

BEFORE THE PUBLIC UTILITIES COMMISSION OF OHIO

- - -

In the Matter of the Application :
Seeking Approval of Ohio Power :
Company's Proposal to Enter into : Case No.
an Affiliate Power Purchase : 14-1693-EL-RDR
Agreement for Inclusion in the :
Power Purchase Agreement Rider :

In the Matter of the Application :
of Ohio Power Company for : Case No.
Approval of Certain Accounting : 14-1694-EL-AAM
Authority :

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DEPOSITION

of John M. McManus, taken before me, Valerie J.
Sloas, Registered Professional Reporter and a Notary
Public in and for the State of Ohio, at the offices
of American Electric Power, 1 Riverside Plaza, 29th
Floor Conference Room, Columbus, Ohio, on Thursday,
September 17, 2015, at 9:11 a.m.

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On behalf of the Staff of the PUCO.

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Thursday Morning Session,

September 17, 2015.

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JOHN M. McMANUS,

being by me first duly sworn, as hereinafter

certified, deposes and says as follows:

CROSS-EXAMINATION

BY MS. WILLIAMS:

Q. Good morning.

A. Good morning.

Q. How are you today?

A. I'm doing fine.

Q. Great. Can you please state your name
for the record.

A. John M. McManus.

Q. And what is your business address?

A. 1 Riverside Plaza, Columbus, Ohio.

Q. And who are you employed by?

A. American Electric Power Service
Corporation.

Q. And do you typically provide services to
AEP Ohio or any other regulated utility in your
position?

A. Yes.

1 Q. To AEP Ohio?

2 A. Yes.

3 Q. Okay. Who do you report to?

4 A. I report to Mark McCullough.

5 Q. And what's his title?

6 A. Executive Vice President of Generation.

7 Q. Have you ever visited any of the
8 coal-fired power plants at issue in this proceeding?

9 A. Yes, I have.

10 Q. Which ones? All of them?

11 A. All of them.

12 Q. Have you ever been deposed before?

13 A. Yes.

14 Q. Have you ever been cross-examined at a
15 hearing?

16 A. Yes.

17 Q. Which one?

18 A. Numerous ones over the years.

19 Q. Okay. How about here in Ohio, numerous?

20 A. More than once before the PUCO.

21 Q. Do you recall the most recent hearing
22 before the --

23 A. No.

24 Q. Have you ever --

1 MR. DARR: Excuse me. I'm sorry,
2 Laurie. Could you move the microphone a little
3 closer to Mr. McManus?

4 (Discussion off the record.)

5 MS. WILLIAMS: So I just asked Mr.
6 McManus if he's ever visited any of the power plants
7 at issue and then asked whether he'd been deposed
8 before and cross-examined at a hearing, and I was
9 just asking --

10 Q. Have you ever submitted written
11 testimony in a court proceeding before?

12 A. In a court proceeding?

13 Q. Yes.

14 A. No.

15 Q. No. Okay. Have you ever submitted
16 written testimony in a Public Utilities Commission
17 proceeding?

18 A. Yes.

19 Q. And do you recall the most recent case
20 in which you've done so?

21 A. I don't recall the year. It was in
22 Texas -- well, let me restate that. It was within
23 the last year or two, and it was probably in
24 Virginia.

1 Q. Okay. So you have your Bachelor's in
2 Environmental Engineering; is that right?

3 A. That's correct.

4 Q. In what year?

5 A. 1976.

6 Q. Did any of your education involve
7 coal-fired power plants?

8 A. I believe there was one course related
9 to power generation in general.

10 Q. Did any of it involve pollution
11 controls?

12 A. Yes.

13 Q. Okay. How about environmental
14 compliance?

15 A. Yes.

16 Q. Do you have any other degrees?

17 A. No.

18 Q. Okay. How about other licenses or
19 certifications?

20 A. I have a Professional Engineer's license
21 in Ohio.

22 Q. Any others?

23 A. No.

24 Q. Okay. Are you familiar with the

1 proposed agreement under which AEP Ohio would enter
2 into a Power Purchase Agreement with AEP Generation
3 Resources for the output of several of its generating
4 units?

5 A. In a general sense, yes.

6 Q. And are you familiar with the proposal
7 to include the Purchase Power Agreement in a PPA
8 Rider?

9 A. In a general sense, yes.

10 Q. Okay. If I refer to the proposed
11 agreement as the "proposed transaction," will you
12 understand what I mean?

13 A. Yes.

14 Q. When did you first hear about the
15 proposed transaction?

16 A. I don't recall.

17 Q. Okay. And what role did you play in
18 developing the proposed transaction?

19 A. I did not have a role.

20 Q. What is your understanding of the
21 proposed length of the PPA?

22 A. I'm not sure.

23 Q. Okay. Are you aware --

24 MR. SATTERWHITE: Who joined?

1 MR. MARGARD: Sorry. Vern Margard.

2 Q. Are you aware that the life of the PPA
3 extends through the life of the power plants?

4 A. That's my understanding.

5 Q. Okay. And are you familiar with the
6 expected life of the units at issue in this
7 proceeding?

8 A. In a general sense.

9 Q. Okay.

10 A. Yeah.

11 Q. So not telling me an exact year, but --

12 A. Correct.

13 Q. -- maybe a decade?

14 A. Correct.

15 Q. Okay. When did you start working on
16 your testimony?

17 A. I don't recall exactly. Within the last
18 year.

19 Q. Okay. And I believe your testimony is
20 dated May, so does around -- you know, is it a month
21 before or two months before?

22 A. It would be more than a month before.

23 Q. Okay. And did you personally draft your
24 testimony?

1 A. I oversaw the preparation of the
2 testimony.

3 Q. Okay. So you did not personally draft
4 it?

5 A. I did not do the original draft.

6 Q. Okay. Who did?

7 A. Our Regulatory Services organization
8 helps provide support in development of testimony.

9 Q. Okay. And who there?

10 A. Most likely Brian Rupp.

11 Q. And did you work with anyone in
12 developing any of the underlying analyses in your
13 testimony, if any?

14 A. If you could clarify what you mean by
15 "analyses."

16 Q. Just any -- anything you relied upon to
17 generate the statements in your testimony.

18 A. I would have worked with people in my
19 department as it relates to understanding the various
20 EPA regulations that are discussed in the testimony.

21 Q. Okay. Like who?

22 A. The manager of our Air Quality section,
23 John Hendricks.

24 Q. What is his name?

1 A. John Hendricks.

2 Q. All right. The generating assets for
3 which AEP is responsible that are the subject of the
4 agreement are Cardinal 1, Conesville 4 through 6,
5 Stuart 1 through 4, and Zimmer 1, is that correct,
6 leaving out the OVEC Units?

7 A. That's correct.

8 Q. And if I refer to these as the
9 Affiliated PPA Units, will you understand what I
10 mean?

11 A. Yes.

12 Q. And the OVEC Units that are subjects of
13 the agreement are Clifty Creek and Kyger Creek;
14 correct?

15 A. Yes.

16 Q. Okay. And can I collectively refer to
17 all of the units as the PPA Units?

18 A. Yes.

19 Q. What is your title?

20 A. Vice President Environmental Services.

21 Q. For which group?

22 A. American Electric Power Service
23 Corporation.

24 Q. Okay. And you are responsible for

1 providing environmental compliance support for AEP's
2 operating companies; is that correct?

3 A. That's correct.

4 Q. And your group, going on Page 2 of your
5 testimony, interprets "the requirements of existing
6 and proposed environmental rules and regulations"; is
7 that correct?

8 A. That is correct.

9 Q. Okay. Can you walk me through your
10 process for interpreting environmental rules?

11 A. When an environmental regulation is
12 proposed or finalized, and it could be at a state
13 level or a federal level, my department reviews that
14 regulation to try to understand the potential impacts
15 on our operating facilities.

16 Q. Okay. Can you be a little more
17 specific? What do you do to decide whether there's a
18 compliance obligation at a particular facility?

19 A. We read the regulation, understand what
20 it applies to. If it's applicable to our operations,
21 then we, you know, read further to understand what
22 the requirements may be, and we communicate that.

23 Q. Okay. When do you begin examining what
24 compliance obligations might be? You said once you

1 have a draft or final rule. Is there any point
2 before that when you might start trying to figure out
3 what your compliance obligations are?

4 A. It will depend on the process. If a
5 particular agency uses sort of a public process to
6 develop a proposed regulation, we might participate
7 in that process to, again, to understand what
8 direction the agency is going in. When they propose
9 a regulation, we will review that to see the specific
10 proposed requirements, and then when there's a final
11 regulation, we'll review that to see what the final
12 requirements are.

13 Q. Okay. And when you talk about your role
14 in interpreting the requirements, I'm wondering what
15 level of engagement you have. So would you be
16 involved in determining what technologies are
17 required to comply with the rule?

18 A. Most likely not.

19 Q. Okay. Who would be responsible for
20 that?

21 A. Our Engineering organization.

22 Q. That's an Engineering and Projects
23 organization?

24 A. Engineering Department.

1 Q. Separate from Projects?

2 A. Yes.

3 Q. Okay. And who is in charge of that?

4 A. Tim Riordan.

5 Q. Okay. Would you be involved in
6 determining what emissions limits would be required
7 to meet an air standard, if it were an air standard?

8 A. We could be involved in that.
9 Oftentimes the regulations specify the limits.

10 Q. How about, say, for the one-hour SO₂
11 standard, would you be involved in setting -- or
12 figuring out which emissions limits would be needed
13 to comply with that standard?

14 A. We would be involved in the process.
15 For the one-hour SO₂ standard, the state agency that,
16 you know, is applicable in whichever state ultimately
17 determines those limits.

18 Q. Would any air emissions modeling that
19 AEP might do occur in your group?

20 A. Yes.

21 Q. Okay. So that would be under your
22 direction?

23 A. Yes.

24 Q. Okay. What about reviewing air

1 monitoring data?

2 A. That would be under my direction as
3 well.

4 Q. Is part of your responsibility
5 understanding generally which pollution controls are
6 capable of producing which pollutants?

7 A. In general, yes.

8 Q. What is your role in developing
9 compliance cost estimates?

10 A. We do not develop costs in my
11 department.

12 Q. Okay. Who develops costs?

13 A. Generally, that's the Projects
14 organization.

15 Q. Would you review costs that are
16 developed by the Projects group?

17 A. We would be familiar with the costs.

18 Q. What does "familiar with the costs"
19 mean?

20 A. That -- the process that we use involves
21 my department reviewing and communicating the
22 environmental requirements, engineering identifying
23 technologies, and to some extent they may be involved
24 in that initial cost evaluation, Projects taking that

1 information, laying out a schedule, and developing
2 more robust cost estimates. So as part of that
3 process we're familiar with the costs that they
4 develop.

5 Q. Got it. So you might have an
6 understanding of how Projects or Engineering are
7 developing those costs?

8 A. Yes.

9 Q. And costs can include both capital costs
10 and variable O&M costs; right?

11 A. Yes.

12 Q. And do you all, all these groups,
13 communicate these engineering technology requirements
14 and cost estimates to each other in writing?

15 A. Sometimes it may be in writing.

16 Q. Okay. So that explanation you were
17 giving was helpful. So it's the Engineering group
18 that would develop, say, a list of technologies that
19 could comply, and then Projects would -- would
20 Projects kind of narrow down on which technology to
21 use or would you have a role in selecting the best
22 compliance method?

23 A. We're involved in the process, but,
24 again, we don't make the technology selection in my

1 department.

2 Q. All right. Who does make that
3 selection?

4 A. It's a combination of Engineering and
5 Projects looking at the cost of different
6 technologies, capabilities of those technologies,
7 ultimately trying to develop, you know, the most
8 cost-effective approach to meeting a compliance
9 requirement.

10 Q. Okay. And you also provide
11 environmental compliance reports to Ohio Valley
12 Electric Corporation; is that right?

13 A. On an as-needed basis.

14 Q. Yeah, that was one of my questions.
15 What does as-needed basis mean?

16 A. Ohio Valley Electric Corporation has its
17 own Environmental Department, so we communicate with
18 the environmental staff, and to the extent that we
19 can provide either compliance support, regulatory
20 interpretation support to their staff, we may be
21 called on to do that.

22 Q. So you kind of work with their
23 environmental group sometimes?

24 A. Yes.

1 Q. Okay. So in deciding what might be
2 needed to be done to comply with environmental
3 regulations at the OVEC Units, do you have any
4 decisional authority?

5 A. No.

6 Q. Who makes decisions for OVEC Units?

7 A. The management of OVEC.

8 Q. All right. Would you make
9 recommendations as to what is required to comply with
10 those units -- for those units?

11 A. And by "what is required," you mean --

12 Q. Required to comply with environmental
13 regulations.

14 A. Do you mean specific technologies or do
15 you mean interpretation of regulations?

16 Q. Interpretation of regulations.

17 A. We provide at times our interpretation
18 of what a regulation may require, similar to what we
19 do for AEP facilities.

20 Q. Okay. So the purpose of your testimony
21 is to discuss environmental regulations likely to
22 affect the PPA Units; is that right?

23 A. That's correct.

24 Q. And to describe the ability of the units

1 to comply with those regulations; is that right?

2 A. Not entirely.

3 Q. Okay. Can you go to your testimony at
4 Page 3?

5 (Discussion off the record.)

6 Q. This says, "Describe the ability" -- or
7 Line 2 says, "Describe the ability of the generating
8 units to comply with these environmental
9 regulations"; right?

