTRONG: Are you
2 finished?

3 MR. FISK: Until -- until after dinner,
4 yeah.

5 MR. HOWARD: The AG just has a few
6 questions.

7 MR. OVERSTREET: I'm sorry. I
8 thought -- Mr. Howard, I thought you said you didn't
9 have any questions.

10 MR. HOWARD: Well, I didn't until the
11 witness just asked -- or responded to Mr. Kurtz on a
12 couple questions.

13 MR. OVERSTREET: We're going to be here
14 till next week.

15 COMMISSIONER ARMSTRONG: Afraid so.

16 MS. GILLUM: Can we take a bathroom
17 break?

18 MR. HOWARD: Mr. Overstreet, I've -- I've
19 tried limiting my questions to the best of my ability,
20 but there were a couple questions that did come up.

21 COMMISSIONER ARMSTRONG: You may want to
22 make a bet on the Derby.

23 MR. HOWARD: Mr. -- good evening. Mr.
24 Chairman, may I proceed with just two or three?

25 COMMISSIONER ARMSTRONG: You may.

CROSS-EXAMINATION

1
2
3 By Mr. Howard:

4
5 Q Did I understand correctly in response
6 to Mr. Kurtz that insofar as a load growth, whether
7 it's a decrease or -- or an increase, that insofar as
8 the elasticity, and -- and I'm trying to word this
9 correctly, that the load growth was -- was held
10 constant throughout the modeling process?

11 A No. There is load growth that's
12 represented in the forecast, and if you look at my
13 Exhibit SCW-1, I don't know the page number, you can
14 see the internal load. This would be Table 1-1 of my
15 Exhibit SCW-1, page 4 of 14, both the Kentucky Power
16 and AEP East respective peak, summer peak demands and
17 internal load.

18 Q So -- but it's the same load growth in
19 each and every model?

20 A Not necessarily. It -- it's a forecast
21 that was established by our Economic Forecasting
22 group.

23 MR. HOWARD: I think that's all I have,
24 Mr. Chairman.

25 COMMISSIONER ARMSTRONG: Ms. Burns.

1 MS. BURNS: Yes, just a handful.

2
3 * * *

4
5 CROSS-EXAMINATION

6
7 By Ms. Burns:

8
9 Q Mr. Weaver, has the risk of stranded
10 investment been included in the Aurora model?

11 A Not to my knowledge.

12 Q Was it included in Strategist?

13 A No. Again, from the standpoint of --
14 and I think I identified this in my direct testimony.
15 In looking at preexisting costs, the assumption was,
16 the overriding assumption was, is that the alternative
17 solution would not be burdened with additional costs.

18 In other words, the assumption is, is
19 those costs would be recoverable going forward. So in
20 other words, we didn't burden Option 2, Option 3, and
21 Option 4 with the stranded costs associated with
22 Option 1.

23 Q And we've had some exhibits entered from
24 the AEP's proceeding in Ohio before the Ohio
25 Commission about the modified electric security plant.

1 When do you expect Ohio's case to be continued,
2 finished up?

3 A I don't know.

4 Q Okay.

5 A I don't know.

6 Q Do you anticipate that you will file a
7 new power cost sharing agreement before the Ohio case
8 is concluded?

9 A I don't know. I don't know, quite
10 frankly, whether they're synched up to be subsequent
11 to getting an order or -- or not. I don't know.

12 Q Okay. Does AEP currently have long-term
13 bilateral contracts to buy power, or do you buy on the
14 market to supplement your energy needs?

15 A By and large, up to this point AEP has
16 been energy long and is not required to go out into
17 the market to -- to buy power, other than perhaps on a
18 very, very short-term basis, you know, literally on a
19 daily basis as we're trying to get the units to ramp
20 up, they may have to go and -- and take a purchase
21 position, but -- but, again, in terms of a long-term
22 contractual standpoint, the Company is energy long.

23 Q All right. Are you aware that other
24 utilities in PJM states purchase power in one- to
25 three-year contracts and are currently doing that?

1 A No, I don't.

2 Q Could you explain off-system sales and
3 the percentage split between ratepayers and
4 shareholders?

5 A It's my understanding that effectively,
6 if I understand tariff SSC correctly, that -- let me
7 just flip there, which is Exhibit SCW-2R, the
8 adjustment factor is equal to 60 percent of the
9 relative margin associated with off-system sales.

10 Q Is there ever a situation where that's
11 different, where the shareholders could end up getting
12 less of off -- off-system sales and the customers or
13 ratepayers are getting more?

14 A I understand that it's a percentile, but
15 absolute dollarwise, of course, but --

16 Q Right. Right.

17 A -- percentile --

18 Q The -- it -- the percentile never
19 changes?

20 A I'm looking at the tariff. It looks
21 like it's .6.

22 MS. BURNS: Okay.

23 COMMISSIONER ARMSTRONG: Vice chair.

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EXAMINATION

1
2
3 By Commissioner Gardner:

4
5 Q Mr. Weaver, just a couple questions.
6 The first question is: As I understand it, Rockport
7 is -- one of the units, Unit 2, is 20 years younger,
8 newer than Big Sandy 2. I think there was testimony
9 that it was constructed in '89. In running the
10 Strategist model which was -- well, first of all, was
11 the Strategist model used also as part of Rockport?

12 A Yes, incorporated --

13 Q Okay.

14 A -- their purchase entitlement share,
15 yes.

16 Q Was there any -- any difference in the
17 age of the two facilities included in the -- the
18 Strategist modeling?

19 A Other than the fact that there certainly
20 may be uniqueness in their respective ongoing cap X,
21 ongoing fixed O&M because one is an 800-megawatt unit,
22 one is a 1,300-megawatt unit. There may be those
23 types of budgetary differences.

24 Q Okay. Apart from the size of the units,
25 were -- are you -- with your last answer, are you

1 saying that maintenance costs were different in the
2 modeling for Big Sandy, they were more than the O&M
3 costs for Rockport in the Strategist modeling?

4 A I can't specifically quote specific
5 fixed O&M costs that were embedded. Naturally they
6 would be different. I don't know, for instance, on a
7 dollar per kW basis whether there's any significant
8 difference between the fixed O&M cost or the ongoing
9 capital costs that are represented between the two
10 units.

11 Q Who -- is there somebody who would have
12 an answer to that question as to whether -- in other
13 words, the absolute question is, is -- because this
14 unit is 43 years old, are there additional maintenance
15 costs included in the modeling that you did?

16 A Vis-à-vis Rockport 2? Is that what
17 you're talking about?

18 Q I guess. I guess that's the case.

19 A We can't -- we responded to a data
20 request. It's KIUC 28 -- 128, I think it was page 8,
21 which identifies what ongoing capital we assume for
22 Big Sandy 2. I don't have a comparison as to what
23 that is versus Rockport, but, again, I think it was on
24 the magnitude of about \$450,000,000.

25 Q And those costs are -- take into

1 consideration the age of Big Sandy when you put those
2 numbers in, the Big -- the Strategist model for Big
3 Sandy?

4 A In fact, the first ten years of this
5 30-year were predicated upon real long-term budgets
6 for ongoing cap X, and then we extrapolated using a
7 five-year rolling average basis from that point on,
8 because there's some lumpiness in that first ten
9 years.

10 Q Okay. So it sounds as if the answer is
11 yes?

12 A We -- the first ten years I can assure
13 you, we went to a real long-term budget that, you
14 know, project planners and engineers develop for that
15 specific unit.

16 Q Okay. And that's -- when you say ten
17 years, that would be between 2016 and 2026?

18 A In fact, it was -- it would be 2012
19 versus 2021.

20 Q Okay.

21 A And then it was extrapolated from that
22 point.

23 Q Okay. The -- were you here when Doc --
24 Dr. Fisher testified this morning?

25 A Yes.

1 Q Okay. One of the things, in response to
2 a question that I tried -- that I asked him that I
3 thought I heard him say is that the Strategist model
4 or the Strategist program, or whatever you want to
5 call it, has the ability to -- to -- basically on its
6 own to run different scenarios, and it was -- what I
7 asked him the question about, well, could it run a
8 nuclear scenario? Would it run a nuclear scenario?
9 And he said yes, in effect, it would do on its own a
10 bunch. This is lay language. And the implication --
11 or then he said that -- that the Company limited the
12 use of Strategist to five different scenarios.

13 Do you agree with that -- with what he
14 said or was he incorrect about that?

15 A The -- the model certainly can optimize
16 a set of results, but in our particular case, we're
17 looking at the -- a kind of a real-world practical
18 solution in the near term in terms of alternative
19 options. It was viewed that if you're not talking
20 about a -- retrofitting the unit, you know, nuclear,
21 quite frankly, is -- is not an option --

22 Q Sure.

23 A -- given its cost. Coal, a new coal
24 facility is not an option. We -- you know, we heard
25 testimony about the NSPS requirements around -- for

1 new units that would require effectively carbon
2 capture. So given where the cost and the state of
3 technology is, that's really not an option. And,
4 quite frankly, given the fact you're talking about an
5 800- to 1,100-megawatt capacity and base load energy
6 need, intermittent resources, in terms of renewables,
7 really wouldn't be an option.

8 That said, if we were just focusing on
9 replacing 800 megawatts and we need to go to the
10 market to replace Big Sandy 1, certainly there could
11 be an interplay as it relates to that 300 megawatts
12 for alternative sources, going after more DSM. If
13 there's an appetite for renewables, we could certainly
14 do that, but this was more of kind of a practical
15 approach to try to identify what is the real new build
16 that's in vogue today, and clearly I think that's
17 natural gas combined cycle.

18 Q Okay. And were these five -- were these
19 same five scenarios the only scenarios modeled in
20 Strategist for Rockport?

21 A For Rockport? We did not have a
22 repowering option. Big Sandy 1 is somewhat unique.
23 The size of the steam turbine lended itself to --

24 Q So, if anything, there were less
25 scenarios used in Strategist?

1 A Yes.

2 Q Okay. All right. And then one final
3 question. When I read the answer to Staff's data
4 requests that Mr. Kurtz referred to where they --
5 where they asked about running additional model, when
6 I read your-all's answer to that, I viewed it almost
7 as if it's too expensive, it would take too long,
8 and -- and therefore, I viewed the Strat -- the
9 modeling that you-all did as being almost frozen at
10 that particular point, and maybe I misread that.

11 But then what I heard you say a few
12 minutes ago, maybe it was a few hours ago, was you
13 talked about, in -- particularly in response to the --
14 the sensitivity study, the -- the, what you called
15 sensitivity was that it was -- that it was a dynamic
16 presentation, it's changing all the time. And maybe I
17 misheard that, but I -- but I got confused as to
18 really which of those two extremes, I guess, I viewed.

19 A My -- my concern in my comment was, in
20 looking at these results, I literally do not know and
21 cannot represent the underlying data that went into
22 them.

23 Q Sure.

24 A It may be subtle, it may be significant,
25 I just can't identify that. What I do know is that

1 the major, the primary drivers for our long-term
2 forecasting have not changed, the -- the costs
3 associated with the various alternatives, the
4 fundamental pricing, the load forecast, again, those
5 are the primary drivers, have not changed.

6 Q And -- and is it true that it would take
7 a month if, you know, you changed natural gas prices,
8 to redo those?

9 A I'll let Mr. Bletzacker talk about that.
10 He's responsible for it, and it's a very -- I do know
11 it is a very, very iterative process. There's a lot
12 of research that goes into it. It's not just flipping
13 some switches on a model.