10 A. Yes, it does.

11 Q. Okay. So did you want to change that or
12 do you disagree with that statement?

13 A. No. I agree with that statement as --
14 in the written testimony.

15 Q. Okay. And this goes to Factor 3 as set
16 by the Commission; right?

17 A. Yes.

18 Q. Okay. We covered a couple of these
19 questions already. On Page 4 of your testimony you
20 describe, "Existing and proposed environmental
21 regulations that are anticipated to affect the PPA
22 Rider Units in the coming years"; correct?

23 A. Is there a specific line you're
24 referring to?

1 Q. It is -- it's the actual question, 14
2 through 16.

3 A. Yes. So your question again is?

4 Q. I was just asking you to confirm that
5 you are describing the "existing and proposed
6 environmental regulations that are anticipated to
7 affect the PPA Rider Units in the coming years";
8 right?

9 A. Yes.

10 Q. Okay. What do you mean by "in the
11 coming years"? How far out does your analysis go?

12 A. You would typically look at regulatory
13 programs that are in an inactive stage, so it may be
14 a regulation that has been finalized. It may be a
15 regulation that has been finalized but may still be
16 in litigation, so there's uncertainty over the
17 ultimate requirements. It may be a regulation that's
18 in the proposal stage, and it may even include
19 regulations that we understand either a state or
20 federal agency is considering, that there's enough
21 information to actually start, you know, thinking
22 about what the implications may be; so time frame can
23 vary.

24 Q. Okay. Do you know, does your assessment

1 of environmental compliance obligations at the units
2 for purposes of this proceeding encompass the
3 expected life of the PPA Units? In other words, is
4 it all of the environmental compliance obligations
5 you would expect to come into effect and have
6 obligations at these PPA Units during their lifetime?

7 A. It would include all obligations that we
8 have some information on that may affect these units,
9 but we can't speculate on ultimate requirements that
10 have not been proposed yet, discussed yet, identified
11 yet.

12 Q. Okay. Then you say that the rules that
13 are foreseeable, on the bottom of Page 4 to Page 5,
14 include the Mercury Air Toxics Rule, or MATS,
15 M-A-T-S, the Cross-State Air Pollution Rule, or
16 CSAPR, the Coal Combustion Residuals Rule, or CCR
17 Rule, the 316(b) Rule, and the Effluent Limitations
18 Guidelines, or ELG Rule, and the Clean Power Plan;
19 right?

20 A. That's correct.

21 Q. Are there any other environmental rules
22 that you believe are foreseeable in coming years?

23 A. There are Ambient Air Quality Standards
24 rulemakings that EPA either is engaged on or could --

1 could move on that have the potential of ultimately
2 having an impact on those units.

3 Q. Can you describe those rules?

4 A. One would be the Ozone Ambient Air
5 Quality Standard rulemaking.

6 Q. Okay. Any others?

7 A. The One-Hour SO₂ Air Quality Standard.
8 It hasn't been finalized. It's in the implementation
9 phase.

10 Q. Okay. Any others?

11 A. No.

12 Q. So the Ozone NAAQS and the One-Hour SO₂
13 NAAQS, are those rules that might impose additional
14 compliance obligations on the PPA Units?

15 A. They might.

16 Q. Okay. I'd like to refer you to the
17 testimony of your colleague, Mr. Thomas. Do you have
18 that with you?

19 A. Yes.

20 Q. All right. On Page 10 of his testimony,
21 Lines 17 through 19 -- or if you want to just go
22 ahead and review that Q and A on Page 10 for a
23 second, and just let me know once you've had a chance
24 to read it.

1 A. Okay.

2 Q. On Lines 17 through 20 he says, "Also,
3 we have a relatively good picture of what the market
4 will look like three years out in terms of known
5 environmental regulations and likely plant
6 retirements both internal and external to our
7 Company." Would you agree with that statement, at
8 least with respect to the environmental regulations?

9 A. As it relates to the environmental
10 regulations, I would agree we have a relatively good
11 ability to understand what those regulations will
12 look like out to the next three years. There's still
13 some uncertainty. They're not all final.

14 Q. Okay. How about ten years out? Do you
15 believe you have a good picture of what environmental
16 regulatory compliance obligations will be?

17 A. I would say that ten years is pushing
18 beyond somewhat the ability to have a good
19 understanding of what the requirements will be.

20 Q. And what about through the life of the
21 proposed PPAs, so let's say to 2050?

22 A. Yeah. There's no way to anticipate that
23 far out.

24 Q. Okay. Do you think the regulations

1 you've discussed above, so MATS, CSAPR, CCR, 316(b),
2 ELG, Clean Power Plan, Ozone NAAQS, One-Hour SO2
3 NAAQS, do you think that those will be the only
4 environmental regulations that will impose compliance
5 costs on the PPA Units during their life?

6 A. No.

7 Q. And would you agree that the trend in
8 environmental regulation of coal generation is
9 increased stringency rather than decrease stringency?

10 MR. SATTERWHITE: Objection. Go ahead.

11 MS. WILLIAMS: What's your objection?

12 MR. SATTERWHITE: The assumption on the
13 trend.

14 MS. WILLIAMS: Sorry, I don't
15 understand.

16 MR. SATTERWHITE: The form of the
17 question you asked.

18 MS. WILLIAMS: Okay.

19 BY MS. WILLIAMS:

20 Q. Do you think that there are -- let me
21 just try to rephrase my question, then.

22 Do you think that there is a trend that
23 environmental regulations are becoming more stringent
24 on coal-fired generation?

1 A. I think over time that's the case.

2 Q. And do you think it is likely that
3 environmental regulation of coal-fired generation
4 will continue to become more stringent?

5 A. I really can't say on that.

6 Q. Would you -- do you have a role in
7 recommending what -- sorry. I'm trying to think of
8 how to frame my question. Do you have a role in
9 making recommendations to the Company as to which
10 environmental compliance actions it should undertake?

11 A. I would say I have a role, yes.

12 Q. And do you make recommendations to the
13 Company as to what actions it should take?

14 A. I described the process we're involved
15 in, identifying requirements and involved in a
16 process that in turn identifies compliance options,
17 costs, ultimately leads to compliance decisions; so
18 we have a role in the process.

19 Q. Okay. I'd like to refer you back to Mr.
20 Thomas' testimony, Page 6 and 7, and that that's Q
21 and A at the bottom going over to Page 7. Could you
22 just read that?

23 A. Starting on Line 17 --

24 Q. Yes.

1 A. -- is that what you're referring to?

2 Q. Yes.

3 A. The question is, "Do you anticipate that
4 the Affiliated PPA Units will be compliant with
5 environmental regulations described in the testimony
6 of AEP Ohio witness McManus in this proceeding?" The
7 answer: "Yes. For the regulations described by
8 witness McManus, the Affiliated PPA Units are either
9 already equipped for the environmental controls
10 necessary to comply with those rules, or AEPGR has
11 included budgetary estimates for future reasonably
12 anticipated environmental compliance projects in its
13 financial analyses."

14 Q. Thank you. Sorry, I didn't mean to ask
15 you to read it aloud.

16 A. I apologize.

17 Q. No problem. Are you familiar with the
18 budgetary estimates referenced by Mr. Thomas?

19 A. Yes.

20 Q. Okay. And did you help in deciding
21 which costs to include in the budgetary estimates?

22 A. Again, as part of the process I
23 described before of identifying requirements,
24 Engineering identifying technologies, Projects

1 developing costs, I'm familiar with them as being
2 part of that process.

3 Q. Do you have any role in reviewing those
4 cost estimates for accuracy?

5 A. No.

6 Q. How about even just as a high level
7 whether they seem reasonable?

8 A. We don't have a role in making that
9 determination.

10 Q. Okay. So when Mr. Thomas was talking
11 the other day at his deposition, he said something
12 along the lines of that his group developed the costs
13 with the support of AEP's support company. So what
14 you're describing there is kind of your supporting
15 role?

16 A. Yes.

17 Q. Okay. And did you work with Mr. -- or
18 Dr. Pearce on the PLEXOS production cost modeling at
19 all?

20 A. No.

21 Q. Are you familiar with that modeling?

22 A. In a very general sense, yes.

23 Q. Did you review any of the inputs into
24 that modeling from the environmental compliance side?

1 A. No.

2 Q. Do you know whether O&M costs were
3 included in the budgetary estimates for environmental
4 compliance costs?

5 A. I don't know for certain. Dr. Pearce
6 would be the appropriate witness for that.

7 Q. And do you know whether these budgetary
8 estimates that Mr. Thomas was talking about included
9 environmental compliance costs for the entire PPA
10 period?

11 A. I don't know.

12 Q. Okay. Do you know how far out the
13 estimates do go?

14 A. I do not.

15 Q. Okay. On Page 8 of your testimony,
16 which I have located my copy, you state that, "The
17 CCR Rule could lead to converting 'wet' ash disposal
18 systems to 'dry' ash handling and disposal, the
19 relining or closing of any ash ponds that exceed
20 groundwater...standards" -- "and construction of
21 additional wastewater treatment facilities"; is that
22 right?

23 A. Yes.

24 Q. Okay. I would like to give you

1 Interrogatory response to Sierra Club Data Request
2 6-157, which we just got last night, I believe, so,
3 I'm sorry, we only have the one copy. Would you like
4 to take a minute to review that?

5 MS. BLAIR: May I ask, what was it
6 Sierra Club Interrogatory 6 dash what?

7 MS. WILLIAMS: 157.

8 MS. BLAIR: Thank you.

9 MS. WILLIAMS: You're welcome.

10 (Discussion held off the record.)

11 (EXHIBIT 1 MARKED FOR IDENTIFICATION.)

12 A. Okay.

13 Q. Okay. So going back to your statement
14 in your testimony regarding conversion to dry ash
15 handling and disposal systems --

16 MR. SATTERWHITE: What page was that?

17 MS. WILLIAMS: It was on Page 8, Lines 6
18 through 9.

19 Q. Did you include those potential
20 conversion costs and -- or did the Company include
21 conversion costs and those possible conversion
22 projects in the budgetary estimate?

23 A. It's my understanding that they were
24 included.

1 Q. Okay. How about relining any of the ash
2 ponds that exceed the groundwater standards?

3 A. To qualify my previous answer for this,
4 it's site specific as to what may or may not have
5 been included.

6 Q. Okay. Can you explain that?

7 A. Some units already have dry fly ash
8 handling --

9 Q. Sure.

10 A. -- and they would not need to be
11 converted.

12 Q. Sure, sure, sure.

13 A. Some units may not see an ash pond
14 reline. Others might. So it's unit specific, site
15 specific as to what might have been included.

16 Q. Absolutely. But would you agree that
17 the Company has finished analyzing which of the sites
18 will need conversion to dry ash handling under the
19 rule?

20 A. No.

21 Q. Okay. So they're still determining
22 which will require conversion?

23 A. We're still determining what the
24 ultimate requirements will be under the CCR Rule.

1 It's not actually gone into effect yet, and there's
2 certain analyses that need to be completed that
3 ultimately will determine what is required.

4 Q. And those analyses have not been
5 finished yet?

6 A. They have not been finished yet.

7 Q. When do you anticipate that they will be
8 finished?

9 A. There's deadlines within the rule by
10 which they need to be completed. I don't recall off
11 the top of my head the exact deadlines, but we will
12 complete them within the -- the required time frame.

13 Q. So were all possible conversion costs to
14 dry ash handling included in the budgetary estimates,
15 even if you don't know yet whether it will be
16 required -- or how did you decide which conversion
17 projects to include in the budgetary estimates?

18 A. The process that we use, and, again,
19 trying to look ahead a little bit, is -- even when we
20 had a proposed CCR Rule, looking at what ultimately
21 may be required in trying to -- to come up with what
22 would be a reasonable approach unit by unit, plant by
23 plant, and coming up with initial cost estimates.
24 Again, that's the process with environmental

1 engineering projects working together to include --
2 so is it all possible requirements or options, I'm
3 not going to say all possible, because there may be
4 other options, but it's trying to apply our judgment
5 as to what might be a reasonable outcome and then
6 making sure we include something for these rules that
7 are still, you know, in a proposal stage in
8 particular.

9 Q. Understood. So could you -- I'm trying
10 to remember off the top of my head, but do you recall
11 any off the top of your head that currently do wet
12 ash disposal in the units? Just name one.

13 A. It's listed in the response that you
14 handed me.

15 Q. So let's say Cardinal Unit 1. Is that a
16 wet ash disposal unit?

17 A. Yes.

18 Q. Okay. So for Cardinal Unit 1, even
19 though you're not certain yet what the requirements
20 might be in terms of converting to dry ash handling,
21 you would just include a reasonable estimate for what
22 you think might be required to comply with the rule;
23 is that right?

24 A. It's my understanding there is an

1 estimate for converting Cardinal Unit 1 to dry fly
2 ash handling, yes.

3 Q. Okay. So do you know which of the
4 surface impoundments at these facilities are lined?

5 A. No.

6 Q. You don't? Okay. And is figuring out
7 whether the impoundments have any sort of liner part
8 of what you would need to do to comply with the CCR
9 Rule?

10 A. That's -- part of the analysis is to
11 determine whether there is an existing liner that
12 meets the definition within the CCR Rule, so that's
13 part of the analysis that is underway.

14 Q. Okay. So it's possible that some of the
15 ash ponds, as you say in your testimony, might need
16 to be relined?

17 A. It's possible.

18 Q. Do you know which of them might need to
19 be relined yet?

20 A. No. We're still undertaking the
21 analyses.

22 Q. Okay. And are those possible reliner
23 costs included in budgetary estimates?

24 A. Again, it's site specific, but I believe

1 there are some ash pond relining costs included in
2 the estimates.

3 Q. Okay. But you don't know yet what the
4 actual costs will be; right?

5 A. Correct.

6 Q. Okay. So in your testimony you say, at
7 Lines 14 through 16, "Analysis is currently underway
8 to determine the necessary modifications to the PPA
9 Rider Units' surface impoundments," and is that the
10 analysis you said that you were aiming to meet by
11 those regulatory deadlines?

12 A. Yes.

13 Q. Okay. So none of that analysis is
14 complete yet; right?

15 A. That's correct.

16 Q. Okay. And you say that conversion to
17 dry ash handling enclosure of existing ash ponds may
18 be required at Kyger Creek, Stuart, and Cardinal 1;
19 is that correct?

20 A. Could you repeat that?

21 Q. Yes. And let me see if I can give you a
22 page number. Page 8, Lines 10 through 13. This says
23 that Kyger Creek, Stuart, and Cardinal 1 use wet ash
24 handling systems, and conversion to dry ash handling

1 and closure of existing ponds may be required; right?

2 A. That's what it says, yes.

3 Q. Okay. And you have -- have you included
4 those potential budgetary costs in the budgetary
5 estimates that Mr. Thomas refers to?

6 A. I believe they've been included, but I'd
7 have to see the complete list of what costs were
8 included.

9 Q. Okay.

10 MR. SATTERWHITE: Did someone just join?

11 (Discussion off the record.)

12 Q. I'd like to give you Sierra Club
13 Interrogatory 4-115.

14 (EXHIBITS 2 MARKED FOR DENTIFICATION.)

15 A. Okay.

16 Q. So this says that the costs that were
17 identified and factored into this proceeding are
18 provided in Sierra Club Interrogatory 2-45; is that
19 right?

20 A. Yes.

21 Q. Okay. That's all I wanted to confirm
22 there. And are those the budgetary -- do you know
23 whether those are the budgetary cost estimates that
24 Mr. Thomas is referring to?

1 A. It's my understanding that they are.

2 Q. Okay. So if analyses haven't been
3 completed to develop -- you know, to figure out
4 exactly what is going to be required to comply with
5 the CCR Rule, do you know how the costs were
6 developed, if not based on actual analyses at the
7 plants?

8 A. As I indicated before, the process that
9 we use when we have a proposed rule, we read the
10 rule. We try and understand what the requirements
11 ultimately might be, and we work with Engineering and
12 Projects to develop possible approaches,
13 technologies, develop costs for those, in order to --
14 again, looking ahead in order to have something as a
15 cost estimate in our forecasting. So do we know for
16 certain the requirements? No. We're still
17 conducting that analyses, but we try and make an
18 effort to look ahead and include what we think is a
19 reasonable approach and, you know, a reasonable cost
20 for, you know, looking ahead.

21 Q. Right, and I understand. I'm just
22 wondering what assumptions go into developing. You
23 know, if you come up with a final cost estimate for,
24 say, converting to dry ash handling, how is that

1 number developed? Is it -- did someone come up with
2 a spreadsheet and input cost assumptions based on,
3 you know, the engineer's best guess or how does --
4 how do they get to that final number?

5 A. Again, it's a process with Engineering
6 identifying technologies, approaches, Projects
7 looking at schedules and costs for those, putting
8 together estimates, and that's how we do it.

9 Q. Okay. And would that be something that
10 is done in writing?

11 A. I would guess there's communications on
12 that.

13 Q. Okay. So would there be something in
14 writing that might explain how a particular number,
15 cost estimate, was developed?

16 A. I don't know for sure.

17 Q. Okay. You talk about -- going back to
18 your testimony on Page 8, you say -- you were talking
19 about "the relining or closing of any ash ponds that
20 exceed groundwater quality standards or other
21 site-specific location criteria." Do you know
22 whether any of the ash ponds exceed groundwater
23 standards?

24 A. No. We're still in the process of doing

1 that analysis.

2 Q. You're doing groundwater monitoring
3 right now?

4 A. The -- the rule requires groundwater
5 monitoring network that meets a certain criteria, so
6 the first step will be to identify what that network
7 needs to look like, install the monitors, and start
8 to collect data; so we're still at a very early stage
9 of that process.

10 Q. Okay. So if there is groundwater
11 contamination, would it be correct to say you don't
12 yet know what the extent of it might be?

13 A. Yes. If there's contamination, we don't
14 know that because we're still identifying what
15 network needs to be installed.

16 Q. Right. Did you include any groundwater
17 remediation costs, anticipated compliance costs, in
18 the budgetary estimate?

19 A. I don't believe so.

20 Q. Do you know whether there are any O&M
21 costs associated with operating a dry ash disposal
22 site?

23 A. What do you mean by "ash disposal site"?

24 Q. Well, I'm just wondering if there are

1 any -- annual operating and maintenance costs
2 associated with handling dry ash.

3 A. There's operating and maintenance costs
4 with operating and maintaining any system; so, yes,
5 there would be.

6 Q. Okay. Is there, like, a dollar per ton
7 dry ash disposal cost?

8 A. I don't know.

9 Q. And did you or anyone that you know of
10 develop operating and maintenance costs associated
11 with compliance with the CCR Rule for this
12 proceeding?

13 A. I did not do it, and I don't know for
14 certain that it was done.

15 Q. Okay. I wanted to give you a copy of
16 AEP's rule -- or rule comments dated November 15,
17 2010, and they're titled: "Comments on the Proposed
18 CCR Rule by American Electric Power." You want to
19 take a quick minute to look at that?

20 MS. BLAIR: This was submitted to --

21 MS. WILLIAMS: They were submitted to
22 EPA.

23 A. It's a ten-page document. A quick
24 minute may not be sufficient.

1 Q. I'm only going to ask you about the
2 first page, if that helps you.

3 MR. SATTERWHITE: Read anything you need
4 to, though.

5 MS. WILLIAMS: Yes, absolutely.

6 A. Okay.

7 Q. That's your name on the signature block
8 there; right?

9 A. That's correct.

10 Q. Have you seen these comments before?

11 A. Yes.

12 Q. Did you develop these comments?

13 A. They were developed under my direction.

14 Q. Okay. So you reviewed them?

15 A. Yes.

16 Q. Okay. And did you review the cost
17 estimates in these comments?

18 A. At a high level, yes.

19 Q. And if you can read aloud the sentence
20 in the middle of the first big paragraph on Page 1.
21 It starts with, "Looking at AEP alone, the fully
22 loaded compliance cost" --

23 A. "Looking at AEP alone, the fully loaded
24 compliance cost for the AEP operated coal-fired power

1 plants that would continue to operate after 2017 has
2 been estimated (a prescreening analysis) by AEP
3 engineers at \$3.9 billion."

4 Q. And do you know if that cost estimate
5 was also done on a per-site basis?

6 A. I believe it would have been done on a
7 per-site basis to come up with an aggregate cost at a
8 rough level based on the proposed regulation.

9 MS. WILLIAMS: Would it be possible to
10 provide that analysis to us?

11 MR. SATTERWHITE: We'll take a look and
12 see what -- see what we have.

13 MS. WILLIAMS: Okay. Thanks.

14 Q. And then down -- down at the bottom, it
15 talks about calculations for compliance costs that
16 will be paid by customers. Do you see that?

17 A. Yes.

18 Q. Okay. And it says, "Calculations showed
19 that the incremental rate increases associated with
20 complying with CCR regulations under the proposed
21 Subtitle D program would be," and this is for Ohio
22 Power Company, 8.3 percent plus; correct?

23 A. Yes.

24 Q. And did you review that number as well?

1 A. I reviewed that number to the extent it
2 was in this comment package.

3 Q. Okay. And that's McManus 3.

4 (EXHIBIT 3 MARKED FOR IDENTIFICATION.)

5 MS. WILLIAMS: And, Matt, I have some
6 questions for him about a confidential exhibit, and I
7 was wondering whether it's just the costs that are
8 confidential or also the projects that are
9 confidential?

10 MR. SATTERWHITE: If we go off the
11 record for a second, I can talk to John about that.

12 MS. WILLIAMS: Yeah.

13 (Discussion off the record.)

14 MS. WILLIAMS: Back on the record.

15 BY MS. WILLIAMS:

16 Q. Okay. On Page 8 of your testimony you
17 talk about the 316(b) Rule; right?

18 A. Yes.

19 Q. And you say that this standard addresses
20 impingement on cooling water intake screens and
21 requires site-specific studies to determine
22 appropriate compliance measures with respect to
23 entrainment; is that right?

24 A. That's correct.

1 Q. Have you done those site-specific
2 studies?

3 A. They're not complete yet.

4 Q. What's their status?

5 A. I'm not certain, you know, site by site.
6 The implementation process for this rule ties to the
7 NPDES, the water permit renewal schedule, and so
8 it's -- each site is probably in a different stage
9 because those permits are on different schedules.

10 Q. Okay. Do you have any preliminary
11 findings as to which sites will require additional
12 controls in terms of cooling water intake screens or
13 entrainment controls?

14 A. Could you repeat that?

15 Q. Yes. I was wondering if there have been
16 any preliminary findings of the studies regarding
17 what controls will be required to comply?

18 A. Not that I'm aware of.

19 Q. Okay. And then on Page 9 of your
20 testimony, Lines 2 through 4 you say, "The most
21 significant potential impact" -- sorry.

22 A. I was on the wrong page.

23 Q. "The most significant potential impact
24 of the proposed rule...would be the need to alter the

1 design of screens at the river intake structure" --
2 right -- "or install additional screens to mitigate
3 harm."

4 A. That paragraph refers to specific units.

5 Q. Right.

6 A. So for those specific units which
7 already have cooling towers, that's what we
8 anticipate.

9 Q. Okay. And then for Clifty Creek and
10 Kyger Creek, Cardinal 1, Stuart 1 through 3, those
11 are all have once-through cooling systems; right?

12 A. That's correct.

13 Q. And you say that engineering studies are
14 underway to evaluate potential modification to those
15 structures; is that right?

16 A. Yes.

17 Q. And is that just at Clifty and Kyger
18 Creek, Cardinal 1, and Stuart 1 through 3 or is that
19 where those studies are taking place?

20 A. Yes. That's what it says.

21 Q. Well, it says engineering studies are
22 underway "for both plants" to meet the requirements,
23 and I'm wondering what "both plants" are.

24 A. So both probably should say these.

1 Q. These?

2 A. Yes, referring to the plants identified
3 in the first line of that paragraph.

4 Q. All four?

5 A. Yes.

6 Q. Okay. And what's the status of those
7 studies?

8 A. They're underway. I'm not sure of the
9 exact status.

10 Q. So you don't know if there are any
11 preliminary findings from those studies?

12 A. I do not know.

13 Q. Okay. You say that it is not
14 anticipated that the units will be required to
15 install cooling towers; right?

16 A. Yes, that's what it says.

17 Q. And how did you reach that conclusion?

18 A. Here I'm relying on the people in my
19 organization who are responsible for reading this
20 particular regulation and understanding what it
21 requires, so the specific details I don't know, but
22 it would be based on their reading of specific
23 requirements, how they apply on a unit-specific
24 basis, depending on the volume of cooling water

1 that's used and what the rule requires.

2 Q. Would there be any -- since someone else
3 did this under your supervision, would they do some
4 kind of written analysis as to whether a cooling
5 tower is required?

6 A. There might be something in writing.

7 MS. WILLIAMS: Can we request those
8 analyses, if there are any?

9 MR. SATTERWHITE: I mean, discovery is
10 over, so we're not going to use today to take another
11 round of discovery.

12 MS. WILLIAMS: All right. Well, I'll
13 have to check the discovery we've already asked --

14 MR. SATTERWHITE: That's fine.

15 MS. WILLIAMS: Because I think we have
16 asked for all studies and analyses underlying these
17 cost estimates and that sort of thing.

18 MR. SATTERWHITE: We can talk about it.

19 MS. WILLIAMS: Okay.

20 BY MS. WILLIAMS:

21 Q. Do you know how much cooling towers
22 would cost?

23 A. I do not.

24 Q. So you haven't done any analysis of

1 that?

2 A. I have not.

3 Q. And it's correct that your budgetary
4 estimates in this proceeding assume no cooling towers
5 will be required at any of the units with
6 once-through cooling; right?

7 A. I believe that's correct, but I'm not
8 responsible for what goes into the modeling, so
9 unless I had that complete list in front of me, I
10 can't say for sure.

11 Q. Okay. I'll give you that complete list
12 later in the confidential section. Okay.

13 MR. SATTERWHITE: I did confirm that the
14 projects themselves, the names of the projects will
15 not be confidential, so if that helps you organize,
16 but those costs are confidential.

17 MS. WILLIAMS: So should I ask him about
18 the projects now?

19 MR. SATTERWHITE: If it helps, if it
20 helps your flow, it's fine to do now.

21 MS. WILLIAMS: Sure. Let's do that.
22 It's probably better for the record.

23 MR. SATTERWHITE: Yeah. I just wanted
24 to let you know and you decide how you want --

1 MS. WILLIAMS: Give me one minute to dig
2 that out of the confidential pile I have here.

3 BY MS. WILLIAMS:

4 Q. I'm going to give you Sierra Club
5 Interrogatory Response 2-45, and there are two
6 confidential attachments to it, so they are
7 confidential, and we are not going to talk about any
8 of the cost estimates, but just the projects. Do you
9 need to -- okay. We're good.