14 COMMISSIONER GARDNER: Okay. All right.
15 Thank you for your time.

16 COMMISSIONER ARMSTRONG: Mr. Overstreet,
17 redirect.

18 MR. OVERSTREET: Your Honor, I do have
19 some redirect, but he's been on the stand over two
20 hours. I was wondering if we could have our supper
21 break, or if you prefer, I'll proceed.

22 COMMISSIONER GARDNER: Let me clarify
23 supper. Supper is not a --

24 MR. OVERSTREET: Okay.

25 COMMISSIONER ARMSTRONG: It's a

1 sandwich. It's not going to be --

2 MR. OVERSTREET: Oh, I understood that.
3 I understood that. We weren't going for an hour
4 dinner.

5 COMMISSIONER ARMSTRONG: I promised the
6 court reporter we would change out at 6:30, so while
7 we're talking, you can come change. Are you ready to
8 change out?

9 MS. GILLUM: Me? I'm ready to change
10 out. Could we have a bathroom break or something?

11 MR. HOWARD: Bathroom break.

12 COMMISSIONER ARMSTRONG: Let's -- let's
13 break until --

14 MR. KURTZ: Quarter after?

15 COMMISSIONER ARMSTRONG: Quarter after
16 or -- is that enough time?

17 MR. OVERSTREET: Yeah, that's fine.

18 (Recess.)

19 THE COURT: Back on the record. Mr.
20 Overstreet.

21 MR. OVERSTREET: Thank you.

22
23 * * *

24

25

REDIRECT-EXAMINATION

1
2
3 By Mr. Overstreet:

4
5 Q Mr. Weaver, I have a very few redirect
6 questions for you. Direct your attention to I think
7 it's Sierra Club 18. It's the testimony of Frank C.
8 Graves that was filed before the public utilities
9 commission of Ohio.

10 A Yes. I have it.

11 Q Okay. And would ask you to turn to page
12 15, line 8. Excuse me. Line 9. You have that in
13 front of you?

14 A Yes, I do.

15 Q Okay. I'd like to ask you about a
16 sentence that -- that Mr. Fisk didn't ask you about.
17 It's the sentence that starts, (Reading) It is
18 possible that RPM. Could you read that into the
19 record, please?

20 A (Reading) It is possible that RPM prices
21 will rise to reflect less surplus capacity than has
22 prevailed in the past. But if so, that is an
23 efficient outcome to signal need and encourage
24 conservation in the long run.

25 Q And is that one of the concerns that you

1 identified in your -- your testimony?

2 A Yes.

3 Q And -- excuse me. The next page, page
4 16, line 14. The sentence that starts, (Reading) As
5 explained above. Would you read that, please?

6 A Certainly. As explained above, RPM has
7 been designed to address near-term resource adequacy.
8 Not to minimize the cost or riskiness of service over
9 longer horizons such as decades or the whole life of
10 generation assets that a utility and its regulators
11 may have used for resource planning.

12 Q And is that consistent with your
13 testimony?

14 A Yes.

15 Q Mr. Weaver, is it reasonable to assume
16 that if it is retrofitted with the -- the scrubber
17 that's proposed in this filing, that the Big Sandy
18 unit 2 will be retired in 15 years?

19 A No, it's not reasonable.

20 Q And is that why you didn't model that?

21 A That's correct.

22 Q You had an interesting interchange
23 with -- or exchange with Mr. Fisk and -- involving the
24 demand vector and the 20-percent toggle. Do you
25 remember that?

1 A Yes, I do.

2 Q And there was a lot of discussion about
3 changes in absolute values. Do you remember that?

4 A Yes.

5 Q Do any of those changes in absolute
6 values change the result of your analysis?

7 A No. They do not.

8 Q And -- and what was that result?

9 A The result was that Option 1 is still
10 the superior result versus the other options from the
11 standpoint of revenue requirement at risk.

12 Q And you had an exchange with Mr. Kurtz
13 where he would ask you about specific years and the
14 cost to the customers, and miss -- and that table
15 that -- involving Mr. Kollen's testimony. Do you
16 remember that?

17 A Yes.

18 Q Is that an appropriate way to view this?

19 A No. As I indicated, that -- in my te --
20 in my prior testimony, that's looking at very
21 piecemeal results, annual results, and not looking at
22 the full breadth of the overall economic study.

23 MR. OVERSTREET: That's all the
24 questions I have, Your Honor.

25 MR. FISK: Thank you, Your Honor.

1 RE CROSS-EXAMINATION

2
3 By Mr. Fisk:

4
5 Q If you can turn back to Mr. Graves'
6 testimony. On page 15, your counsel had you read the
7 sentence starting on line 9, (Reading) It is possible;
8 is that correct?

9 A Yes.

10 Q Okay. And the sentence right before
11 that, if you could read that sentence.

12 A (Reading) On balance, I am not concerned
13 about the supply adequacy shortfall.

14 Q Thank you. And if you turn to page 16,
15 line 21. The very last word on that line is AEP; is
16 that correct?

17 A Yes.

18 Q If you could read that sentence.

19 A (Reading) However, AEP Ohio is now
20 willing to transition to RPM over the remaining years
21 of FRR obligations, and I believe it can do so with no
22 adverse effects on supply adequacy to its customers.

23 Q Okay. Thank you. You just stated, I
24 believe, that it is not reasonable to assume that the
25 Big Sandy unit 2, if it was retrofit, would retire in

1 15 years; is that correct?

2 A I stated that all -- the alternative
3 solution that we focused on would not assume that that
4 would be a reasonable alternative, a 15-year retrofit
5 period.

6 Q Okay. And is that because you believe
7 that it is not reasonable to assume that the plant
8 would shut down in 15 years?

9 A That's correct. We believe that based
10 on the evidence, based on the -- the cost profiles
11 we've had in order to maintain that facility through
12 2040 are appropriate.

13 Q But when it comes to your shareholders'
14 profits, you assume 15 years; is that correct?

15 A The -- the re -- resulting analysis from
16 the Strategist profile, it basically is we -- if --
17 we've identified in testimony, no matter if you're
18 talking 15 years or 20 years, the relative impact on
19 what we call CPW revenue requirements are very
20 comparable.

21 Q But when it comes to your shareholders
22 being able to get recovery for the costs of the
23 scrubber, you have asked for recovery over 15 years,
24 correct?

25 A That's correct. But I also stated in

1 prior testimony that in -- when we were doing these
2 analyses, a focus on profitability was -- was never
3 entertained.

4 Q If you could turn to KIUC Exhibit 11,
5 which is the exhibit that we received a few hours ago
6 from the Company. And I would note that at the top it
7 is referred to as the Big Sandy 2UD analysis as
8 opposed to just the sensitivity; is that correct?

9 A That's what it represents, but --

10 Q Okay. Thank you.

11 MR. OVERSTREET: Wait a minute. He
12 didn't finish his answer. Let him finish his answer,
13 please.

14 A The second column -- first of all,
15 again, I have not seen this piece of information until
16 maybe four hours ago now. So any representation of --
17 of any of this information is -- is -- is speculative
18 from my stance -- my standpoint in as much as I'm not
19 comfortable with the underlying parameters.

20 What this -- this sensitivity profile
21 would suggest is what I had indicated previously is
22 that relative to the 30-year operating life, a 15-year
23 operating life, is a \$200 million difference.

24 Q Oh, okay. So you have not seen KIUC
25 Exhibit 11 until today, correct?

1 A That's correct.

2 Q Okay. However, before KIUC Exhibit 11
3 was even presented here today, you knew that the 200
4 million approximate figure -- you knew that figure,
5 correct?

6 A I was informed of that figure.

7 Q And who were you informed by?

8 A Mr. Becker.

9 Q And when were you informed of that?

10 A Yesterday.

11 Q Okay. So you, before yesterday, had
12 never known the figure of what the impact of the -- to
13 the CPW would be of assuming that Big Sandy unit 2
14 refer -- retires after 15 years?

15 A That's correct.

16 Q Okay. Okay. Did you know that the
17 Company was requesting recovery over 15 years?

18 A Yes.

19 Q Do you know if Mr. Becker did the
20 analysis that is reflected in KIUC Exhibit 11?

21 A I don't know whether he did it or a
22 member of his staff.

23 Q Okay. All right. So questions
24 regarding this analysis would be better directed
25 towards Mr. Becker?

1 A Perhaps. I -- I can't address it.

2 Q I am having distributed Exhibit --
3 Sierra Club Exhibit 18.

4 MS. GILLUM: No. Nineteen.

5 MR. FISK: Oh, I'm sorry.

6 MS. GILLUM: Be 19.

7 MR. FISK: I apologize.

8 Q I've handed to you the response of
9 Kentucky Power Company to KIUC first set of data
10 request number 28; is that correct?

11 A That's what it indicates, yes.

12 Q And is the response here you were
13 responsible for; is that correct?

14 A Yes.

15 Q Okay. And the question -- or the
16 request presented by KIUC was, (Reading) Please
17 provide a copy of all analyses, e-mails, and all other
18 documents that support, source, and/or otherwise
19 address the assumptions used and analyses presented by
20 Mr. Weaver in his direct testimony; is that correct?

21 A That's what it indicates.

22 Q Okay. And this includes, but is not
23 limited to, any alternative assumptions that were
24 considered but not used in the analyses; is that
25 correct?

1 A That's what it indicates.

2 Q Okay. And what did you do to respond to
3 this request?

4 A Well, as you can see, it refers to
5 another response to KP -- KPCS 148 which represents
6 the alternatives that were, in fact, utilized within
7 my direct testimony.

8 Q Okay.

9 A This -- the -- what we're referring to
10 here was not an alternative assumption. It was not an
11 alternative, and, frankly, I wasn't even aware of it.
12 So given that fact, what I'm -- we're being responsive
13 to here is the analyses that we're dependent upon for
14 purposes of establishing my direct testimony.

15 Q Did you ask the -- the individuals who
16 did the modeling for you to assist you in responding
17 to KIUC data request 1-28?

18 A I don't recall whether I did or not.

19 Q Okay. Do you know if there are
20 additional analyses and -- or modeling runs that have
21 not been produced to the parties?

22 A I don't know of any.

23 Q Okay. And so you would not consider the
24 retirement of Big Sandy in 2030 as an alternative
25 assumption?

1 A It's not an alternative. As I said
2 before, any alternatives were those were set forth in
3 the case. We believe that the alternative around Big
4 Sandy unit 2 scrubber was specifically associated with
5 a 30-year -- or excuse me. 2 -- 2 -- through 2040, a
6 30-year service life.

7 Q Okay. But the request was not for an
8 alternative, it was for alternative assumptions; is
9 that correct?

10 A That's -- it indicates that, but --but
11 the alternative, the definition of alternative, does
12 not include the second column on that -- on that
13 exhibit.