10 MR. SATTERWHITE: This will be four?

11 MS. WILLIAMS: Yes.

12 (EXHIBIT 4 MARKED FOR IDENTIFICATION.)

13 MR. SATTERWHITE: Just so the reporter
14 knows, it says redacted, but this is still
15 confidential because the numbers are with it, so
16 we'll still mark it as confidential; correct?

17 MS. WILLIAMS: Yes.

18 A. Does this come with a magnifying glass?

19 Q. I know. I'm sorry. It's your exhibit,
20 though.

21 MR. SATTERWHITE: I tried to print it
22 bigger, but it was just the smaller thing in the
23 middle of the big page.

24 A. Okay.

1 Q. Can you read these?

2 A. Yes.

3 Q. Okay. I know, I need my glasses to read
4 them. Okay. Have you seen this first page of the
5 attachment before, which I believe is Confidential
6 Supplemental Attachment 1?

7 A. Referring to this as the first page, yes
8 (indicating).

9 Q. Yes.

10 A. I have seen it before.

11 Q. And this is the spreadsheet that
12 includes the budgetary estimates that Mr. Thomas was
13 discussing, right, in his testimony?

14 A. That's my understanding.

15 Q. Okay. So we don't need to go back
16 through your role in developing these costs; right?
17 I think you've already described that?

18 A. Yes.

19 Q. Okay. And -- sorry. I need to break up
20 my questions, because I can't ask about costs. Okay.
21 So reviewing these projects, does this include any
22 relining projects that would be required to comply
23 with the CCR Rule?

24 A. As I indicated, we're still in the

1 process of analyzing what will be required with the
2 final CCR Rule, with the various provisions in that
3 rule; so we don't know for certain what will be
4 ultimately required. This does include some pond
5 relines as -- you know, based on our review of the
6 proposal that might ultimately be required.

7 Q. So is it possible that there could be
8 additional pond relines required under the final rule
9 beyond these costs -- or beyond these projects?

10 A. It's possible. I would say unlikely.

11 Q. Okay. But you haven't actually finished
12 that analysis yet; right?

13 A. Correct.

14 Q. And for 316(b), none of these projects
15 include cooling towers; right?

16 A. I do not see any cooling tower projects
17 on the list.

18 Q. Okay. Sorry for having to skip around a
19 bit. And does this include all of the possible
20 cooling water intake screens that you believe could
21 be required under the 316(b) Rule?

22 A. I see two projects related to 316(b),
23 one at Cardinal 1, one at Stuart. What exactly is
24 entailed with that project and that cost method I'm

1 not sure.

2 Q. Okay. And how about the potential
3 modifications to cooling water intake structures you
4 mention in your testimony, do you know if those costs
5 are included here?

6 A. They don't appear to be.

7 Q. And any groundwater remediation that
8 might be required, are those costs included here --
9 or those projects included here?

10 A. There are no groundwater remediation
11 projects included in there.

12 Q. Okay. And for the second confidential
13 attachment, where again we can only talk about the
14 projects, not the costs, are there any costs here
15 related to relining ash ponds -- or any projects here
16 regarding relining ash ponds?

17 A. There are two projects identified as
18 bottom ash pond reline projects, one at Kyger Creek,
19 one at Clifty Creek.

20 Q. Okay. And what about intake screens,
21 are those included here?

22 A. There's a project under 316(b) at Clifty
23 and one at Kyger identified. I don't know what the
24 specific scope of those projects that lead to the

1 costs shown here.

2 Q. Okay. Who would know those specific
3 projects underlying these descriptions here?

4 A. The OVEC Environmental Group would. And
5 just to offer sort of a guess, when I looked at the
6 costs themselves, which we're not talking about, it
7 would suggest to me that it involves something to do
8 with the intake screens.

9 Q. Okay. So no cooling towers here?

10 A. No cooling towers.

11 Q. And what about groundwater remediation?

12 A. I don't see any projects related to
13 that.

14 Q. Okay. And do you know whether the list
15 here for the OVEC Units includes all of the potential
16 compliance costs for CCR and 316(b) that you would
17 anticipate would be required to comply with those
18 rules?

19 A. Again, both rules were still in the
20 early stages of implementation where there are
21 studies underway trying to identify the full
22 requirements, so we don't know for certain the full
23 requirements, but it would be my judgment that this
24 is a reasonable estimate of what those requirements

1 will involve.

2 Q. But you won't know until those studies
3 are completed?

4 A. Correct.

5 Q. Okay. Can we go to Thomas' testimony
6 for a second, Page 8? And actually, you might say
7 the same thing in yours. Let me check. Actually,
8 you know, let's just stick with -- with yours, I'm
9 sorry, on Page 9, where you were talking before about
10 Conesville 4 through 6, Stuart 4, and Zimmer 1, the
11 most significant potential impact would be the need
12 to alter the design screens -- the design of screens
13 at the river intake structure, or install additional
14 screens to mitigate harm to organisms. Can we go
15 back to 2-45, the first attachment, the AEP unit? So
16 were these potential intake screen or additional
17 screens at Conesville, Stuart, and Zimmer included in
18 this list?

19 A. For Stuart there is a 316(b) compliance
20 project on the list. I don't know specifically what
21 it involves. I don't see anything on the list for
22 Conesville or Zimmer.

23 Q. Okay. So it doesn't seem like those
24 potential compliance costs are included on this list?

1 A. I don't see projects on the list for
2 that.

3 Q. I would like to share with you -- we're
4 going to have to mark that one as the exhibit. These
5 are a set of comments from AEP dated August 18th,
6 2011, titled: "Comments of American Electric Power,
7 Inc. on Proposed Rule for Cooling Water Intake
8 Structures at Existing Facilities," submitted to EPA.
9 Do you want to take a minute to review this or take a
10 look at it?

11 A. Yes.

12 Q. So this is McManus 5.

13 (EXHIBIT 5 MARKED FOR IDENTIFICATION.)

14 Q. And feel free to review the whole thing,
15 but I'm only going to ask you about the "Costs"
16 section on Page 13 and 14.

17 A. Okay.

18 Q. Have you seen these comments before?

19 A. I don't recall. I suspect I did, but I
20 don't recall.

21 Q. Would you have probably helped in
22 developing these comments?

23 A. In a review capacity only.

24 Q. Okay. And would you have played the

1 role that you've already described in reviewing the
2 cost estimates to comply with the rules that are
3 outlined in these comments?

4 MR. SATTERWHITE: I'll object to the
5 extent he's not sure, but go ahead and answer the
6 question.

7 A. The role being my organization reviews
8 the rules and then we work with others to develop
9 costs?

10 Q. Yes.

11 A. Yes, I would guess that's the process we
12 used to develop these comments.

13 Q. Okay. And going from Page 13 to 14,
14 this says that, "Cost of retrofit of wedgewire
15 screens" -- it says that, "AEP's preliminary
16 estimates to retrofit wedgewire screen systems at the
17 33 plants referred to in our introductory comments is
18 approximately \$245,000,000 with annual estimated" --
19 O&M -- "costs of approximately \$2,900,000; right?

20 A. That's what the comments say.

21 Q. Okay. And did you include estimates for
22 retrofitting wedgewire screens in the 2-45
23 spreadsheet that we were talking about earlier?

24 A. For which specific facilities?

1 Q. Any of them.

2 A. As I indicated, there is a 316(b)
3 project on that list at Stuart, and I don't know --

4 Q. Right.

5 A. -- what it is based on.

6 Q. Okay.

7 A. There's a 316(b) project for Cardinal as
8 well.

9 Q. But you don't know which --

10 A. I don't know specifically what is
11 included in that cost estimate.

12 Q. Okay. Then on Page 14 of these comments
13 it says that, "Cost of fish-friendly screen and
14 return system retrofits - AEP's preliminary estimates
15 to retrofit fish-friendly traveling water screen and
16 fish return systems at the 33 plants referred to in
17 our introductory comments is approximately
18 \$233,500,000 with annual estimated operating and
19 maintenance costs of approximately \$20,300,000"; is
20 that correct?

21 A. That's what the comments say.

22 Q. Okay. And then it says, "Costs for
23 facilities that already have closed cycle cooling -
24 In addition to the total costs above, as a subset of

1 item (i), AEP's estimated costs associated with
2 retrofitting cylindrical wedgewire screen assemblies
3 to power plants which already employ closed cycle
4 cooling but which do not meet the .5 fps velocity
5 criterion. These costs vary from a low of \$1.9
6 million to a high of \$6.25 million per plant"; right?

7 A. That's what the comments says.

8 Q. Okay. Thank you. I'm going to Page 9
9 of your testimony, talking about the ELG Rule. You
10 say, "It is anticipated that planned projects to
11 comply with the CCR Rule will position the generating
12 units well for compliance with a future ELG Rule,
13 with the potential for future projects that will be
14 required specifically by the final ELG Rule"; is that
15 right?

16 A. What lines specifically are you
17 referring to?

18 Q. Sorry. It is 22 and 23 on Page 9, going
19 over to Page 10.

20 A. That's what the testimony says.

21 Q. What analysis did you do to reach that
22 conclusion?

23 A. The proposed ELG Rule includes eight
24 different options that EPA identified for

1 establishing new standards under this provision of
2 the Clean Water Act, with four preferred options. We
3 evaluated the options, particularly the preferred
4 options as ones the EPA might be more likely to
5 select. Using our judgment as to what technologies
6 are available -- this is a technology-based standard
7 -- what technologies are available where the rule
8 might ultimately come out, and then -- the comparison
9 to the CCR Rule, the ELG Rule is aimed at setting
10 technology-based limits on water discharges that --
11 that might ultimately lead to going to sort of dry
12 systems. The CCR Rule addresses how you dispose of
13 CCRs. As we looked at the proposed CCR Rule, it also
14 appeared to be aimed at moving towards dry systems,
15 and so when you look at the two rules together, as we
16 looked at what the requirements may be, to some
17 extent there's a bit of a synergy between the rules,
18 so that's the statement that we have, that projects
19 that comply with CCR Rule may play very well into
20 what ultimately the Effluent Limitation Guidelines
21 requirements are.

22 Q. Okay. But we don't have the final ELG
23 Rule yet; right?

24 A. That's correct.

1 Q. So we don't know yet what the final
2 compliance requirements will be?

3 A. We don't know for certain.

4 Q. Okay. And do you know whether any
5 studies were done to develop the capital compliance
6 costs in the budgetary estimate?

7 A. There would have been an analysis done,
8 again, the process that we used looking at what's in
9 the proposed requirement, working with Engineering at
10 technologies that might be available to meet those
11 requirements and working with Projects to come up
12 with cost estimates. We would have followed the same
13 process.

14 Q. Would those have been written analyses?

15 A. There may be material in writing. Just
16 as a general comment, this work is typically done
17 with legal counsel under privilege.

18 Q. Okay. So because legal counsel would
19 have developed those analyses or --

20 A. It would have been because legal counsel
21 requested the analyses.

22 Q. Okay. I would like to give you response
23 to Interrogatory 2-53.

24 (EXHIBIT 6 MARKED FOR IDENTIFICATION.)

1 A. Okay.

2 Q. And could you read aloud Request B?

3 A. "Identify all studies, analyses, or
4 other documents estimating the capital, fixed O&M,
5 and variable O&M costs associated with Cardinal Unit
6 1 and the Stuart Units' compliance with the proposed
7 ELG."

8 Q. And can you read the answer aloud?

9 MR. SATTERWHITE: I'll object at first
10 because this was not prepared by this witness. There
11 are two other witnesses that are identified in the
12 document. Go ahead.

13 MS. WILLIAMS: I'm not asking him if he
14 wrote it. I'm just asking him to read it aloud.

15 MR. SATTERWHITE: I'm just objecting to
16 putting something in the record that you haven't
17 established this witness ever seen before. It's just
18 an objection.

19 Q. Okay. Go ahead.

20 A. "No such studies are available."

21 Q. Do you agree with that statement?

22 A. Again, I did not prepare this response.

23 Q. That's irrelevant. I'm just asking
24 whether you agree with this statement.

1 A. I'm not sure.

2 Q. Okay. Well, it seems like you just told
3 me, right, that there would have been analyses done
4 in writing?

5 MR. SATTERWHITE: Objection. That's not
6 what he stated.

7 MS. WILLIAMS: Can you go back and read
8 aloud his statement regarding analyses?

9 (Questions and answers read back.)

10 MS. WILLIAMS: Can you please produce
11 any analyses in writing?

12 MR. SATTERWHITE: To the extent there is
13 something and there's something compliant we need to
14 update this discovery, of course we would.

15 MS. WILLIAMS: That would be great.
16 Thank you.

17 BY MS. WILLIAMS:

18 Q. How about for CCR costs, would -- going
19 back to our -- and I apologize if I have to repeat
20 myself a little bit. I just want to make sure I'm
21 not missing anything. In developing the budgetary
22 estimates for the CCR costs, would there have been
23 similar analyses done?

24 A. That's a possibility, yes.

1 Q. Okay. And would those possibly be in
2 writing as well?

3 A. There may be written material.

4 Q. And I'm going to give you response to
5 Interrogatory 2-52.

6 (EXHIBIT 7 MARKED FOR IDENTIFICATION.)

7 A. Okay.

8 Q. And could you read aloud question --
9 Request B, please?

10 A. "Identify all studies, analyses, or
11 other documents estimating the capital, fixed O&M,
12 and variable O&M costs of the coal units' compliance
13 with the CCR Rule."

14 Q. And then the response.

15 MR. SATTERWHITE: Same objection as
16 before. It's not this witness' work. Go ahead.

17 A. "No such study exists."

18 Q. Do you agree with that statement, that
19 "no such study exists"?

20 A. To the extent that the question asks for
21 studies related to compliance with the CCR Rule which
22 is now a final rule and we're in the process of
23 evaluating what that rule will require and we haven't
24 completed that work, then I think I would agree with

1 this as it relates to the final CCR Rule.

2 Q. Okay. But do you believe that there may
3 be analyses estimating -- that were done to estimate
4 the capital costs to comply with the CCR Rule?

5 A. Again, to comply with the final CCR
6 Rule, we're still in the process of fully
7 understanding all the requirements and conducting the
8 studies that are required by the final rule.

9 Q. Sure, but this is talking about -- or I
10 am referring to the budgetary estimates that were
11 developed for 2-45.

12 A. Based on the proposed rule?

13 Q. However you developed those cost
14 estimates.

15 A. Okay.

16 Q. So you believe there may be analyses
17 related to those cost estimates?

18 A. There may be.

19 MS. WILLIAMS: Can I please request
20 those?

21 MR. SATTERWHITE: If there's a need to
22 supplement something that we find out.

23 MS. WILLIAMS: Great. Thank you.

24 Q. I'm going to give you Interrogatory

1 Response 2-54.

2 (EXHIBIT 8 MARKED FOR IDENTIFICATION.)

3 A. Okay.

4 Q. And going back to talking about the
5 316(b) Rule and development of the cost estimates for
6 2-45, would there be similar analyses to derive those
7 costs that you were describing earlier with regard to
8 the CCR Rule and the ELG Rule?

9 A. I'm not quite sure what you're asking.

10 Q. Okay. And I apologize for having to
11 jump around. Something you said made me have to go
12 back to all these other rules. Okay. So developing
13 the 316(b) cost estimates in 2-45, can you explain
14 how those were derived again?

15 A. Which specific ones are you referring
16 to?

17 Q. The 316(b) costs. Do you want me to
18 give you a particular one?

19 A. I think, as we discussed before, there's
20 only two on there.

21 Q. Sure. So what was your process for
22 developing those two costs?

23 A. For -- I believe one was for Cardinal
24 plant. It would be a similar process. Stuart plant,

1 we're not involved in that, as we're not the
2 operating owner for Stuart plant, so we -- we don't
3 do -- develop any estimates for Stuart.

4 Q. Okay. So where did those estimates come
5 from?

6 A. From Dayton Power & Light, is my
7 understanding.

8 Q. Did you know how they developed -- so
9 you had no role in developing what projects would be
10 needed to comply with these rules at Stuart? Is that
11 what you're saying?

12 A. Correct.

13 Q. And they just gave you -- Dayton gave
14 you a list of projects?

15 A. That's my understanding.

16 Q. Okay.

17 A. And by that, they did not give it to me
18 personally.

19 Q. Okay. Do you know who they gave it to?

20 A. No.

21 Q. So you didn't review whether these are
22 all of the projects that would be required to comply
23 with environmental regulations at Stuart?

24 A. I did not -- when I look at the list, it

1 looks very similar to what we do for our -- what
2 we've come up with for our facilities, so it looks to
3 be reasonable, but I can't say I did a comprehensive
4 review.

5 Q. When you say it looks to be reasonable,
6 are you saying just from looking at it now or have
7 you review it previously?

8 A. From looking at it now.

9 Q. Okay. So is this the first time you're
10 seeing these Stuart numbers -- or Stuart projects?

11 A. This week is the first time I've seen
12 them.

13 Q. Okay. So let's just talk about -- what
14 about at Zimmer?

15 A. Same process for Zimmer. We're not the
16 operating owner. The operating owner provides the
17 information.

18 Q. Can you remind me who the operator is,
19 Dynegy?

20 A. Yes.

21 Q. So same process for Zimmer?

22 A. As far as I know.

23 Q. Okay. So this week is the first time
24 you're seeing the Zimmer project as well?

1 A. That I've looked at this list in detail,
2 yes.

3 Q. So it's only the Conesville and the
4 Cardinal projects that you helped develop?

5 A. The Conesville and Cardinal would have
6 been developed by AEP, yes.

7 Q. Okay. So do you know what process
8 Dayton and Dynegy used to develop what compliance
9 projects would be required at Stuart and Zimmer?

10 A. I do not.

11 Q. Okay. What about at the OVEC Units?

12 A. At the OVEC Units, OVEC relies on AEP
13 Service Corporation to provide essentially the same
14 process that we use for AEP units, to work with them
15 on identifying what might be required, what
16 technologies are available and developing those
17 costs.

18 Q. Okay. So the process for Kyger Creek
19 and Clifty Creek is pretty much the same as for
20 Conesville and Cardinal 1; is that right?

21 A. It's my understanding, yes.

22 Q. Okay. So you had previously had input
23 on the OVEC Unit projects required to comply with
24 environmental requirements?

1 A. My organization would have had input on
2 interpreting proposed rules, final rules, discussing
3 that with OVEC's Environmental Department.

4 Q. Okay. So just focusing on Conesville
5 and Cardinal, and then I guess there's only one
6 project for 316(b), right, and that's at Cardinal?

7 A. So are we going back now to --

8 Q. 2-45.

9 A. -- another document?

10 Q. Yeah, the spreadsheet of projects.

11 A. Okay. What was the question again?

12 Q. Yeah. The question is, there's just one
13 project here for 316(b) compliance at Cardinal and
14 Conesville, right, and that's at Cardinal?

15 A. Yes. That's what I see on the list.

16 Q. Okay. And to develop the cost estimate
17 for Cardinal, can you describe that process that you
18 would -- or AEP would have gone through?

19 A. I'm assuming it would have been the same
20 process that I described before.

21 Q. Can you redescribe it? I'm sorry. I'm
22 going to ask a follow-up question and I want to be
23 clear.

24 A. My organization looking at the proposed

1 rule, the final rule, identifying what the
2 requirements are, working with Engineering to
3 identify compliance options, technologies, working
4 with Projects to develop costs.

5 Q. Right. And Projects in developing
6 costs, they would have done some kind of analyses to
7 develop that cost; is that right?

8 A. I would assume they did, yes.

9 Q. Okay. And would that analysis have been
10 in writing?

11 A. It may have been.

12 Q. Okay. And then let's go back to McManus
13 8, which was 2-54, and can you read aloud Part B and
14 the response to Part B?

15 A. "Identify all studies, analyses, or
16 other documents estimating the capital, fixed O&M,
17 and variable O&M costs associated with the Conesville
18 Units, Stuart Unit 4, and Zimmer Unit 1's compliance
19 with the proposed 316(b) Rule."

20 Q. And the answer?

21 MR. SATTERWHITE: Same objection as
22 before. It's not his document, but go ahead.

23 A. "No such studies are available."

24 Q. Okay. And could you read C aloud,

1 please?

2 A. "Identify" --

3 MR. SATTERWHITE: Can I have a
4 continuing objection to any --

5 MS. WILLIAMS: Sure.

6 MR. SATTERWHITE: That way --

7 MS. WILLIAMS: Absolutely understood.

8 A. "Identify all studies, analyses, or
9 other documents concerning capital projects
10 potentially needed for Cardinal Unit 1 and Stuart
11 Units 1 through 3 to comply with the proposed 316(B)
12 Rule."

13 Q. And then the answer there?

14 A. "No such studies are available."

15 Q. But it's your testimony, right, that
16 there may be written analyses that were used to
17 develop the cost estimates in 2-45?

18 A. There may be. I don't know for sure.

19 MS. WILLIAMS: Can you please provide
20 those, if you have them?

21 MR. SATTERWHITE: I'll review those like
22 the others.

23 MS. WILLIAMS: Sorry for the very
24 elongated process to get there. I just knew there

1 would be objections if I didn't.

2 Okay. Let's move on.

3 MR. SATTERWHITE: Go off the record for
4 one second?

5 MS. WILLIAMS: Yes.

6 (Recess taken.)

7 MS. WILLIAMS: Back on the record.

8 BY MS. WILLIAMS:

9 Q. I'm going to offer you a very large set
10 of comments dated September 20th, 2013, titled:
11 "Comments of the Operating Companies of the American
12 Electric Power System, Incorporated on Proposed Rule
13 for Effluent Limitations Guidelines and Standards for
14 the Steam Electric Power Generating Point Source
15 Category." And I am only -- I mean, feel free to
16 review the whole thing, but I am only going to ask
17 you about the cost estimates on Page 30. And just
18 let me know when you're ready.

19 A. So only the costs on Page 30 is what
20 you're referring to?

21 Q. Yes.

22 A. Okay.

23 Q. Have you seen these comments before?

24 A. Given that I signed the cover letter,

1 yes, I have seen them. Did I review them in detail?

2 No, and they were prepared under my direction.

3 Q. Okay. So you didn't draft them, but
4 you've reviewed them?

5 A. I did not draft them.

6 Q. What role would you have played in
7 reviewing these cost estimates on Page 30?

8 A. Apart from potentially reviewing the
9 comments and seeing the costs in there, I would not
10 have had a role in reviewing the estimates
11 themselves.

12 Q. Do you know whether the cost estimates
13 used to prepare the comments were used to prepare the
14 budgetary estimates used in this proceeding?

15 A. I do not know.

16 Q. Okay. On Page 30, do you see Subpart A?
17 It says, "EPA has underestimated the cost to retrofit
18 dry fly ash disposal systems"?

19 A. Yes.

20 Q. Okay. And it says, "AEP has two
21 facilities that would be affected by a dry fly ash
22 disposal requirement. The total capital cost to
23 convert both of these facilities to dry disposal
24 would be \$198 million (2010\$)"; is that right?

1 A. That's what it says.

2 Q. Do you know which two facilities it's
3 referring to here?

4 A. I don't know for sure.

5 Q. Okay. And this says, "On a per plant
6 basis, the AEP cost is" -- 900 -- or sorry -- "\$99
7 million (2010\$), a value that is nearly 16 times
8 higher than that calculated by EPA"; is that right?

9 A. That's what it says.

10 Q. Okay. Thanks.

11 (Discussion off the record.)

12 (EXHIBIT 9 MARKED FOR IDENTIFICATION.)

13 Q. If we could go to your testimony on Page
14 7, Lines 21 and 22. Or really just that Q and A at
15 the bottom of the page.

16 A. Okay.

17 Q. And this is regarding compliance with
18 CSAPR; right?

19 A. Yes.

20 Q. Okay. And it says at the bottom of the
21 page, "These emission controls, in conjunction with
22 the availability of emission allowances in the
23 market, position the PPA Rider Units for compliance
24 with the CSAPR"; right?

1 A. That's what it says.

2 Q. Okay. What analysis was done to
3 determine what amount of allowance purchases may be
4 required?

5 A. I'm not aware of any.

6 Q. Who would do such analysis in AEP?

7 A. For the AEP Generation Resources Units,
8 it would be someone within -- within that
9 organization or within the commercial group that
10 supports that organization, but I don't know who.

11 Q. Okay. And your shop would not do
12 emission allowances, like figure out what -- how many
13 emission allowances would be required?

14 A. That is correct.

15 Q. I'm sorry, who was in charge of the
16 group you mentioned who would do that analysis?

17 A. I'm not sure.

18 Q. Can you repeat the name of the group? I
19 missed it.

20 A. AEP Generation Resources, that
21 organization.

22 Q. Okay. Do you know whether allowance
23 costs were included in the cost estimates, the
24 budgetary estimates in this proceeding?

1 A. I don't believe the Cross-State Air
2 Pollution Rule allowances were included, but you'd
3 have to check with Mr. Pearce for sure.

4 Q. And if they were provided with -- or
5 provided to Mr. Pearce, it would not have been from
6 your group; right?

7 A. It would not have been from my group.

8 Q. Okay. Would it have been from Mr.
9 Thomas' group?

10 A. Again, I think you'd have to check with
11 Mr. Pearce.

12 Q. Okay. So how did you arrive to the
13 conclusion that the emissions controls at the units,
14 in conjunction with availability of emission
15 allowances, position the PPA Rider Units for
16 compliance with CSAPR?

17 A. It's a combination of the control
18 technology that's installed at the units. Most of
19 them have very high removal efficiency controls. The
20 structure of the Cross-State Air Pollution Rule,
21 relying on allowances and the availability of the
22 market, similar to market-based systems that have
23 been in place for over 20 years now, that -- and when
24 you look overall, at all of that together, I conclude

1 that it positions those well.

2 Q. But you didn't do the analysis -- is it
3 correct to say that you didn't do any analysis of
4 whether emissions allowances would be required to be
5 purchased?

6 A. I did not do that.

7 Q. Okay. So did you look at the 2015
8 allocations for CSAPR and compare it to actual
9 emissions of the facilities?

10 A. Well, we wouldn't have 2015 actual
11 emissions yet. We're only partway through the year.

12 Q. Would you have compared it -- compared
13 actual historic emissions to the 2015 allocations to
14 determine whether emissions allowances were required?