14 MR. FISK: Okay. I have nothing else on
15 public. I have two to three questions, I believe, on
16 confidential.

17 COMMISSIONER ARMSTRONG: Questions?

18 MR. HOWARD: No. We have no questions
19 of this witness.

20 MS. BURNS: No, Your Honor.

21 MR. OVERSTREET: I have no redirect,
22 Your Honor.

23 COMMISSIONER ARMSTRONG: Thank you.

24 MR. FISK: Your -- Your Honor, we -- are
25 you going to do confidential?

1 COMMISSIONER ARMSTRONG: Yes. I'm
2 sorry.

3 MR. FISK: Okay. Thank you.

4 COMMISSIONER ARMSTRONG: I was rushing
5 it.

6 MR. FISK: That's okay.

7 COMMISSIONER ARMSTRONG: We're now going
8 to move into the confidential phase of things, and
9 I'll turn the --

10 MS. GILLUM: On air off, and I'll take
11 the rest of it.

12 MR. HOWARD: Mr. Chairman, just one
13 second first.

14 MR. FISK: Is everybody else fine?

15 COMMISSIONER ARMSTRONG: Anyone who has
16 not signed the confidentiality agreement would have to
17 step out now. That's it.

18 MS. GILLUM: Okay.

19 MR. FISK: We're all set. Okay. Thank
20 you.

21

22 * * *

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24

25

PAGES 683 – 687

REDACTED AS CONFIDENTIAL

1 William Avera, and Mr. Garcia will present him. Dr.
2 William Avera. I'm sorry.

3 THE COURT: Mr. Avera, be sworn. Do you
4 solemnly wear to tell the truth, the whole truth,
5 nothing but the truth subject to the rules of perjury?

6 MR. AVERA: I do.

7 COMMISSIONER ARMSTRONG: Have a seat.
8 Speak loud and clear. Your witness.

9 MR. GARCIA: Thank you, Your Honor.

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WILLIAM E. AVERA, called by Kentucky
Power Company, having been first duly sworn, testified
as follows:

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23

DIRECT EXAMINATION

By Mr. Garcia:

Q Dr. Avera, if you would please state
your name, occupation, title, and business address for
the record.

24

25

A I am William E. Avera. I am an economic
and financial consultant. I am the president of

1 Fincap, Incorporated, 3907 Red River, Austin, Texas,
2 78751.

3 Q Thank you, sir. And, in this case, did
4 you cause 66 pages of testimony and 10 exhibits to be
5 submitted as your evidence in this case?

6 A I did.

7 Q And did you -- were those questions and
8 answers prepared by you under your supervision?

9 A They were.

10 Q And if I were to ask you the same
11 questions today, you would give me substantially the
12 same answers?

13 A I would.

14 Q Do you have any corrections?

15 A I do not.

16 MR. GARCIA: Your Honor, I tender the
17 witness.

18 MR. HOWARD: I guess that would be me.

19

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CROSS-EXAMINATION

1
2
3 By Mr. Howard:

4
5 Q Good evening, Dr. Avera. How are you,
6 sir?

7 A I'm very well, and you?

8 Q I'm doing fantastic. You provided
9 testimony that is based on numbers as previously
10 provided by Dr. Woolridge and Mr. Hill that were filed
11 in redirect. Am I correct?

12 A Yes. There are a few numbers that I
13 updated but from the same sources that Professor
14 Woolridge and Mr. Hill used.

15 Q And, for example, those would be the
16 proxy group, the growth rates, and the dividend
17 yields?

18 A Yes. I used exactly the same numbers.

19 Q On page 24, in table 2, you cite a
20 projected BBB utility bond rate of 6.74 percent,
21 correct?

22 A Yes, sir.

23 Q Please turn to page 2 of Dr. Woolridge's
24 testimony. And I'm referring to Exhibit JRW 3.

25 A Page 2 of JRW 3?

1 Q That's correct.

2 A Yes.

3 Q If you'll give me a moment to catch up
4 with you. We're a bit crowded over here, sir. Would
5 you agree that the current BBB 30-year bond yield, as
6 represented by Dr. Woolridge, is about 200 basis
7 points lower than the figure you are projecting?

8 A That's the number that ends on his
9 chart. The latest monthly average was 5.24, I think.
10 So it's come up since Dr. Woolridge did his chart.

11 Q Is that still over 100 basis points than
12 the 6.74 percent that you used, correct?

13 A Yes. I'm doing exactly what Dr.
14 Woolridge and Mr. Hill did. Both recognized that
15 interest rates are very low and likely to go up. So
16 in both of their cap Ms, instead of using the 3.3
17 current rate for treasuries, they used a four, which
18 represented in anticipation of rising rates.

19 I'm consistent with their logic and
20 other testimony I've done and adjusting the interest
21 rate for an anticipated increase by these
22 widely-recognized international projections of his
23 Global Insight and the energy information agency of
24 the US government.

25 Q Thank you, sir, and again, though, your

1 response was that it's still over 100 basis points?
2 Actually, 150 basis points.

3 A It is, but --

4 Q But I -- and from now on, I will ask the
5 witness to either respond with a yes or a no, and then
6 if you're inclined to pontificate, I will have no
7 trouble doing so as long as that pontification is
8 responsive to the question asked.

9 MR. OVERSTREET: Well, what -- wait a
10 minute. You know, it's 7:40, and -- and the
11 characterizing Dr. Avera's, I mean, explanation of his
12 answer as pontification is not -- is simply not called
13 for.

14 MR. HOWARD: Well, what I'm asking for
15 here is a yes-or-no answer, and if he wants to
16 elaborate on that, I have no trouble doing -- him
17 doing that, but I would still like any additional
18 comments to be related to the question, if I may.

19 MR. OVERSTREET: And I think they all
20 have been.

21 MR. HOWARD: But if we can start with a
22 yes or no and then go from there, I would appreciate
23 that.

24 COMMISSIONER ARMSTRONG: You understand
25 the request of you?

1 A Yes, sir.

2 COMMISSIONER ARMSTRONG: Okay. Proceed.

3 Q Now, in Exhibit WEA 4 in your testimony,
4 you provide an assessment of Dr. Woolridge's historic
5 figures, correct?

6 A Let me get there. Yes.

7 Q Now, you eliminate DCF equity cause
8 rates that are above or below certain -- at a certain
9 level; is that correct?

10 A Yes.

11 Q And what is that lower bound that you
12 use?

13 A Below seven percent. I allow seven
14 percent, as I indicated in my testimony, but
15 observations below seven percent I eliminate.

16 Q And what is the upper bound that you
17 use?

18 A Seventeen percent, as stated in my
19 testimony, consistent with FERC precedent.

20 Q If you will reference WEA 4 at this
21 point in time, please, sir. You have that in front of
22 you?

23 A Yes, sir.

24 Q How many low equity cost rates do you
25 eliminate?

1 A I can count them, or if you've counted
2 them, I'd accept. There are a number that are boxed.

3 Q I'll -- I'll allow you, because
4 sometimes my account -- my counting might be mistaken.
5 I'd rather you count them for me.

6 A Thirty-nine, I get.

7 Q And how many high numbers is it do you
8 eliminate?

9 A Two, I believe. I can double-check
10 that. I think the answer -- my final answer is two.

11 Q If you eliminate more high observations
12 than low observations, will that not decrease the
13 measures of central tendency, the mean, the median,
14 and the midpoint?

15 A Not necessarily, but eliminating these
16 is consistent with FERC precedent and good scientific
17 method. These are unreliable, illogical estimates.

18 Q And I'm sorry, sir. Let me rephrase
19 that question. If you eliminate more high
20 observations than low observations, will that not
21 decrease the measures of central tendency, the mean,
22 the median, and the midpoint?

23 A And the answer is not necessarily,
24 because it depends the -- the -- the magnitude of the
25 numbers you eliminate. Let's say we eliminate one

1 high that's a billion, and we eliminate many low ones.
2 If we put the billion back, it would skew the measures
3 of central tendency.

4 If Bill -- and the example I use in
5 te -- is Bill Gates. If Bill Gates is in the sample
6 of income, all bets are off.

7 Q Very good. Now, if you eliminate more
8 low observations, the low observations, will that not
9 decrease the measures of central tendency, the mean,
10 the median, and the midpoint?

11 A No. Again, it's a function of the
12 numerical value of the numbers you are eliminating and
13 how they impact the central tendency. So it's not a
14 head-count issue. It's a weighting issue.

15 Q So if you include all of the lower
16 numbers, are you telling me that the mean would be
17 higher or lower?

18 A Well, if we include -- in this
19 particular group, if we included the lower numbers,
20 the mean would be lower, because we don't have those
21 extreme outliers. But I believe it would be less
22 reliable, because we would be including estimates that
23 we know are illogical.

24 And would -- there are so many estimates
25 in this historical, as I explain in my testimony, the

1 historical growth rates are not reliable, and Dr.
2 Woolridge says the same in his, as does Mr. Hill.

3 Q Let us reference to WEA 5, if I may.

4 A Yes, sir.

5 Q How many low equity cost rates did you
6 eliminate?

7 A Twenty.

8 Q How many high estimates did you
9 eliminate?

10 A Zero.

11 Q Now, you've included equity cost rate
12 figure as high as 16.6 percent in Exhibit WEA 5,
13 correct?

14 A Yes.

15 Q Now, would you agree that the average in
16 Exhibit WEA 5, even with you eliminating zero high
17 figures and 20 low figures, that the average is still
18 9.6 percent?

19 A Yes. That's what the numbers reflect.

20 Q Now, on page 26, you discussed Dr. --
21 Dr. Woolridge's testimony in a FERC case, correct?

22 A Yes.

23 Q And you provided testimony in that case
24 as well?

25 A I did.

1 Q And you provided an equity cost rate
2 recommendation; is that correct?

3 A I don't recall that I did. This was a
4 206 filing at FERC, which was just show cause, and --
5 and I think the purpose of my testimony was to show
6 that the previously-allowed return was still in the
7 range of reasonableness.

8 So I did offer some measurements, but I
9 was not sponsoring a number. My position was the
10 present number should not be upset.

11 Q In your -- in your FERC testimony, did
12 you use your comparable or expected earnings approach
13 in estimating an equity cost rate?

14 A I don't believe so.

15 Q And so FERC has its own DCF methodology
16 that it uses in setting equity cost rates?

17 A Yes. It has a preferred methodology
18 that I have used over the years and those who -- who
19 practice at FERC.

20 Q And it doesn't use expected or
21 comparable earnings?

22 A No, it does not. I have presented
23 comparable earnings er -- evidence. Because FERC said
24 in order 679 A that they would consider other
25 approaches to position the allowed return within the

1 range of reasonableness, and they reaffirmed that
2 position in the southern California case in April
3 15th, 2010.

4 So in cases where we are affirmatively
5 supporting a rate of return, a 205 case, as it's
6 called, at FERC, we do present expected earnings.
7 This was, again, for the New England RTO, a 206 case.

8 Q But you haven't presented that in recent
9 FERC cases, correct?

10 A I have. In 205 cases, I present it.

11 Q But --

12 A Just --

13 Q -- not in the 206 case, correct?

14 A Right. Because the purpose of the 206
15 case is to respond to the claim that the
16 currently-allowed return is not just unreasonable
17 based on FERC precedent that set the return.

18 MR. HOWARD: I believe those are the
19 only questions that we have, Mr. Chairman.

20 COMMISSIONER ARMSTRONG: Questions?

21 MR. KURTZ: No questions, Your Honor.

22 COMMISSIONER ARMSTRONG: Questions?

23 MR. CHILDERS: No questions.

24 MS. BURNS: I have one, Your Honor, if I
25 may.

1 COMMISSIONER ARMSTRONG: Miss Burns.

2
3 * * *

4
5 CROSS-EXAMINATION

6
7 By Ms. Burns:

8
9 Q Yes. Dr. Avera, on page 7 of your
10 rebuttal testimony, starting at about line four, you
11 start an answer, and you were asked about implications
12 on the capital market trends, and you say, (Reading)
13 Considering investor's heightened awareness of the
14 risks associated with the electric power industry.
15 What are those risks associated with the industry?