15 A. I did not do that.

16 Q. Okay. So you don't know how many units
17 exceeded their NOx allowances, N-O-x allowances?

18 A. I do not.

19 Q. Okay. And do you know how many units
20 exceeded their SO2 allowances?

21 A. I do not.

22 Q. And do you know the going price for NOx
23 allowances?

24 A. I do not.

1 Q. How about SO2 allowance prices?

2 A. I do not.

3 Q. Okay. So do you know whether it's
4 cheaper to make additional investments in the coal
5 plants or continually buy allowances?

6 A. I do not.

7 Q. Okay. And have you looked at the 2017
8 allocations for CSAPR?

9 A. Not in detail, no.

10 Q. Okay. So do you know how many units
11 have exceeded -- are exceeding the NOx allowances for
12 2017 allocations?

13 A. I do not.

14 Q. How about SO2 allocations?

15 A. I do not.

16 Q. What analysis have you done as to
17 whether Clifty Creek 6 will require installation of
18 additional NOx controls to comply with CSAPR?

19 A. I have not done an analysis.

20 Q. Are you aware that OVEC has stated that
21 additional controls may be required at that unit?

22 A. I'm not aware of that.

23 Q. I apologize, I only have one extra copy
24 of this. This is OVEC's Annual Report from 2014.

1 MR. SATTERWHITE: Are you going to mark
2 this?

3 MS. WILLIAM: I was first going to ask
4 him if he's ever seen this before. Actually, yeah,
5 I'll just go ahead and mark it.

6 (EXHIBIT 10 MARKED FOR IDENTIFICATION.)

7 Q. Have you ever seen this before?

8 A. I have seen it. I have not read it.

9 Q. What does "seen it" mean?

10 A. It was in my inbox.

11 Q. Okay. Got it. Is this the sort of
12 thing you would ordinarily review in the course of
13 your duties?

14 A. No.

15 Q. Why was it in your inbox?

16 A. Someone sent me a copy.

17 Q. Have you ever reviewed OVEC's Annual
18 Reports before?

19 A. I may have in the past, but I don't
20 recall specifically.

21 Q. Can you turn to Page 29 of this
22 document?

23 A. Okay. I'm on Page 29.

24 Q. I didn't write down a line number, so

1 give me one second. Okay. The third paragraph down,
2 could you read that first sentence aloud?

3 MR. SATTERWHITE: I'll just object in
4 general to answering questions on something he's
5 identified he's not familiar with and hasn't read,
6 but go ahead.

7 MS. WILLIAMS: I just want to see if it
8 refreshes his memory.

9 MR. SATTERWHITE: So you just want him
10 to read it to himself, then?

11 BY MS. WILLIAMS:

12 Q. Could you read it aloud?

13 A. The first sentence in the third
14 paragraph?

15 Q. Yes.

16 A. "Now that all FGD systems are fully
17 operational, OVEC-IKEC expects to have adequate SO2
18 allowances available without having to rely on market
19 purchases to comply with the CSAPR rules in their
20 current form; however, the purchase of additional NOx
21 allowances or the installation of additional NOx
22 controls may be necessary for Clifty Creek Unit 6
23 either under the CSAPR rule or any future NOx
24 regulations."

1 Q. Would you agree with that statement?

2 A. I don't have a basis to agree or
3 disagree with it. I didn't write the statement.
4 OVEC prepared this.

5 Q. And you haven't done any analysis of
6 whether CSAPR would require installation of
7 additional NOx controls at Clifty Creek Unit 6; is
8 that right?

9 A. I have not.

10 Q. Okay. And you're not aware of any
11 analysis done by OVEC or you haven't reviewed any
12 such analysis by OVEC that would suggest that
13 additional controls might be required at Clifty 6?

14 A. I have not reviewed any analysis.

15 Q. Okay. And you're not aware that any
16 such analysis might exist?

17 A. I have not seen any such analysis.

18 Q. Okay. Thank you.

19 I would like to give you Sierra Club
20 response to -- or your response, AEP's response to
21 Interrogatory 2-51.

22 (EXHIBIT 11 MARKED FOR IDENTIFICATION.)

23 A. Okay.

24 Q. Did you assist in developing compliance

1 options for the MATS Rule, M-A-T-S Rule?

2 A. My organization identified the
3 requirements of the MATS Rule and worked with
4 Engineering to identify compliance options and
5 technologies.

6 Q. Okay. Did you review the proposed
7 compliance option for the MATS Rule at Conesville?

8 A. I'm familiar with it.

9 Q. Okay. Did you review whether the
10 proposed compliance option would be compliant with
11 the MATS Rule?

12 A. What proposed compliance option are you
13 referring to specifically?

14 Q. Sorry. Good point. I am talking about
15 the MATS technology required at Conesville.

16 A. And the question specifically then is?

17 Q. The question is, did you review the
18 proposed compliance option for complying with MATS at
19 Conesville?

20 A. Okay. I'm still not sure what you're
21 referring specifically to when you say the compliance
22 option.

23 Q. Okay. Give me one second. Going to
24 your testimony, at Page 6, Lines 8 through 10, it

1 says, "As described in the testimony of Company
2 witness Thomas, additional environmental controls are
3 necessary at Conesville Units 5 and 6 to ensure
4 compliance with the stringent mercury limit
5 established under the MATS Rule"?

6 A. That's what it says.

7 Q. Are you familiar with what additional
8 environmental controls are necessary at Conesville 5
9 and 6 to comply with the MATS Rule?

10 A. I'm familiar with the technology we're
11 installing at Conesville 5 and 6.

12 Q. Okay. And what was your role in
13 developing the proposed compliance option for MATS at
14 those two units?

15 A. Essentially, we did not have a role.
16 Once we identified the compliance requirements, we
17 don't identify the technology.

18 Q. Are you familiar with the technology
19 proposed to comply with MATS at those units?

20 A. I'm familiar with the technology that
21 we're installing --

22 Q. Right.

23 A. -- at those units.

24 Q. Which you are installing?

1 A. Yes.

2 Q. Do you know whether it has O&M costs
3 associated with operating those controls?

4 A. I do not know whether it does or not.

5 Q. And do you know how the technology that
6 they plan to install at Conesville 5 and 6 works?

7 A. In a very general sense.

8 Q. Okay. Next question, are you familiar
9 with the 2010 one-hour SO₂ standard, sulfur dioxide
10 standard?

11 A. Yes, I am.

12 Q. I'd like to give you response to Sierra
13 Club Interrogatory 1-8.

14 (EXHIBIT 12 MARKED FOR IDENTIFICATION.)

15 Q. And you prepared this discovery
16 response; right?

17 A. Yes.

18 Q. Okay. And you were asked whether you
19 modeled or analyzed whether emissions from the PPA
20 plants would cause or contribute to a NAAQS
21 exceedance; right?

22 A. That's what the question says.

23 Q. And this says -- your response says that
24 no SO₂ modeling was done at units other than Cardinal

1 1; right -- or other than the Cardinal plant?

2 A. That's correct.

3 Q. Are you aware of the consent decree
4 entered between EPA and environmental groups stating
5 the EPA must make designations for coal plants that
6 meet certain criteria by July 2016?

7 A. I'm generally familiar with it, yes.

8 Q. Okay. Are you aware that Zimmer 1 meets
9 those criteria?

10 A. I couldn't have said for sure, no.

11 Q. And have you -- do you know whether any
12 analysis has been done to determine whether the areas
13 surrounding the Zimmer 1 Unit will be designated
14 nonattainment?

15 A. I am not aware of any.

16 Q. And do you know whether any analysis has
17 been done to determine whether anything might need to
18 be done at Zimmer 1 to address any nonattainment
19 issues?

20 A. I'm not aware of any analysis. It's
21 still very early in the process that Ohio EPA will
22 have to follow to do that work; so I'm not sure where
23 that stands.

24 Q. Okay. I'm going to give you response to

1 Request for Production 1-6 from Sierra Club.

2 (EXHIBIT 13 MARKED FOR IDENTIFICATION.)

3 A. Okay.

4 Q. Okay. And the request asks for
5 evaluation of pollution controls that would be needed
6 to bring each of Cardinal, Conesville, Stuart, and
7 Zimmer into compliance with a bunch of environmental
8 regulations, and Part F says the "Ozone NAAQS";
9 right?

10 A. Yes, it does.

11 Q. And your response -- and you prepared
12 this discovery response; right?

13 A. Yes.

14 Q. And your response to Part F is that,
15 "Given the stage of implementation of the latest
16 revision to the Ozone NAAQS, at this time the Company
17 is not aware of any actions that may be needed at the
18 PPA Units; is that right?

19 A. That's what it says.

20 Q. So have any studies been done as to what
21 might be required to bring the PPA Units into
22 compliance with the proposed ozone standard?

23 A. We have not conducted any studies.

24 Q. Have you looked at the proposed ozone

1 standard?

2 A. Yes, we have.

3 Q. Have you done any analysis of ozone
4 compliance at the PPA Units since this discovery
5 response was issued?

6 A. Not that I'm aware of.

7 Q. And are you aware that EPA is under
8 court order to finalize an updated ozone NAAQS by
9 October 1st of this year?

10 A. Yes, I am.

11 Q. And have you reviewed the proposed ozone
12 rule?

13 A. People in my organization have reviewed
14 it.

15 Q. Have you looked at it at all?

16 A. I've not reviewed the specific proposal.
17 I'm familiar with what has been proposed.

18 Q. EPA's proposed standard is in the 60 to
19 70 parts per billion range; is that right?

20 A. I believe the proposal was 65 to 70.
21 They requested comments ongoing as low as 60.

22 Q. Okay. And are you aware that EPA must
23 finalize ozone nonattainment area designations for
24 the new ozone NAAQS by 2017?

1 A. By the new ozone NAAQS, you're referring
2 to the one that has been proposed that has not been
3 finalized yet?

4 Q. Correct.

5 A. I am not sure exactly what the schedule
6 would be for designating a nonattainment area.

7 Q. Do you know when final compliance with
8 the new NAAQS could be required?

9 A. No. Once a standard is finalized, it
10 starts a process that typically extends over many
11 years, and so that schedule is very uncertain at this
12 time.

13 Q. Are you familiar with how NAAQS
14 generally works in terms of the process for
15 developing plants to comply with them?

16 A. In a general sense, yes.

17 Q. Okay. Would you agree that if any
18 counties in Ohio were designated nonattainment with
19 the new ozone standard, any coal plants impacting
20 that nonattainment area could be required to reduce
21 emissions to bring that area into compliance?

22 THE WITNESS: Could you read that back?

23 (Question read back.)

24 A. It's a possibility, but it depends on

1 how the standard is actually implemented in the form
2 of any compliance requirements. To date, going back
3 to 2004, the requirements as they apply to power
4 plants, where the standards have been based on
5 reasonable allowance-based programs, and if EPA
6 continues to take that approach, then there may not
7 be any unit-specific requirement established.

8 Q. But there could be; is that right?

9 A. There could be.

10 Q. Are you familiar with ozone monitoring
11 data in the counties in which your plants are
12 located?

13 A. No, I am not.

14 Q. Would it be your responsibility to
15 review that data?

16 A. No.

17 Q. Who would review that data?

18 A. I would assume Ohio EPA or the relevant
19 state agency would review it. It's not our data.

20 Q. Okay. So you've never reviewed ozone
21 monitoring data for the counties in which your plants
22 are located?

23 A. "Never" is a long time, but I don't
24 recall doing that.

1 Q. Okay. Are you aware that Clermont
2 County where the Zimmer plant is located is exceeding
3 the current ozone standard of 75 parts per billion
4 based on 2011 through 2013 monitoring data?

5 A. I am not aware of.

6 Q. Are you aware that Clermont, Clinton,
7 and Warren Counties, which are adjacent to Brown
8 County where Stuart is located, are also exceeding
9 the current standard of 75 parts per billion?

10 A. Based on what years' data?

11 Q. 2011 to 2013.

12 A. I am not aware of that.

13 Q. Are you aware whether there is an ozone
14 monitor in Brown County?

15 A. I am not.

16 Q. Did you say you have looked at the
17 proposed ozone standard?

18 A. I did not review the specific Federal
19 Register publication of the proposed standard. I'm
20 generally familiar with what the proposal is aimed
21 at.

22 Q. Did you review anything produced by EPA
23 on the rule?

24 A. Maybe some general summary documents

1 that they typically issue when they issue or propose
2 their final rule.

3 Q. Okay.

4 (EXHIBIT 14 MARKED FOR IDENTIFICATION.)

5 MS. WILLIAMS: I just provided the
6 witness with a document from EPA titled: "Counties
7 Violating the Primary Ground-Level Ozone Standard,
8 Based on Monitored Air Quality from 2011 to 2013."

9 MR. SATTERWHITE: May I ask what this is
10 from? It doesn't say on the face of it. It's hard
11 to --

12 MS. WILLIAMS: Yes. This was published
13 by EPA in association with the proposed rule and put
14 on their Website along with the proposed rule.

15 MR. SATTERWHITE: I just wanted to see
16 where I could go find it.

17 MS. WILLIAMS: Sure, yes. I can provide
18 you with a Web link, if you would like it.

19 MR. SATTERWHITE: Great.

20 BY MS. WILLIAMS:

21 Q. Have you ever seen this document?

22 A. I have not.

23 Q. Can you turn to the page with Ohio data
24 on it? It's actually two pages. Actually, just

1 staying at the first page for a minute, the front
2 page.

3 A. The front page.

4 Q. This indicates that areas that are not
5 shaded do not violate the proposed standard; right?

6 MR. SATTERWHITE: I'll just do a global
7 objection. He hasn't identified this, doesn't know
8 it.

9 You can answer questions all based on
10 that understanding and objection.

11 A. Based on the legend that's at the top of
12 the page, that's what it indicates.

13 Q. Right. And then the dark gray means
14 that it's violating 70 parts per billion; is that
15 right?

16 A. That's what it says.

17 Q. And light gray is violating 65 parts per
18 billion; right?

19 A. That's what the document says.

20 Q. Then if we turn to the Ohio page.

21 MR. SATTERWHITE: Do you know if it's in
22 color?

23 MS. WILLIAMS: It is in color.

24 MR. SATTERWHITE: So it might not be

1 gray.

2 MS. WILLIAMS: I believe they are light
3 blue and dark blue.

4 MR. SATTERWHITE: Okay. I just wanted
5 to make it clear. Thanks.

6 MS. WILLIAMS: Sure.

7 BY MS. WILLIAMS:

8 Q. So this shows that for Clermont County
9 the 2011 to 2013 ozone monitoring data showed an
10 average concentration of 79 parts per billion; right?

11 A. That's what the document indicates.

12 Q. Okay. And Clinton is at 78 parts per
13 billion, is that right, for 2011 to 2013?

14 A. That's what the document indicates.

15 Q. And Warren County is at 76 parts per
16 billion; right?

17 A. That's what the document indicates.

18 Q. And Licking is at 73 parts per billion;
19 is that right?

20 A. That's what the document indicates.

21 Q. And Knox County is at 73 parts per
22 billion?

23 A. That's what the document indicates.

24 Q. And do you know that those are the

1 counties bordering the county where Conesville is
2 located?

3 A. I'm sorry, I'm not an Ohio native, so I
4 don't know the county layouts.

5 Q. Okay. And Clark County is at 75 parts
6 per billion; right?

7 A. That's what the document indicates.

8 Q. Okay. And are you aware that Clark
9 County borders Jefferson where the Clifty Creek plant
10 is located?

11 A. I am not aware of that.

12 Q. Okay.

13 A. Except that the Clifty Creek plant is in
14 Indiana.

15 Q. Okay. What analysis have you done to
16 determine whether additional controls would be
17 required at Stuart and Zimmer if the ozone standard
18 is tightened to 65 to 70 parts per billion?

19 A. I have not done any analysis.

20 Q. What analysis have you done to determine
21 whether Selective Catalytic Reduction technology, or
22 SCR technology, would be required at Clifty Creek 6
23 or Conesville 5 and 6 if the ozone standard is
24 tightened to 65 to 70 parts per billion?

1 A. I have not done any analysis.

2 Q. Are you aware of any such analysis?

3 A. I am not.

4 Q. Have you done any or are you aware of
5 any estimates of what SCRs would cost at those units
6 if they were required?

7 A. I have not.

8 Q. Do you know whether under the proposed
9 PPAs ratepayers would be responsible for paying for
10 such SCR if they were required?

11 MR. SATTERWHITE: Objection.

12 A. I do not know.

13 MS. WILLIAMS: I have a question for
14 you, Matt. Are the years in this confidential
15 spreadsheet, are those confidential?

16 MR. SATTERWHITE: I don't believe so,
17 but let me make sure.

18 MS. WILLIAMS: Did you say you do not
19 believe so?

20 MR. SATTERWHITE: I do not believe so.

21 MS. WILLIAMS: Okay.

22 MR. SATTERWHITE: I think that's the
23 same issue as the projects. The only confidential
24 part would be the costs involved.

1 MS. WILLIAMS: Okay. So I'm going to do
2 a little clean-up here. I'm almost done.

3 MR. SATTERWHITE: Let me make sure.
4 You would agree with that; right?

5 THE WITNESS: To the extent that a
6 question would identify costs in a specific year --

7 MS. WILLIAMS: I will not ask that.

8 THE WITNESS: -- that might be
9 confidential.

10 MR. SATTERWHITE: Gotcha. So with
11 that --

12 MS. WILLIAMS: Okay. Good to know.

13 BY MS. WILLIAMS:

14 Q. Could we go back to this spreadsheet
15 attached to 2-45? Yeah, that's McManus 4. Can you
16 state the year that this spreadsheet goes out to?

17 A. 2024.

18 Q. And have you looked at environmental
19 compliance obligations beyond 2024?

20 A. That's a very broad question.

21 Q. Do you believe that there -- let's
22 strike that question. Do you believe that there will
23 be environmental compliance costs that go beyond
24 2024?

1 A. What type of costs?

2 Q. Costs to comply with environmental
3 regulations.

4 A. Unless all the environmental statutes
5 are removed from the books, I would say yes, there
6 will be costs to comply.

7 Q. Do you think it would be reasonable to
8 assume that there will be compliance costs beyond
9 2024?

10 A. Yes.

11 Q. Do you think it would be reasonable to
12 assume that there will be zero dollars of additional
13 compliance costs beyond 2024?

14 A. As I just indicated, I believe it's
15 reasonable to assume there will be compliance costs
16 beyond 2024, so that will probably be something more
17 than zero.

18 Q. So it would be unreasonable to assume
19 that there are not additional environmental
20 compliance costs?

21 A. Unreasonable -- you know, it seems like
22 it would be reasonable to assume there are costs.

23 Q. Okay. Do you know why this spreadsheet
24 only goes out to 2024?

1 A. I do not.

2 Q. So you weren't involved in any decisions
3 to limit this to 2024?

4 A. I was not.

5 Q. Okay. Do you believe that any of these
6 compliance obligations that are listed here, so the
7 ELG Rule, MATS, CCR, 316(b), will have compliance
8 obligations beyond 2024?

9 A. I would assume the compliance obligation
10 will still be there beyond 2024 if the facility is
11 still operating.

12 Q. And, again, this isn't the entire
13 universe of environmental compliance obligations that
14 you believe could be in effect for the units beyond
15 2024, is it?

16 A. There could be and likely to be other
17 environmental compliance obligations that aren't on
18 this list.

19 Q. Okay. Give me one second just to make
20 sure I asked everything.

21 Okay. I have a couple more questions on
22 that year. Is it your opinion that you cannot plan
23 for or anticipate environmental compliance costs
24 after 2024?

1 A. As I said, I would expect there will
2 continue to be environmental compliance obligations
3 beyond 2024. What -- you know, to what extent and to
4 what level of detail you can plan for them is
5 difficult to say because it's a fair number of years
6 out.

7 Q. So is it your position that beyond 2024
8 the costs are too uncertain to develop cost
9 estimates -- or the -- I'm sorry, let me try that
10 again. Is it your opinion that beyond 2024, the
11 compliance obligations are too uncertain to predict
12 or anticipate?

13 A. I think it's possible to predict or
14 anticipate continued compliance obligations under the
15 rules that are on the books now, that will become
16 final in the next few years. It's difficult to
17 anticipate what new requirements might result in new
18 compliance obligations and costs.

19 Q. And do you think it -- is it also
20 difficult to anticipate the magnitude of
21 environmental compliance costs for those new rules?

22 A. Yes. To the extent that it's difficult
23 to anticipate what new requirements would be, it's
24 difficult to anticipate what the costs may be.

1 Q. Do you think that the environmental
2 compliance obligations beyond 2024 on coal plants
3 could potentially be significant?

4 A. I can't say one way or the other at this
5 point.

6 Q. I'm doing clean-up. Do you know whether
7 you will recommend that AEP make the investments
8 listed in the attachment to 2-45 regardless of
9 whether the PPAs are approved?

10 MR. SATTERWHITE: Could I have the
11 question reread please?

12 (Question read back.)

13 MR. SATTERWHITE: I think just
14 clarification, by "AEP" what you mean.

15 MS. WILLIAMS: Well -- okay. Let's go
16 back a little bit.

17 BY MS. WILLIAMS:

18 Q. Do you make recommendations to anyone as
19 to what needs to be done to comply with environmental
20 rule?

21 A. In some cases, yes.

22 Q. Who do those recommendations go to?

23 A. It would likely go to the people in the
24 specific business unit or part of the organization

1 that is responsible for those particular facilities
2 or operations that would have compliance obligations.

3 Q. Okay. I'm sorry, I don't understand
4 that answer, so -- the business units at the
5 particular plants?

6 A. It might be management responsible for
7 the plants. It might be management responsible for
8 transmission operations. It might be management
9 responsible for distribution operations that have
10 compliance obligations.

11 Q. Okay. So do you know whether you will
12 recommend to whomever is responsible for making the
13 environmental compliance decisions at each of the
14 units that they should go forward with the
15 proposed -- or this list of environmental compliance
16 projects regardless of whether the PPAs are approved?

17 A. It would not be my position to make
18 those type of specific recommendations to go forward.

19 Q. Okay. Whose responsibility would that
20 be?

21 A. That would be management in that part of
22 the organization ultimately make that decision.

23 Q. But you don't make recommendations to
24 them as to whether projects should go forward to

1 comply with environmental rule?

2 A. These specific requirements?

3 Q. Yes.

4 A. For projects?

5 Q. Yes.

6 A. No, we wouldn't make a recommendation.

7 We would identify what the compliance obligation
8 would be, and then there's a process that develops
9 costs, and ultimately someone makes a decision as to
10 whether that's appropriate or not. I would not make
11 that recommendation one way or the other.

12 Q. Okay. And then I just have a couple of
13 questions for you about the Clean Power Plan. If we
14 could go to Page 11 of your testimony, and then on
15 Lines 22 through 27 you discuss proposed final goal
16 in pounds CO2 per megawatt hour and the proposed
17 interim goal; is that right?

18 A. That's correct.

19 Q. Do you know whether the final and
20 interim goals in the final CPP are lower than these
21 goals that you identified in your testimony?

22 A. Yes, they are lower.

23 Q. Okay. And how have the new goals set
24 forth for Ohio in the final CPP impacted your

1 analysis?

2 A. There has not been an impact at this
3 stage because the rule has been out a little over a
4 month, and it's very early in the process to
5 determine what the ultimate plan or approach will be
6 in Ohio.

7 Q. Have you done any analysis yet of what
8 the final Clean Power Plan impact will be on your
9 plants?

10 A. On the --

11 Q. On the AEP plants, the PPA Units.

12 A. No.

13 Q. Do you know whether the CO2 emissions
14 rate for each of the PPA Units is above or below the
15 interim and final goals for Ohio under the Clean
16 Power Plan?

17 A. I'd have to look unit by unit, but if
18 it's a coal-fired unit, its emission rate will be
19 higher than the goals. If it's a gas-fired unit, it
20 might be lower. I'd have to -- but these are all
21 coal-fired units, so it would be higher than the
22 goals.

23 Q. Okay. I may have some questions that
24 deal with confidential materials, but I'm done for

1 now.

2 MR. SATTERWHITE: Okay.

3 MS. WILLIAMS: Thank you.

4 MR. SATTERWHITE: Who else had questions
5 for the public session?

6 Jodi, do you have any?

7 MS. BLAIR: I don't have any. Thank
8 you.

9 MR. SATTERWHITE: Frank, are you still
10 there?

11 MR. DARR: I am.

12 MR. SATTERWHITE: Do you have questions?

13 MR. DARR: No, I don't have any
14 questions for this witness. Thank you.

15 MR. SATTERWHITE: Becky?

16 MS. HUSSEY: I don't have any either,
17 Matt.

18 MR. SATTERWHITE: Okay. Justin?

19 MR. VICKERS: Yeah, I have a few. Are
20 we okay to keep going now?

21 MR. SATTERWHITE: I was going to ask you
22 to estimate.

23 MR. VICKERS: I would say -- I think 20
24 minutes at the most.

1 MR. SATTERWHITE: If that's all that's
2 left, I recommend we do that, and then we can go to
3 lunch and come back for the confidential portion.
4 Sound good?

5 MR. VICKERS: Sounds good.

6 MR. SATTERWHITE: And then Staff, I
7 don't know if you have any questions as well.

8 MR. BEELER: No, I don't have any
9 questions, Matt. Thanks.

10 MR. SATTERWHITE: Okay. I just wanted
11 to make sure. One second.

12 THE WITNESS: Who is he?

13 MR. SATTERWHITE: He'll introduce
14 himself.

15 CROSS-EXAMINATION

16 BY MR. VICKERS:

17 Q. Good morning. My name is Justin
18 Vickers. I'm with the Environment Law & Policy
19 Center. I'm going to ask you a few questions. Let's
20 start -- we were just talking about the Clean Power
21 Plan. Are you familiar with the MATS-based and
22 rate-based compliance options for the plants?

23 A. Yes, in a general sense.

24 Q. Okay. And in the MATS-based option, and

1 I'm just sort of speaking generally here, for the
2 MATS-based option power plants would need to have
3 allowances for each ton of carbon they emit. Is that
4 your understanding?

5 A. If that's the type of program that the
6 state implemented to comply with a MATS-based
7 approach, that would be correct.

8 Q. And under that -- hypothetically, if
9 that's what the state would adopt, then the number of
10 allowances would, in effect, be capped; right?

11 A. Yes.

12 Q. So if a -- one of the PPA Units were to
13 retire, there would be less demand for those
14 allowances; right? So the cap would -- there would
15 be a cap, and so if there were -- all things being
16 equal, if one of the units were to retire, there
17 would be less demand for the allowances; right?

18 A. The unit that retired would not have
19 emissions that would use allowances, but that doesn't
20 say what the overall demand for allowances would be
21 throughout the rest of the state.