16 A Well, I think the primary risk is
17 regulation and regulatory surprise, and -- and I think
18 we see it in bond rating agency reports for AEP. For
19 example, the Ohio decision. We see it in bond rating
20 agency reports in equity analysis for other companies
21 where regulatory authorities have deviated from their
22 past practice.

23 So from an investor perspective,
24 regulators are the game, because regulators determine
25 the prices. Regulators determine which investor --

1 investments are prudent. Regulators determine what
2 costs can be recovered. So if -- if you read what the
3 rating agencies or talk to investors, as I often do,
4 they will tell you that the primary risk is
5 regulation.

6 MS. BURNS: Thank you, sir.

7 COMMISSIONER GARDNER: Couple questions.

8 COMMISSIONER ARMSTRONG: Proceed.

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10 * * *

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12 EXAMINATION

13
14 By Commissioner Gardner:

15
16 Q Dr. Avera, is -- in your analysis, did
17 you make any -- in any of your -- the companies in
18 your proxy group, was there anything related to the
19 fact that the recovery of the cost was through a
20 surcharge mechanism?

21 A First, Vice Chairman Gardner, my proxy
22 groups are Dr. Woolridge's proxy group and Mr. Hill's
23 proxy group, and recall that Dr. Woolridge says his
24 proxy group is less risky than Kentucky Power, and you
25 have to add.

1 Mr. Hill's proxy group, he made the
2 statement in his testimony that because these
3 expenditures were being recovered through the ECR,
4 they were less risky, and he used that as a
5 justification for going to the lower end of the range.

6 I make two primary observations. The
7 first one is he's wrong about capital costs being
8 recovered through this company's ECR. That is the
9 case with LG&E and KU where I was here several months
10 ago, but it is not true for Kentucky Power.
11 Therefore, his argument doesn't apply.

12 But then my second response is the kind
13 of adjustments that this company has in Kentucky are
14 replicated functionally by adjustments that his proxy
15 group have in the jurisdictions where they operate.
16 And I prepared Exhibit 10, WEA 10, that shows, for the
17 companies in his proxy group, what are the adjustment
18 mechanisms that they operate under.

19 And if you go through that list, you'll
20 see many if not most of the companies have more robust
21 pass-throughs than Kentucky Power in Kentucky.

22 COMMISSIONER GARDNER: Okay. Thank you.

23 MR. GARCIA: No redirect, Your Honor.

24 No redirect, Your Honor.

25 COMMISSIONER ARMSTRONG: Okay.

1 MR. GARCIA: Thank you.

2 MR. OVERSTREET: Our next witness is
3 Carl Bletzacker.

4 COMMISSIONER ARMSTRONG: Be sworn.
5 Swear to tell the truth, the whole truth, nothing but
6 the truth subject to the rules of perjury?

7 MR. BLETZACKER: I do.

8 COMMISSIONER ARMSTRONG: Speak up loud
9 and clear.

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CARL R. BLETZACKER, called by Kentucky
Power Company, having been first duly sworn, testified
as follows:

16

17

DIRECT EXAMINATION

18

19

By Mr. Overstreet:

20

21

Q Good evening, Mr. Bletzacker.

22

A Good evening.

23

24

Q Please state your name, business
address, and position.

25

A My name is Carl R. Bletzacker. I am

1 director of fundamentals analysis, and my address --
2 with American Electric Power Service Corporation and
3 my address is One Riverside Plaza in Columbus, Ohio.

4 Q And, Mr. Bletzacker, in this proceeding,
5 did you cause to be filed certain rebuttal testimony?

6 A Yes, I did.

7 Q And did you cause to be filed some
8 responses to data requests?

9 A Yes, I did.

10 Q And you have any corrections or
11 modifications to those?

12 A No, sir. I do not.

13 Q And if you were asked those questions
14 here today, would your answers be the same?

15 A Yes, they would.

16 MR. OVERSTREET: Witness is available
17 for cross-examination, Your Honor.

18 COMMISSIONER ARMSTRONG: Miss Henry.

19
20 * * *

CROSS-EXAMINATION

1
2
3 By Ms. Henry:

4
5 Q Good evening, Mr. Bletzacker.

6 A Good evening.

7 Q My name's Miss Henry, and I'm going to
8 ask you a couple questions about your rebuttal
9 testimony. I'd like to talk about the Company -- the
10 Company it models -- how the Company models CO2
11 prices. So I'd like you to turn to your rebuttal
12 testimony on page 8, lines 10 through 13. Were -- let
13 me know when you're there, sir.

14 A I'm there.

15 Q Okay. So it states there that if the
16 ultimate legislation -- if the ultimate legislation
17 that does pass contains a 50-percent free allocation
18 of allowances, for example, then the effective cost of
19 our KPCO modeling proxy of \$15 per ton, which is
20 applied to all tons in the analysis, is equivalent to
21 a CO2 price of \$30 per ton, which is a very aggressive
22 price; is that correct?

23 A That's correct.

24 Q Your statement suggested the Company
25 should only model allowances. It does not have to --

1 that it does not receive for free; is that correct?

2 A That's incorrect. The purpose of this
3 statement here is identify that we modeled, as a
4 forecast modeling proxy, every CO2 ton that is
5 produced, it gets hit with \$15 per metric ton.

6 Q If the tons were to sale on the open
7 market for \$30, what price would you model?

8 A Well, in a cap and trade regime where
9 there are free allowances --

10 Q Yes.

11 A -- as an example, 50 percent are
12 allocated as free allowances, \$15 per ton would be
13 mathematically equivalent to \$30 per metric ton.

14 Q I'm sorry. Could you state that one
15 more time?

16 A In a cap and trade regime where there
17 are free allowances, allowances that are allocated to
18 incumbent generators or existent generators, if they
19 are allocated at -- at, say, 50 percent, 50 percent of
20 those CO2 tons are allocated for free, then the
21 forecast modeling proxy, that's the equivalent of \$30
22 per ton, if -- against our \$15 a ton.

23 Q So, hypothetically, if the Company
24 received 100 percent free allowances, it should model
25 CO2 prices -- you shouldn't model CO2 prices?

1 A No. That's incorrect. If you received
2 100 percent free allowances, that there is a value for
3 CO2 beyond the -- those that are produced by incumbent
4 generators. So you have to project what that CO2
5 production would be, and it would have a value.

6 Q So if you turn to Mr. Wohnhas' testimony
7 on page 17, lines five through ten.

8 A I haven't got a copy of that.

9 MR. OVERSTREET: Miss Henry, provide him
10 with a copy?

11 MS. HENRY: Yeah.

12 (Mr. Overstreet handed document to the
13 witness.)

14 MR. OVERSTREET: And is that his direct
15 testimony?

16 MS. HENRY: It is his direct testimony.

17 MR. OVERSTREET: And it was, I'm sorry,
18 pages what?

19 MS. HENRY: Page 17, lines five through
20 ten.

21 A Thank you. I'm there.

22 Q So Mr. Wohnhas' is -- Wohnhas, in his
23 direct testimony, he states that what determines the
24 price of an allowance under CSAPR if they are
25 allocated at zero cost. Wait. Wait. Wait. A second

1 the price of an allowance under CSAPR is determined by
2 the cost at which the companies are willing to sell
3 their excess allowances versus the cost the companies
4 are willing to pay to earn the right to increase
5 emissions. This statement is referring to SO2 and SOx
6 allowances; is that correct?

7 A That's correct.

8 Q So is it your belief that the S -- or
9 that the CO2 market would generally abide by the same
10 economic principle?

11 A No. They -- no, they wouldn't.

12 Q They would not?

13 A No.

14 Q And how would they differ?

15 A Well, remember that what we are --
16 are -- are projecting here is a CO2 price that is
17 based on all tons produced. It's a forecast modeling
18 proxy, and it's supposed to emulate what the penalty
19 would be for CO2 production.

20 Under CSAPR, there are some very
21 specific rules, and Mr. Wohnhas really ide --
22 identifies reasonably well, and the trading regime is
23 just entirely different. Our -- our -- our forecast
24 modeling proxy is meant to identify what the -- what
25 the penalty would be, what the cost of CO2 would be.

1 The -- the CSAPR rules are entirely different.

2 Q Doesn't CSAPR -- doesn't CSAPR provide
3 allowances for free as well?

4 A CSAPR identify -- yes, they -- they --
5 they do. They also identified limits.

6 Q So -- so under the CSAPR regime, you get
7 some -- you get allowances for free, but as Mr.
8 Wohnhas says, when you model those -- when you model
9 those allowances, you model, as I quote, what
10 companies are willing to sell their excess allowance
11 -- what companies are willing to sell their excesses
12 allowance versus the cost the companies are willing to
13 pay?

14 A I'm sure you remember, or we should
15 remember, that -- that in CSAPR, there are group one,
16 group two allowances. States were allowed to trade
17 between themselves, and -- in order to meet certain
18 limits. The CO2, we've not -- we've not introduced
19 that sort of notion in the -- in the old cap and trade
20 legislation that was put forward.

21 Q So you're saying that if CO2 were to
22 trade for \$30 a ton, you would not use \$30 a ton, you
23 would use \$15 a ton if you had 50-percent free
24 allowances?

25 A Yes.

1 Q Do you have any -- I mean, besides from
2 your opinion, do you have any empirical studies to say
3 that that is now SO2 allowances should be traded?

4 A I'm going to assume that you meant CO2.

5 Q CO2.

6 A Yeah. Yes, we do.

7 Q Did you include those in your rebuttal
8 testimony?

9 A Oh, without question. I could read them
10 for you or I could summarize them for you.

11 Q Where are the -- can you just refer them
12 to -- refer me in your rebuttal testimony to where
13 your --

14 A Sure. If I'm following your line of
15 questioning correctly, where I would lead you to would
16 be --

17 MR. OVERSTREET: Ms. Henry may I get
18 testimony back? Are you through with Wohnhas?

19 MS. HENRY: Yes.

20 A Thank you. Excuse me. Where I would
21 lead you to would -- would be the -- the line of
22 questioning that starts with -- on page 7 of 12,
23 certainly the question beginning on line 3 and is
24 answered -- is -- is -- surrounds the notion of when
25 would this start -- what -- when was -- when is a

1 likely start time for CO2 value.

2 Then certainly proceeding from there, we
3 identify why the price would be around the \$30 level
4 or justify the \$30 level.

5 Q But that doesn't --

6 A Or the \$50 level.

7 Q But that doesn't differentiate the CO2
8 allowances from the SO2 allowances and why they should
9 be treated differently, does it?

10 A Well, maybe I misunderstood -- stood
11 your question. There's nothing in my testimony about
12 CO2 as rebuttal testimony that had anything to do with
13 SO2.

14 Q I understand, but I'm asking you a
15 question. Mr. Wohnhas, when he is describing SO2
16 allowances or NOx allowances, he is describing a
17 system where what you model is what they sell for on
18 the market. You're al -- offering a different
19 alternative for how CO2 allowances should be modeled.

20 And I'm saying that where in this
21 testimony do you cite why they should be treated
22 differently? Aside from your assumption that you get
23 50-percent free allowances, so you want to get a
24 50-percent reduction on what you model.

25 A Yes. No, I understand. There is --

1 there is nothing in my CO2 testimony that -- that ever
2 even considered is different from the SO2 market.
3 They -- the CSAPR rules and the CO -- theoretical CO2
4 legislation that -- that -- that could take place or
5 would -- would just be entirely different.

6 You know, we don't an -- anticipate the
7 CO2 testimony to be -- or the CO2 prices to be
8 anything like -- like SO2. The programs are -- would
9 be entirely different. Matter of fact, it's so
10 difficult to identify what a program would be in the
11 future, we just put in a \$15-per-metric-ton modeling
12 proxy.

13 Q Okay. Let's move on from here. I'd
14 like you -- to refer you to Dr. Fisher's testimony on
15 page 35, line 6 through 9.

16 MR. OVERSTREET: Is this the -- is this
17 the supplemental revised?

18 MS. HENRY: You can use either version.

19 MR. OVERSTREET: Okay.

20 A I believe I'm there.

21 Q Do you see a paragraph that begins "for
22 the purposes of this case, Miss Wilson tested three of
23 the options"?

24 A On page 35.

25 Q I'm sorry. Page 36.

1 A Excuse me. Line 69?

2 Q Yes.

3 A Yes. I see that for the purposes.

4 Q For the purpose of this case, Miss
5 Wilson tested three of the options. Retrofit one,
6 which is a natural gas, CC replacement. The market
7 purchase of -- the market purchases to 2020 for 4A
8 using the Synapse low CO2 price. The CO -- this CO2
9 price starts at \$15 per ton in 2020 and climbs to \$45
10 a ton by the end of 2040; is that correct?

11 A That's what I've read.

12 Q Okay. What is the starting price on
13 this trajectory?

14 A The starting price is \$15 per metric
15 ton.

16 Q And what is the starting date in this
17 trajectory?

18 A This trajector -- trajectory is defined
19 in -- to mean the ADP trajectory.

20 Q The one that -- this is the one that --
21 I believe, that --

22 A From Miss Wilson's testimony.

23 Q Yes.

24 A Well, it's \$15 per ton, and its
25 trajectory is -- climbs to \$45 per ton by the end of

1 2040.

2 Q And what year does the CO2 price begin?

3 A CO2 price begins in 2020.

4 Q 2020. I'd like you -- to refer you to
5 your rebuttal testimony on page 17.

6 A You said page 17 of my rebuttal
7 testimony?

8 Q That's correct, sir.

9 A I have 12 pages of rebuttal testimony.

10 Q Oh. Hold on a second. Let's -- let's
11 see. Is it correct in your rebuttal testimony that
12 you state that Dr. Fisher has the CO2 price beginning
13 in 2018?

14 A I would need to check, but I believe so.

15 Q Yes. And isn't -- isn't that
16 inconsistent with Dr. Fisher's testimony which states
17 that it's beginning in 2020? It uses a case where it
18 begins in 2020?

19 A When I reviewed Dr. Fisher's testimony,
20 2018 was the start date, to the best of my
21 recollection.

22 Q Okay. Let's go back to the -- the
23 passage that we just read on page 36, lines 6 through
24 9 again, and would you just refresh your memory of
25 what you just said about the start date?

1 A I see a start date of 2020.

2 Q Okay. So thank you. What is the
3 approximate price of carbon assumed by the Company in
4 this docket's base case?

5 A \$15 per metric ton beginning in 2022.

6 Q And is that nominal or real dollars?

7 A Nominal dollars.

8 Q And what year is that -- is the -- and
9 that price is implemented in 2022?

10 A That's correct.

11 Q Are you able to tell me what the
12 approximate price would be in short tons for 2010 --

13 A Not off --

14 Q -- dollars?

15 A -- hand. It's a mathematical
16 calculation.

17 Q Does about \$11 a short ton in 2010 sound
18 correct?

19 A That sounds close.

20 Q Okay. I'm going to mark -- and your --
21 tell me what number we're at.

22 MS. GILLUM: Twenty-one.

23 Q Okay. I'm going to mark as Exhibit 21
24 Kentucky Power Company's response to Sierra Club's
25 initial -- initial set of data requests, number 45.

1 I'd like to refer you to the Company's
2 response to this data request where the Company states
3 that it develops a consensus view wherein the
4 long-term forecast is shaped by the views of many
5 stakeholders, including but not limited to, and then I
6 believe you state energy companies; is that correct?

7 A Yes, I do.

8 Q I would like to mark and move into --
9 and I would like to mark as Exhibit 22. This is a
10 copy of Dr. Fisher's Ex -- Exhibit 7B, which is
11 attached to his testimony. Would you agree that this
12 exhibit appears to show that the Company's forecast is
13 the lowest amongst the utilities shown here?

14 A Yes, it would.

15 Q Would you also agree that this exhibit
16 appears to show that the Company's CO2 price starts
17 later than any of the utilities shown here?

18 A It would appear to show that. Yes.

19 Q You did not rebut this exhibit; is that
20 correct?

21 A Well, we rebutted the Synapse study from
22 which this came from.

23 Q This -- this is -- I believe this
24 shows -- this isn't the Synapse data.

25 A I beg your pardon.

1 Q This shows other utilities and what they
2 are, so --

3 A So where was this -- where was this
4 contained?

5 Q It was in Dr. Fisher's -- it was 7B of
6 Dr. Fisher's --

7 A Understood.

8 Q -- testimony. This -- and you did not
9 rebut this; is that correct?

10 A This particular graph?

11 Q Yes, sir.

12 A No. Not that particular graph, but we
13 rebutted the concept.

14 Q I understand that you rebutted the
15 Synapse concept. I'm talking now about different
16 util -- different energy companies and -- and what
17 they use for CO2. Do you know if Duke Energy serves
18 energy in the Commonwealth of Kentucky? Provides
19 energy in the Commonwealth of Kentucky?

20 A I believe they do.

21 Q Are you aware of Duke Ener -- if Duke
22 Energy filed an IRP in the later half of 2011 in North
23 Carolina, Indiana, and Ohio?

24 A I am personally unaware.

25 Q You said no?

1 A I said I'm personally unaware.

2 Q Okay. Which -- when we referred to
3 Exhibit 21, you stated that other energy companies
4 were consulted for a consensus view. Which energy
5 companies did you consult?

6 A I don't have a list with me or I know --
7 don't know of any particular energy companies --
8 energy companies in particular, which ones those would
9 be.

10 Q I'd like to mark and move into Exhibit
11 Sierra Club 23. Oh.

12 MR. GIAMPIETRO: Kristin.

13 Q So Exhibit 23 is Duke Energy Carolina's
14 integrated resource plan which is dated September 1st,
15 2011.

16 MR. GISH: Can we get one?

17 MS. HENRY: Oh. He's -- there we go.

18 MR. GISH: Okay.

19 MR. OVERSTREET: Let us look at it
20 before you ask the question --

21 MS. HENRY: Okay.

22 MR. OVERSTREET: -- please. Thank you.

23 MS. HENRY: And I'm going to refer to
24 page 101.

25 A I'm on page 111.

1 Q 101. Sorry.

2 A I beg your pardon.

3 Q And Mr. Overstreet just asked that I
4 wait a moment before I ask my question, so I'm going
5 to --

6 MR. OVERSTREET: Okay. We're there.

7 Q Okay. Does this chart indicate that the
8 reference CO2 price used by Duke Energy starts at \$12
9 a ton in 2016 and increases to approximately \$42 a ton
10 in 2031?

11 A It would appear so.

12 Q And would you consider Duke Energy
13 imprudent for using this type of CO2 price trajectory?

14 A There are a range of values that
15 could -- could be considered, and that range of values
16 is -- is such that -- and, again, I don't know whether
17 these are nominal or real dollars. You'll have to let
18 me know whether that's the case. But -- but I don't
19 think it's imprudent for them to include this in their
20 IRP filing.

21 Q Are you aware if Tennessee Valley
22 Authority serves energy in the Commonwealth of
23 Kentucky?

24 A I believe they -- I believe they do.

25 Q Are you aware that TBA filed an IRP in

1 March of 2011?

2 A I am personally unaware.

3 Q Okay. I'd like to mark and move into
4 exhibit Exhibit 24, which is going to be a copy of
5 Tennessee valley's Authority's integrated resource
6 plan for March of 2011.

7 COMMISSIONER ARMSTRONG: What's the
8 number?

9 MS. HENRY: It -- it is 24. I'm going
10 to wait for the rest of them to be distributed.

11 Q I'm going to refer you to page 97. Oh.
12 It's section 9 -- it's page 96. Sorry.

13 A I am at page 96.

14 Q Does this -- if you look at the very
15 first row of this table, it addresses carbon dioxide
16 regulation, and you'll note that scenario -- scenario
17 seven is the reference case.

18 A I can see that.

19 Q Does this chart indicate that the
20 reference CO2 price used by Tennessee Valley authority
21 starts at \$15 a ton in 2013 and increases to \$56 a ton
22 in 2030?

23 A Yes, it does say that.

24 Q And would you consider TVA imprudent for
25 considering this CO2 price trac -- trajectory?

1 A Well, I happen to know the folks at TVA
2 rather well that do this report, and this was done in
3 March of 2011. This -- there -- there really is no
4 political analyst that believes that any car -- CO2
5 legislation can be put in place before 2017.

6 Q So you think TVA is imprudent or
7 prudent? What's the que -- the question I answered is
8 do you believe TBA is prudent or imprudent?

9 A Imprudent.

10 Q Imprudent. Thank you. Let's refer back
11 to Exhibit it 22. Besides your CO2 price, which
12 declines in real dollars as illustrated by the black
13 line at the bottom, how many of these other utilities
14 are using an imprudent CO2 price?

15 MR. OVERSTREET: Wait a minute. I
16 object to the question. That's not a fair question.

17 Q All right. I'd like to refer you to --
18 one second. Make sure I have the right page. If you
19 wouldn't mind answering the question that was
20 previously put -- posed. How many of -- given that
21 these are the CO2 price trajectories of various
22 utilities and energy companies across the United
23 States, how many of the other ones would you view as
24 imprudent?

25 A Well, certainly none of these we would

1 agree with.

2 Q So all of the -- all of the other
3 utilities you would view as imprudent?

4 A We would not agree with their CO2
5 prices, but at the -- at the time in which they were
6 put out, what we -- we would appreciate -- we -- we
7 would appreciate their -- the analysis that would have
8 went in -- went into them at the time.

9 Q And these -- these -- these prices, they
10 all were -- came out in 2011.

11 A I am very uncomfortable with the word
12 imprudent. I'm certainly uncomfortable with the
13 prices, but I'm uncomfortable with the word imprudent.

14 Q Are you -- are you -- do you understand
15 that prudence is a -- is a common term used in public
16 service commissions?

17 A Yes.

18 Q Okay. All right. So you feel that
19 these prices -- you're uncomfortable with all of the
20 prices except for your own? Or Sier -- the Kentucky
21 Power Company's?

22 A I can certainly tell you we're
23 comfortable with our own.

24 Q Okay. Let's refer back to your -- your
25 rebuttal testimony, page 7 that starts on line 25, and

1 it continues onto page 8, line 1 -- line 1. Isn't it
2 correct that you state that the pri -- the forecast
3 price for CO2 or Kentucky Power Company's forecast
4 modeling proxy is a moderately aggressive CO2 value?

5 A Yes. That's what it stated.

6 Q And just -- just to recap, let's go back
7 to Exhibit 22. And Kentucky Power Company has a CO2
8 price starting later than any of the other utilities
9 noted at a far lower price than any of the other
10 utilities noted and declining in real value over time,
11 and you consider that moderately aggressive?

12 A Yes, we do consider it to be moderately
13 aggressive. Especially when you look at that co --
14 that -- that comment we made earlier about cap and
15 trade regime that offers allowances --

16 Q Oh, that's not the question at hand. If
17 I can -- well, you can continue on, if that's okay.

18 MR. OVERSTREET: Pardon me. He -- he
19 answered her question, and he was explaining it. I
20 think -- think he's allowed to do that.

21 Q I'd like to refer you to re -- your
22 rebuttal testimony on page 11, lines 1 through 6.

23 A Yes.

24 Q Is it correct that you state, (Reading)
25 Lastly and most crucially, Synapse largely ignored

1 other possible pathways that could address carbon
2 dioxide such as a federal alternative clean energy --
3 such as federal alternative clean energy requirements
4 or clean energy standards which at this point appear
5 more likely to garner political support in the future
6 instead of federal climate legislation?

7 A That's how that reads.

8 Q Were such standard model -- were such
9 standards modeled in this -- in Kentucky Power
10 Company's analysis?

11 A Kentucky Power's forecast modeling proxy
12 included all of these points, of which this was point
13 number four. The three other points include the fact
14 that the Synapse study identified a range of potential
15 CO2 outcomes in a cap and trade situation that did not
16 come to fruition.

17 Point number two being that -- that
18 there are the -- those -- those EPA regulations, EPA
19 legislations, you know, were not yet promulgated, such
20 as cafe standards, MATS rules, CSAPR rules, which
21 did -- which will reduce the amount of CO2 that gets
22 produced.

23 Thirdly, and, again, we said most
24 significantly, that natural gas prices have declined.
25 With natural gas prices declining, there is a downward

1 pressure on CO2 prices, and so what you've identified
2 as point four of that four-point set.

3 Q So did the Company model renewable
4 energy standards in its analysis? You -- I believe in
5 your testimony you state that a cap and trade
6 legislation is unlikely, and what is more likely to
7 occur are -- is a piece of legislation or some
8 regulation dealing with renewable energy or energy
9 efficiency standards; is that correct?

10 A What we modeled was \$15 applied to every
11 single time. Buried in that are all of these other
12 considerations.

13 Q Okay. Are you familiar with the clean
14 energy standard act of 2012 --

15 A Loose --

16 Q -- which is intro -- introduced my
17 Senator Bingaman?

18 A Only very loosely.

19 Q But you are familiar with it. I would
20 like to mark and move into exhibit, it's going to be
21 SC 25, which is a copy of the -- Senator Bingaman's
22 bill. So you said loosely that you are familiar with
23 this bill; is that correct?

24 A That's correct.

25 Q So do you -- do you recognize and

1 understand that this clean energy standard would, if
2 enacted, require utilities to hold clean energy
3 credits?

4 A Yes.

5 Q Do you recognize that those credits
6 would have a dollar value?

7 A Yes.

8 Q I'd like to mark and move into exhi --
9 exhibit -- I'm going to do two exhibit, 26 and 27.
10 One of them is -- the first one, which is 26, is the
11 US Energy Information Administration's analysis of the
12 impacts of this standard, and the second is the source
13 data that supports that report, which will be Exhibit
14 27.

15 MS. GILLUM: This one's which one?

16 MS. HENRY: The first one's 26. That
17 one's 26.

18 MS. GILLUM: I've only got one.

19 MS. HENRY: He's going to hand out the
20 other one. I can probably pass those out.

21 MS. GILLUM: You're moving so fast, I
22 can't get them all recorded with the exhibits.

23 Q I was just going to wait till he's done.
24 But if you want, I'm going to use the source data, and
25 I'm going to refer you to 1 -- page 143. But -- so

1 are you aware that the US Department of Energy through
2 the US Energy Information Administration, which is a
3 subset of the department of energy, recently modeled
4 the credit price that could be expected from Senator
5 Bingaman's legislation?

6 A I am personally unaware, but I'm sure
7 the Company is.

8 Q I'm sorry. You're personally --

9 A I am personally un -- unaware, but I'm
10 sure our company is.

11 Q Okay. Are you aware that those prices
12 start in 2015?

13 A If I'm referring to page 143 --

14 Q Yes.

15 A -- you -- you've identified column J.

16 Q It's column J, and then it is row --
17 well, the -- the he -- it's defines the header -- it
18 defines the column as the CS credit price, and then it
19 gives you credit price in row 2864. Does this
20 spreadsheet state that the price for those credits
21 start in 2015 at about \$38 million per kilowatt hour,
22 which translates to \$38 per megawatt hour in the base
23 case --

24 A I see that.

25 Q -- subject to check?

1 A I see that number.

2 Q Did AEP model such a price in -- or
3 policy in this analysis?

4 A No. But what AEP did do was model --
5 have a forecast modeling proxy of \$15 per metric ton
6 to replicate the value of CO2 moving forward on every
7 ton produced.

8 Q All right. I'm going to refer you to
9 Dr. Fisher's testimony on page 28.

10 A I'm on page 28.

11 Q 28, line 20, where he states, (Reading)
12 I would not expect any of the sensitivities evaluated
13 by the Company to result in dramatically different
14 results. You did not rebut this to -- this statement;
15 is that correct?

16 A Please help me. Give me --

17 Q Oh, sure.

18 A -- the page again.

19 Q 20 -- or 28, line 20.

20 A Okay. I'm on page 28. Please read the
21 sentence again. I'm on the direct testimony of Jeremy
22 Fisher.

23 Q Yes. I was just going to --

24 A My line 20 refers to ongoing capital
25 costs.

1 Q Yeah. Oh. It's actually page 29.
2 Sorry about that.

3 A That's fine.

4 Q And it is line 20.

5 A Yes.

6 Q And it states that, (Reading) In this
7 case, however, I would not expect any of the
8 sensitivities evaluated by the Company to result in
9 dramatically different results. You did not rebut
10 this statement; is that correct?

11 A I need to absorb the context of that
12 statement.

13 Q You can take time to absorb it.

14 A No, we did not rebut that.

15 Q Okay. I would now like to refer you to
16 KIUC's Exhibit Number 9, which is also in Scott
17 Weaver's testimony, his Exhibit Number 2, if that's
18 easier to look for.

19 A I'll need some help with that.

20 MR. OVERSTREET: Okay.

21 A I have SCW 2, page 1 of 2, two graphs in
22 front of me.

23 Q Can you go to page 2 of 2? Which is the
24 one that they introduced as KIUC 9.

25 A That is a table.

1 Q That is a table. In deciding how to
2 weigh the results of the various options under the
3 different scenarios, is it relevant to know the
4 estimated likelihood of each scenario occurring? This
5 table, obviously, represents five scenarios where we
6 have a base case, a high band, a low band, an early
7 carbon, and then -- and a no carbon.

8 A Yes. It's relevant to know that.

9 Q Can you tell me which of these five
10 scenarios was deemed most likely?

11 A It would be the base case, fleet
12 transition, CSAPR.

13 Q Did you provide probabilities for all of
14 the scenarios?

15 A We don't provide probabilities of the
16 scenarios. We just provide the long-term forecast
17 commodity input and output pricing --

18 Q So --

19 A -- for each case.

20 Q -- you've -- you just -- you just assume
21 the base case is the most probable, but you don't
22 assign any probabilities to any of the other options?

23 A The inputs have some level of
24 probabilities. For instance, natural gas prices are
25 roughly one standard deviation above and below the --

1 the -- the base case. Through the iterative process,
2 you end up with resultant coal prices. You end up
3 with resulting power prices.

4 So -- so there aren't percentages
5 supplied to the case -- or applied to the cases before
6 the cases are run, but there are -- there are
7 deviations from the base case that are identified of
8 some of the inputs.

9 Q But there is no matrix made from the
10 output set aside probabilities to the different
11 options?

12 A No.

13 Q We discussed earlier the commodity price
14 inputs into the Strategist modeling, and they were
15 used to develop the Aurora modeling; is that correct?

16 A No, that's not correct, but I believe I
17 can help. You understand that the Aurora model is --
18 has been used in this hearing to identify two distinct
19 things, and it's probably important to refer to the
20 stochastic modeling as -- as that title, and the
21 Aurora modeling for -- for the purpose of a long-term
22 fore -- price forecast is another element.

23 So the Strategist model receives the
24 output of a long-term fundamentals price from the
25 Aurora model long-term. Has nothing to do with so --

1 the stochastics.

2 Q Okay. So my question is this: Do you
3 know if the 20 -- we -- we already determined that
4 there was a 20-percent demand toggle left off in the
5 subsequent Aurora analysis. Do you know if that
6 20-percent demand toggle was on during the Aurora
7 modeling that was used to develop the commodity price
8 forecast?

9 A The short answer to your -- to your
10 question would be no, and that's because there is no
11 20-percent demand toggle in the long-term Aurora
12 forecast model. It's only in the stochastics. And
13 you've referred me to a table that identifies a
14 long-term commodity price. Maybe we're not on that
15 anymore, but there is no demand toggle in the
16 long-term Aurora forecast pricing.

17 Q Did you provide the work papers to
18 demonstrate that?

19 A Did I or could I? I don't understand --

20 Q Did you?

21 A -- the question.

22 Q Did you?

23 A There was no need. There's -- there is
24 no -- there is no foreca -- there is no demand toggle
25 in the long-term Aurora model. There's no such thing.

1 There's no such button.

2 MS. HENRY: No more questions at this
3 time.

4 COMMISSIONER ARMSTRONG: You want to
5 move those exhibits?

6 MS. HENRY: Sure. I'd like to move
7 Sierra Club's Exhibits --

8 MR. GISH: 21.

9 MS. HENRY: -- 21 through 27.

10 MR. OVERSTREET: No objection, Your
11 Honor.

12 COMMISSIONER ARMSTRONG: No objection.
13 So ordered.

14 (Sierra Club Exhibits 21 through 27
15 admitted.)

16 MR. KURTZ: Your Honor, I have about
17 five to ten minutes.

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21

CROSS-EXAMINATION

22

23 By Mr. Kurtz:

24

25

Q Good -- good evening, Mr. Bletzacker.

1 A Good evening.

2 Q Do you have in front of you -- can
3 counsel provide KIUC number 9 and number 10? The
4 documents I was asking Mr. Weaver about.

5 A I don't, but I'm sure I can.

6 MR. OVERSTREET: Just give us a minute,
7 Mr. Kurtz.

8 A Thank you so much. I have in front of
9 me KIUC 9 and 10.

10 Q Okay. KIUC 9, for -- for natural gas,
11 let's just -- 2016, do you see that the price under
12 the base case is \$5.99 in mmBtu. The high case six
13 ninety-four. The low five twenty-seven, the early
14 carbon five ninety-nine, and the no carbon, five
15 ninety-nine as well?

16 A I certainly see that.

17 Q Okay. Now, KIUC 10 is the Nimex forward
18 prices for Henry Hub gas, same as what you have
19 modeled here, and by month. Over the dinner hour, the
20 supper hour, I went and -- and -- and averaged the --
21 the monthly 2016 Nimex forward gas prices and got
22 \$4.27 per mmBtu. Will you accept that subject to
23 check or -- or would you like to verify?

24 A Four dollars and twenty point seven?

25 Q Four dollars and twenty-seven.

1 A No. I agree with that.

2 Q Okay. Now, would you agree that -- that
3 those forward Nimex gas prices for 2016 are 40 percent
4 less than your base case, 63 percent less than your
5 high band, 23 percent less than your low band, 40
6 percent less than your early carbon, and 40 percent
7 less than the no carbon?

8 A Subject to checking the math, it sounds
9 reasonable to me.

10 Q Okay. And then if we went through the
11 same exercise with the Nimex future gas prices, in
12 2016, '17, you would not be surprised that -- that
13 your fundamental forecast is -- is considerably above
14 the -- the current future market price?

15 A I'm not surprised. I made the same
16 calculation on Friday.

17 Q Okay. Do you know how many buyers and
18 sellers or how -- how widely traded the Nimex futures
19 are for Henry Hub natural gas?

20 A I do. We can quantify that, of course,
21 by looking at the open interest and volume traded.
22 But -- so I can't repeat those numbers, but it's very
23 easily attainable.

24 Q Right. It's a fairly liquid market,
25 isn't it?

1 A Very liquid market.

2 Q So this is what buyers and sellers,
3 arms-length transactions, things of the future price
4 will be. And of the -- may be wrong or right, who
5 knows, but that's what the market says that those
6 future gas prices will be?

7 A Oh, absolutely. When there is a buyer
8 and a -- and a seller who want to come together for
9 their commercial reasons, they can get that price done
10 at that -- that -- that -- that number that they
11 printed on -- that they printed on a screen.

12 Q Now, this is probably obvious and goes
13 without saying, but if lower gas prices were used in
14 the Strategist models, it would make the -- the
15 natural gas options look better compared to the -- the
16 scrubber option?

17 A You're just asking a generic
18 mathematical question if lower gas prices were used?
19 I'd have to refer to -- to -- to Mr. Weaver, but,
20 intuitively, you'd have to believe it to be
21 directionally correct.

22 Q Yeah. One -- one last set of -- of
23 documents. I'll mark them. Actually, there's two
24 documents. Ask that they be marked as KIUC 12 and 13.
25 This is 12. Oh.

1 A Sorry.

2 MR. HOWARD: Mr. Kurtz, you handed me
3 two sets, I believe, did you not, or just -- is it
4 just the same document?

5 MR. KURTZ: It's the same one.

6 MR. OVERSTREET: So just -- these are --
7 these are identical.

8 MR. KURTZ: Yes. Should be the
9 forwards --

10 MR. HOWARD: I just wanted to check.

11 Q PJM forward market prices for off-peak
12 power at the -- at the AEP Dayton hub. And then
13 the -- the -- the next document --

14 MR. HOWARD: Excuse me. Everybody got
15 one?

16 Q This next document that I ask be marked
17 as KIUC 13 is the PJM forward energy price at the AEP
18 Dayton hub. 12 was off peak. 13 is on peak.

19 MR. OVERSTREET: I'm confused.

20 MR. KURTZ: That's on peak.

21 COMMISSIONER GARDNER: Yeah. I think --
22 I think you got two number 12s.

23 MR. KURTZ: The second one I gave you
24 was number 13. I think Mr. Howard gave you two number
25 12s by mistake.

1 Q You -- you have as part of your
2 fundamental analysis on and off-peak pricing on -- on
3 Weaver Exhibit 2 or KIUC number 9?

4 A That is correct.

5 Q Okay. Now, the reason I gave you the
6 off-peak first -- let's just go to 2015. That's as
7 far out as the forwards go. This is forward prices,
8 AEP, Dayton hub, PJM, off-peak pricing as of last
9 Friday, April 27, 2012. Do you -- do you see those
10 references?

11 A I do.

12 Q Okay. Your off -- the off-peak numbers
13 in the forwards for the -- for calendar year 2015 are
14 \$33.68, which is pretty close to all of the off-peak
15 numbers you have in your fundamentals. Did -- did --
16 would you agree with that? Your off-peak for 2015
17 is -- under the scenarios are thirty-three
18 eighty-nine, forty forty-seven, thirty-two sixteen,
19 thirty-three seventy-three, and thirty-four
20 thirty-four, which is pretty close to 33.68 in -- in
21 the forward prices. Would you agree?

22 A I would agree those numbers are similar.

23 Q Okay. Now, it's the -- it's the off --
24 it's the on-peak, though, the next document, KIUC 13,
25 where the on-peak power prices for 2015 are \$44.90,

1 and your on-peak energy prices for 2015 are
2 considerably higher, aren't they?

3 A Yes, they are.

4 Q I did the math. The -- the -- the base
5 case, your number is 26 per -- percent higher than the
6 futures. The high band is 46 percent higher. The low
7 band is 19 percent higher. The early carbon is 26
8 percent higher, and the no carbon is 26 percent
9 higher. Would you agree with those, subject to check?

10 A I would.

11 Q Okay. Now, if the model used to justify
12 the scrubber has on-peak power prices that are too
13 high, and that would have a number of -- number of
14 ramifications, wouldn't it?

15 A If it has power prices that are too
16 high, you're -- you -- buried in that comment is -- is
17 power prices that are incorrect?

18 Q Incorrect.

19 A It would have ramifications if power
20 prices were incorrect.

21 Q It would -- for -- for example, it would
22 obviously make the purchase scenarios more attractive
23 relative to the scrubber?

24 A I'd have to go through the evaluation.

25 Q Well, I mean, intuitively, we know if

1 the --

2 A Intuitively.

3 Q -- price of purchase power is less, it
4 makes that option look more attractive?

5 A Of course.

6 Q And also in the scenario where the
7 utility is -- is a net seller of energy, if the market
8 price for the sales it -- is lower, that would make
9 that -- that business practice less attractive as
10 well, wouldn't it?

11 A Yes, it would.

12 Q So especially in a situation where there
13 was a scrubber on Big Sandy 2 and Mitchell was
14 acquired, so that Kentucky Power was energy long by a
15 lot, then -- then lower energy prices would tend to
16 hurt those economics?

17 A It would hurt the economics, but it's
18 very fair to note that in order to do that, you have
19 to go through the process of hedging. You have to
20 accept those prices, hold those prices. A, you
21 will -- you will forever have those prices, and -- and
22 if you can across that barrier and -- you can have
23 certainty that those will be your prices.

24 Q Okay.

25 A But you have to be comfortable with the

1 thought of hedging.

2 Q The -- this commission is faced with
3 a -- and AEP is -- is faced with almost a billion
4 dollar decision. Would you agree?

5 A I would agree.

6 Q Wouldn't you think that -- did you --
7 don't you agree that it's important to have the most
8 accurate information, up-to-date information for the
9 commission to make a decision?

10 A Certainly accurate and updated
11 information is very important, but remember, these are
12 forwards. These are not the fundamentals. This is
13 where two parties have come together and decided
14 they're happy at this particular price and meet some
15 sellers' objective and meet some buyers' objective.
16 Those aren't the fundamentals of supply and demand
17 that come in to create a fundamentals price.

18 Q Well --

19 A But if you would like price certainty,
20 you could know that price today. That won't be the
21 price tomorrow. It won't be the price next week. It
22 may not be the price when -- when -- when this thing
23 goes into -- into service, but if you want to know
24 that price today, and you're confirm with hedging, you
25 can have these prices.

1 Q Well, in the case of Nimex, it's -- it's
2 the -- it's not just a buyer and a seller, it's
3 thousands of buyers and thousands of sellers every day
4 that set the market price?

5 A Well, that print that hit this piece of
6 paper whenever you print it off was a buyer and a
7 seller. That was a deal right there at that
8 particular second.

9 Q Well, on any given day, there's
10 thousands of transactions in the Nimex Henry Hub
11 market.

12 A Yes. It's a liquid market, and -- and
13 -- and people that trade that contract are grateful
14 for that liquidity.

15 Q And, of course, the -- the same
16 criticism -- or the same observation that -- that your
17 fundamental prices will be too high or too low in year
18 2015 or '16, we -- nobody can predict the future no
19 matter what method you use?

20 A Oh, I hear you, but I think it's very
21 important to note that the purpose of these forwards
22 markets is not to predict future prices. It's to meet
23 the commercial needs of a buyer and seller.

24 That day that print got made, somebody
25 was happy selling their production at a certain price.

1 Someone's happy buying gas at a particular price,
2 maybe to meet a commercial objective of -- of selling
3 their product at a -- at a fixed price to a -- to an
4 fur -- further consumer down the -- down the food
5 chain there, but the -- the -- the two are drastically
6 different. Fundamentals are different than the
7 forward prices. To use the forward price as a
8 predictor of -- of fundamentals is flawed.

9 Q Well, you know, that's the way the
10 capital market work -- it work -- capital markets
11 work. If you think that these Nimex prices or the PGM
12 forward prices don't reflect your belief of reality, I
13 mean, you could be a rich man. I don't want to be
14 flip about it, but you could bet -- bet against the
15 markets, and if you're --

16 A Is that --

17 Q -- right --

18 A -- a question?

19 Q Well, couldn't you bet against the
20 market and -- and -- and make a lot of money?

21 A I guess I'm uncomfortable in -- in a
22 discussion about speculating on natural gas futures of
23 power futures in this particular hearing, but to your
24 point. If you chose to speculate, you could do that.
25 If you thought the market was going to move further

1 south, you could go short, buy your long later, and
2 then go ahead and -- and -- and -- and -- and make
3 your money. If you think prices are going to do go
4 up, which seems to be the general feeling, that I'm --
5 that I'm -- I'm understanding, then you can go -- go
6 long, and then -- then speculate and -- and cash out
7 later.

8 Q Now, the commission --

9 A But that's not what we're doing here.

10 Q Well, but the commission is making a
11 long-term bet that the scrubber is the most economic
12 or it's not or -- or purchase power is the most
13 economic or it's not, and it's going to fundamentally
14 affect the economy of ea -- and the people of eastern
15 Kentucky for a generation. Don't you agree with that?

16 A Oh, I agree the -- of the gravity of the
17 decision.

18 Q I'm sorry. Of the --

19 A I agree with the gravity of the
20 decision.

21 Q So do -- would you agree that it's
22 better to get it right and -- and -- and -- and get as
23 good of information as we can rather than rush into
24 something?

25 A Without question, you want to have the

1 right information, but please let my point be made
2 that if you believe that the natural gas futures or
3 the power futures are an indicator of what those
4 prices will be going forward, you've -- you're making
5 a big mistake.

6 Consider, if you would, March of 2012.
7 For the ten years March of 2012 was on the screen, it
8 traded between \$14 and \$2. Depending on when you made
9 had that decision to use that March of 2012 gas, which
10 could have been back in 2002, awful lot of good
11 chances of making a wrong decision.

12 Q And that's what we need to guard against
13 here, would -- wouldn't you agree?

14 A Well, and -- and locking into a certain
15 future's price today could be a very wrong decision.

16 Q How often do you update the fundamentals
17 for AEP?

18 A Certainly as -- as Mr. Weaver testified,
19 it's on an as-needed basis. It's not -- they not --
20 they have not been updated since September or October
21 of last year, but generally on a twice-a-year basis.

22 Q Okay. So when will the next update be?

23 A Again, on an as-needed basis, usually
24 related to -- at least recently, with -- with changes
25 in environmental rules, which have -- have been going

1 at -- at a rapid pla -- pace, I would imagine that
2 would be sometime at the end of the year, in November.

3 Q Of two thou -- we'd have to wait till
4 the end of 2012, the commission would, for another
5 fundamental review?

6 A I think the important thing to note is
7 that the base fundamentals haven't changed much.
8 Let's take natural gas, because that's a contentious
9 commodity. The long-term fundamentals in natural gas
10 really have remained the same. It's widely-held
11 belief that there's some thousand trillion cubic feet,
12 we use about 25 trillion cubic feet a year, so that's
13 a 40-year supply, that's able to be brought to market
14 from these new shale plays at -- at a price at the
15 Henry Hub between four and five dollars.

16 So there is a tranche of supply, if you
17 were to imagine a supply curb, that's available for
18 between four and five dollars at the Henry Hub.

19 What's confusing is that nearby we have
20 very low prices, and those prices nearby are due to
21 the fact that we start off November with a full
22 storage inventory, about four trillion cubic feel, and
23 depending on whether we have a lot of heating
24 degree -- many heating degree days above normal or
25 less, we'll end up with a deviation from, say, the

1 five-year average.

2 Empirically, the price of natural gas at
3 the Henry Hub is proportional to the difference
4 between the storage inventory in any given week and
5 what the five-year average is. But the hopeful thing
6 is that when you reach November, again, and storage is
7 full at of -- at its four TCS, after you've pained
8 through a winter, say this winter. This has been
9 very -- very warm. Win -- summary refill season that
10 is going to be certainly bothered by the congestion of
11 store -- of gas already in storage, we're going to
12 reset again in November.

13 I would not be surprised if we had an
14 extremely cold -- if we -- if we did, don't know that
15 we do. If we had an extremely cold winter, we'll see
16 seven and eight dollar prices again, especially if
17 storage inventories get very, very low. You'll have
18 to suffer the summer beyond that for storage refills,
19 but what gets modeled in fundamentals is a weather
20 normalized number.

21 We don't predict future recessions. We
22 don't predict for future cold spells or warm spells.
23 It's all warm normalized, and -- so there's quite a
24 difference when you -- when you look at what's
25 happening nearby and really the fundamentals of -- of

1 natural gas, for instance.

2 Q You're aware that a lot of analysts
3 think that there is a fundamental change in the
4 natural gas industry because of the shale technology,
5 the fracking technology? At least a lot of experts
6 believe that, don't you agree?

7 A Without a -- without a doubt.

8 Q And one -- one reason they cite that --
9 that the gas prices are so low is that the liquids
10 that they get off the -- the wet shale gas has a
11 higher ma -- market value than -- than the gas itself,
12 than -- than the dry gas?

13 A I'd agree. Let me expand. Certainly
14 that differential between oil prices or liquids,
15 butane, ethane, and others --

16 Q Right.

17 A -- it -- it has been driving a lot of
18 expiration in the liquids-rich place. In Ohio it'd be
19 the Utica. In -- in Pennsylvania and somewhat Ohio,
20 the Marcellas. The Bakken shale in North Dakota, and
21 certainly the Eagle Ford shale. Yes, gas gets
22 produced long with that. Matter of fact, they call it
23 residue gas, associated gas in oil -- in oil
24 production.

25 So -- so the -- there is attraction to

1 that economically without a question. As a matter of
2 fact, what has happened is that drilling in the Mar --
3 dry gas only drilling in the Marcellas, some 7,000
4 feet, or worse yet the Hanesville shale, some 16,000
5 feet, ha -- has really, really slowed down. So -- so
6 there -- there is quite a -- you know, quite a shift
7 away from dry gas production and more towards those
8 liquids plays.

9 Q AEP has an unregulated generation
10 subsidiary, does it -- does it not?

11 A I'm not aware of one at this particular
12 point.

13 Q AEP, Genco, AEP Generation?

14 A I'm just not familiar with that
15 particular company.

16 Q Do you know if AEP unregulated is
17 investing in coal units or gas units?

18 A I don't. I'm sorry. I just don't know.

19 Q Okay. On a -- on an as-needed basis, do
20 you think the -- the -- the -- this -- this \$940
21 million scrubber decision would be a good enough
22 reason for an as-needed additional review by -- by
23 your group?

24 A I feel comfortable that if the
25 commission would like to see any new analysis, we

1 would work towards providing that. It is a very
2 exhaustive process. It takes quite a while to do that
3 and should probably only be done when some -- there's
4 been a major shift in the fundamentals.

5 So identifying some major shift, some
6 new regulations, some change in the fundamentals long
7 term, don't be confused with nearby prices, we'd
8 certainly be helpful.

9 Q But certainly, as you indicated, that
10 you could lock in these prices in the -- in the
11 future's markets if -- if anybody wanted to?

12 A They are willing to get past the notion
13 that they're hedging, and they could end up with a
14 decision that yields them a higher power price than
15 they would have unless they -- if they did not make
16 that hedging decision, if they can be comfortable with
17 making that potential mistake or if they look at that
18 as a mistake, they can do that.

19 Q Well, but if -- if -- if the decision
20 was to build a combined cycle plant, and you could
21 lock in these low gas price, wouldn't that be a good
22 thing? 'Cause you would then guarantee it's cheaper
23 than the scrubber?

24 A My personal opinion is I'd hate to
25 handcuff those ratepayers with a fixed price in a

1 market that you don't know exactly where it's going to
2 go, and they may wake up one day and be in a position
3 to where they have prices that are above everybody
4 else's. It wasn't that long ago when we were looking
5 at LNG Imports setting the gas price. Boy, that would
6 have really hurt if you locked in there.

7 Q I agree the gas market is definitely
8 ephemeral. It's definitely subject to change. But if
9 you could lock in these gas prices now, you would --
10 you could guarantee the price the -- the generation
11 would be cheaper from the combined cycle than -- than
12 the scrubber unit.

13 A I hope I made it clear that you have to
14 get past a very big hurdle, a very big regulatory
15 hurdle, and I need -- need -- would need to be pointed
16 to places where this has been acceptable, and that's a
17 whole notion of hedging.

18 MR. KURTZ: Okay. Thank you, Mr.
19 Chairman.

20 COMMISSIONER ARMSTRONG: Miss Burns.

21 MS. BURNS: Just a few.

22
23 * * *

CROSS-EXAMINATION

1
2
3 By Ms. Burns:

4
5 Q Has AEP contracted any sellers about
6 long-term contracts for natural gas?

7 A I don't have firsthand knowledge, but --
8 but I -- anecdotally, I believe we have. We've --
9 we've -- we've -- we've looked for indicative offers,
10 yes.

11 Q What are the implications on the Big
12 Sandy plant of EPA's proposed new source performance
13 standards for carbon dioxide?

14 A Well, a simple calculation would say
15 that in the year 2022, they would be paying an \$81
16 million penalty because of that at \$15 a metric ton,
17 which is hardly a token value.

18 Q What's the likelihood that if Big Sandy
19 unit 2 is idled, it would fall under the proposed new
20 source performance standards?

21 A I'm just not in a position to answer
22 that. I'm sorry.

23 Q Do you know if -- if a decision to idle
24 Big Sandy unit number 2 is essentially a decision to
25 retire it?

1 A Please say that one more time.

2 Q Is a decision to idle Big Sandy unit
3 number 2 essentially a decision to retire the unit?

4 A I just can't answer that.

5 Q That's fine. What's the likely impact
6 on coal-mining operations in eastern Kentucky of the
7 new environmental regulations?

8 A I'm so sorry. I can't answer that.

9 Q Okay.

10 A I just don't know.

11 Q Do you know if the retrofit of Big Sandy
12 unit 2 is approved, if Kentucky Power's purchases of
13 coal mined in eastern Kentucky will likely increase or
14 decrease?

15 A I have no firsthand knowledge of that.

16 MS. BURNS: That's fine. That's all.

17

18 * * *

19

20

EXAMINATION

21

22 By Commissioner Gardner:

23

24 Q Did -- did I hear you say that the last
25 time that you-all looked at the fundamentals that went

1 into the modelings in September of 2011?

2 A September, October, that's correct, for
3 the preparation of these filings.

4 Q Okay. Is there anything -- can you
5 point me in the record what changes occurred in the
6 fundamentals with that examination in September 2011?

7 A From a previous forecast?

8 Q Yes, sir.

9 A I can't point you to anything in the
10 record, but --

11 Q What --

12 A -- anec -- anecdotally I can say that
13 there was such a -- there was concern about how these
14 haps MATS rules work out. CSAPR was -- was very
15 important at that particular time. We're waiting to
16 understand how that would all work out and how that
17 would affect, really, the -- the retirement of maybe
18 300 gigawatts of -- of coal, and that -- that has
19 quite a considerable effect on the in -- input
20 commodity.

21 So, anecdotally, there is quite a
22 difference because of the change in -- in -- in -- in
23 legislation, regulations, I should say, from the prior
24 forecast.

25 Q Can -- can you explain to me that there

1 doesn't appear to be a relationship between the public
2 statements of AEP's position with respect to Big Sandy
3 2 and whether it's going to retrofit it or not or go
4 to gas or not, and what your all's modeling and the
5 change -- I mean, you said in September it changed. I
6 mean, is that what drove some of the decisions back in
7 June versus November? Can you help explain those --

8 A Yes.

9 Q -- differences?

10 A Yes, I can. First I'd like to say --
11 say that I can't address those que -- that question
12 specifically, because what -- what we do, this is --

13 Q You said --

14 A -- fundamentals --

15 Q -- you can or cannot?

16 A I cannot, but I'd like to qualify that.
17 What we do of this fundamentals analysis is we really
18 paint the North American backdrop. These are the
19 power prices in different regions. Eastern
20 Interconnect, ERCOT, of course, SVB, and the west.
21 All the input commodities, all the -- all those
22 locational values of natural gas, retirements, new
23 builds, and on and on. That specific modeling that --
24 that would yield the information you're in -- you're
25 interested in is really what the downstream customers

1 of ours use, which would be strategists and other --
2 other -- other -- other analysis that goes on in the
3 Company.

4 COMMISSIONER GARDNER: Okay.

5 MR. OVERSTREET: No redirect, Your
6 Honor.

7 COMMISSIONER ARMSTRONG: Thank you, sir.

8 A Thank you.

9 COMMISSIONER ARMSTRONG: It's the
10 witching time. We will start at 9:30 tomorrow.

11 MR. OVERSTREET: 9:30 tomorrow morning.
12 Yes, sir.

13 MR. GARCIA: Yes, sir.

14 MR. OVERSTREET: Thank you.

15

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25

1 STATE OF KENTUCKY)
)
 2) SS.
)
 3 COUNTY OF JEFFERSON)

4 We, Laura J. Kogut and Rebecca S. Boyd,
 5 Notaries Public within and for the State at Large,
 6 commissions as such expiring 25 July 2015 and 5
 7 September 14 respectively, do hereby certify that the
 8 foregoing hearing was taken at the time and place
 9 stated and for the purpose in the caption stated; that
 10 witnesses were first duly sworn to tell the truth, the
 11 whole truth, and nothing but the truth; that the
 12 hearing was reduced to shorthand writing in the
 13 presence of the witnesses; that the foregoing is a
 14 full, true, and correct transcript of the hearing;
 15 that the appearances were as stated in the caption.

16 WITNESS my hand this 4th day of May
 17 2012.

18
 19 
 20 _____
 21 Registered Merit Reporter
 22 Certified Realtime Reporter
 23 KY CCR 20042BF060
 24 Notary Public, State at Large

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