22 Q. Right. So I guess what I'm asking is
23 if -- if there were -- without a specific -- without
24 one PPA Unit taking up -- needing some of those

1 allowances in order to operate, sort of all things
2 being equal, so no additional plants coming on line,
3 no other plants retiring, the sort of overall demand
4 for the capped allowances would go down if a
5 specific -- if any given unit retired? Does that
6 make sense or am I misunderstanding? Am I missing
7 something on that?

8 A. It depends on how all the remaining
9 units in the state that are in the program are
10 operated and what their emissions are and, therefore,
11 their demand for allowances.

12 Q. Would you -- do you anticipate that
13 under a MATS-based option where you have capped
14 allowances, more demand for the allowances, the
15 higher the price for those allowances would be?

16 A. It's really hard to say. In particular
17 if a state would adopt a MATS-based approach and
18 allowance program in concert with a broader group of
19 states that take the same approach, then, you know,
20 ultimately a price is determined by the size of, in
21 effect, that market; so, you know, it would be very
22 difficult to say.

23 Q. Right, but -- so the price would respond
24 to traditional supply and demand market forces?

1 A. That's what I would expect, yes.

2 Q. And so under a rate-based option, if the
3 state were to adopt a rate-based option, the plants
4 would purchase emission reduction credits to offset
5 their carbon emissions; is that right?

6 A. The way it would be structured, the
7 plants would have to obtain emission reduction
8 credits, yes.

9 Q. And would you expect that the credits
10 would -- like under the MATS-based option, that the
11 credits under a rate-based option would also respond
12 to supply and demand for the market -- in the market
13 for those credits?

14 A. Again, it depends on how a state
15 structures the program or how they set up that system
16 and the credits, so it's hard to say how broad of a
17 market there is, but in general I think what you
18 said, if it's a truly functioning market, that's how
19 it would respond.

20 Q. Okay. And would the idea of having a
21 market-based approach under the MATS-based or the
22 rate-based option, is the idea to seek the lowest
23 price possible overall that the market would
24 efficiently price those allowances or credits?

1 MR. SATTERWHITE: I guess I'll just
2 object. When you say "the idea," I'm not sure who
3 you're talking about.

4 A. Right. Whose idea?

5 Q. So I guess what I'm trying to get at
6 here is would you anticipate that the allowance or
7 credit market would seek an efficient price, that it
8 would -- it would go to the lowest -- the lowest
9 price under market forces of supply and demand?

10 A. I guess as a general statement, if the
11 market is structured in a way that makes it a fully
12 functioning market, it should ultimately result in
13 more cost-effective compliance. That's the theory.

14 Q. And does AEP Ohio's carbon price
15 projection assume least cost compliance?

16 A. At this stage, and there are other
17 witnesses who can address this more fully, but at
18 this stage, we'll use a carbon price as a proxy for
19 some form of carbon regulation. We've done that for
20 quite some time now, and we've not changed that
21 assumption at this stage, even though the rule has
22 been issued, it's not been published yet; so it's not
23 quite final, because it's still early in the process
24 to determine how it would be implemented and what the

1 implications would be; so we're using the same
2 approach as we have for many years in using a carbon
3 price as a proxy.

4 Q. Do you know if EPA did dispatch modeling
5 to project cost of compliance with the Clean Power
6 Plan?

7 A. I am aware that EPA has done a
8 regulatory impact assessment in that they've
9 estimated their view on the cost of compliance. I
10 believe they did some modeling for that, but I don't
11 know specifically what they did.

12 Q. So do you know whether any of that
13 modeling predicted that any of the PPA Units would
14 retire due to the Clean Power Plan?

15 A. I do not know. I'm not sure that
16 modeling is available yet.

17 Q. Okay. Moving on to talk about MATS a
18 little bit, what are the steps remaining in the
19 process to ensure that Conesville Units comply with
20 MATS by the 2016 deadline?

21 A. Could you be more specific as to which
22 units in relation to the 2016 deadline?

23 Q. Yes. I believe we were talking about
24 Units 5 and 6 earlier, and I just wanted to get some

1 clarification on -- on what the -- if there were any
2 remaining steps to have them comply with them.

3 A. It's my understanding that the
4 technology that we've selected for those units has
5 been installed on one unit, and it will be installed
6 on the second unit before the April 2016 deadline,
7 and then we would have to do some testing to
8 determine the performance of the technology in
9 comparison to the standard.

10 Q. Do you know if AEPGR considered
11 converting units to natural gas instead of putting on
12 those technologies to control the MATS?

13 A. I don't know one way or the other.

14 Q. If we could talk a little bit about
15 CSAPR. I'm sorry, I'm jumping around. I'm just
16 trying to conduct some clean-up and not have you
17 answer questions you've already answered, but with
18 talking about CSAPR, which you talked about a little
19 bit before, so CSAPR is designed to ensure that
20 polluters aren't contributing to violations of the
21 ozone and the PM2.5 NOx in states downwind; is that
22 right?

23 A. I guess I'd say it's designed to reduce
24 the contribution of electric generating units on a

1 reasonable basis to ozone or PM2.5 fine particulate
2 air quality in the region in which CSAPR applies.

3 Q. And so if there were changes to the
4 ozone and PM2.5 NOx, if they became more stringent,
5 would that impact emissions for some plants? Would
6 some plants have to reduce their emissions?

7 A. It's -- you can't really say at this
8 point because if the standards are changed, made more
9 stringent, again it starts a multi-year process by
10 which US EPA in the states identify nonattainment
11 areas, identify sources contributing to those, and
12 identify what mitigation is needed in the form of
13 emission reduction; so it's very difficult to say
14 this early in the process what might be required at
15 any specific unit.

16 Q. So am I understanding correctly that
17 right now the NOx and SO2 budgets for any given
18 state, including Ohio, they have budget allowances
19 under CSAPR? Is that how that works?

20 A. Well, the units themselves and the plant
21 have budgets -- they have allowance allocations under
22 the rule.

23 Q. So if the NOx became more stringent,
24 would -- would that lower the overall budgets or does

1 it go plant by plant? Would it be a statewide
2 lowering of the budgets or would it be identified on
3 a plant-by-plant basis?

4 A. Again, at this stage, it -- it's too
5 early to tell. It would depend on how US EPA or the
6 states structured a program. If they used the
7 structure that we have now with allowance
8 allocations, then it's possible that the allowance
9 allocations could be reduced.

10 Q. Do you know how often EPA considers
11 revisions to the NOx?

12 A. I don't know what you mean when you
13 refer just to "NOx."

14 Q. To the ozone and -- to the ozone and the
15 PM2.5 under CSAPR.

16 A. So when you say ozone and PM2.5, you
17 mean the National Ambient Air Quality Standards for
18 those two pollutants?

19 Q. Yes, yes.

20 A. The PPA by statute is supposed to review
21 those standards every five years. That schedule
22 varies in what they actually do.

23 Q. Do you know how often they've made those
24 more stringent over the past 20 years for those two

1 pollutants?

2 A. I think over the last 20 years they
3 revised the ozone standard once and the PM2.5
4 standard once. That's my recollection.

5 Q. Let me look through my notes here. Just
6 give me one second. We talked -- I think the last
7 thing I have is just to talk a little bit about the
8 ELG Rule, the proposed ELG rule, which I believe you
9 discussed at the bottom of Page 9 and onto the first
10 couple lines of Page 10 of your testimony, and if you
11 look at Page 10, specifically Lines 1 and 2 you talk
12 about the future projects, potential for future
13 projects that will be required specifically by the
14 final ELG Rule. Has AEP considered what those future
15 projects might be?

16 A. Yes. We have looked at what might be
17 required by that rule. We have identified potential
18 technologies, and I believe in our list of projects
19 some of those projects are specific to the ELG Rule.

20 Q. And has the Company evaluated the costs
21 for those future projects?

22 A. We've developed sort of preliminary cost
23 estimates for those projects, yes.

24 Q. On Page 9, Line 22, the sentence, "Based

1 on preferred approaches outlined in the proposed
2 version of the rule," the proposed approaches, is
3 that -- just to get the language clear here, are you
4 referring there to the preferred alternatives that
5 EPA put out in the proposed rule?

6 A. Yes.

7 Q. And in your discussion of the steps
8 necessary for compliance with the final rule based --
9 I'm sorry. Is your discussion of the steps necessary
10 for compliance with the final rule based on the most
11 stringent of those proposed alternatives or are you
12 looking at a variety of potential alternatives?

13 A. Could you say that again?

14 Q. Yeah. Is your -- when you're talking
15 about looking at the preferred options here and the
16 preferred alternatives that EPA is looking at, are
17 you looking at -- at the whole gamut of those options
18 or are you weighting more toward some options than
19 others or what is your process for identifying what
20 compliance would look like?

21 A. I'm not sure specifically, and as I
22 indicated earlier, EPA proposed eight approaches,
23 four were their preferred approaches. There's
24 reference here to preferred as those four, but of

1 those four, I don't know at this point what
2 specifically we've sort of honed in on in developing
3 costs.

4 Q. Then I just have a couple of questions
5 about Kyger Creek. Are you aware that there is a
6 variance allowing discharge of mercury into a
7 tributary of the Ohio River at levels above the
8 applicable water quality standard for Kyger Creek
9 right now?

10 A. No, I am not.

11 Q. Okay. I have no more questions.

12 MR. SATTERWHITE: All right. Anybody
13 else for the public version session? Who all is -- I
14 guess we can go off the record for a second.

15 (Discussion off the record.)

16 *****END OF PUBLIC PORTION OF TESTIMONY*****
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22
23
24

1 State of Ohio :
2 County of : SS:
3 :

4 I, John M. McManus, do hereby certify
5 that I have read the foregoing transcript of my
6 deposition given on Thursday, September 17, 2015;
7 that together with the correction page attached
8 hereto noting changes in form or substance, if any,
9 it is true and correct.

10 _____
11 JOHN M. McMANUS

12 I do hereby certify that the foregoing
13 transcript of the deposition of John M. McManus was
14 submitted to the witness for reading and signing;
15 that after he had stated to the undersigned Notary
16 Public that he had read and examined his deposition,
17 he signed the same in my presence on the ____ day of
18 _____, 2015.

19 _____
20 Notary Public

21 My commission expires _____, _____.
22 - - -
23
24

CERTIFICATE

State of Ohio :
: SS:
County of Franklin :

I, Valerie J. Sloas, Notary Public in and for the State of Ohio, duly commissioned and qualified, certify that the within named John M. McManus was by me duly sworn to testify to the whole truth in the cause aforesaid; that the testimony was taken down by me in stenotype in the presence of said witness, afterwards transcribed upon a computer; that the foregoing is a true and correct transcript of the testimony given by said witness taken at the time and place in the foregoing caption specified and completed without adjournment.

I certify that I am not a relative, employee, or attorney of any of the parties hereto, or of any attorney or counsel employed by the parties, or financially interested in the action.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my seal of office at Columbus, Ohio, on this 17th day of September, 2015.

Valerie J. Sloas, Registered
Professional Reporter and
Notary Public in and for the
State of Ohio.

My commission expires June 8, 2016.

(VJS-79221-CONFIDENTIAL)

ARMSTRONG & OKEY, INC.
Registered Professional Reporters
222 E. Town St. - 2nd Floor
Columbus, Ohio 43215
614/224-9481

September 18, 2015

John M. McManus
c/o Matthew J. Satterwhite, Esq.
American Electric Power
1 Riverside Plaza
Columbus, Ohio 43215

Re: In the Matter of Ohio Power Company 14-1693-EL-RDR & 14-1694-EL-AAM

Dear Mr. McManus:

Enclosed is the transcript of your deposition taken on September 17, 2015, for examination pursuant to 4901-1-21(K) of the Ohio Rules of Practice before the Public Utilities Commission of Ohio.

The rule requires that your deposition be read by or to you. Any changes in form or substance which you desire to make shall be entered by me with a statement of the reasons given for making them.

If your deposition is not signed within 10 days of its submission to you, I am required to sign it and state the fact of the refusal to sign with the reason, if any, given therefor; and the deposition may then be used as though signed, unless on a motion to suppress the Commission holds that the reasons given for the refusal to sign require rejection of the deposition in whole or in part. By copy of this letter I am advising the attorneys in the case of the submission of your deposition.

Please have your deposition signed in the presence of a Notary Public and return to us by certified mail.

Thank you for your promptness in this matter.

Sincerely,

ARMSTRONG & OKEY, INC.

Cc: Ms. Williams

1 State of Ohio :
2 County of : SS:
3 :

4 I, John M. McManus, do hereby certify
5 that I have read the foregoing transcript of my
6 deposition given on Thursday, September 17, 2015;
7 that together with the correction page attached
8 hereto noting changes in form or substance, if any,
9 it is true and correct.

10
11 _____
12 JOHN M. McMANUS

13 I do hereby certify that the foregoing
14 transcript of the deposition of John M. McManus was
15 submitted to the witness for reading and signing;
16 that after he had stated to the undersigned Notary
17 Public that he had read and examined his deposition,
18 he signed the same in my presence on the ____ day of
19 _____, 2015.

20 _____
21 Notary Public

22 My commission expires _____, _____.
23
24

- - -

ERRATA SHEET

Please do not write on the transcript. Any changes in form or substance you desire to make should be entered upon this sheet.

TO THE REPORTER:

I have read the entire transcript of my deposition taken on the _____ day of _____, _____, or the same has been read to me. I request that the following changes be entered upon the record for the reasons indicated. I have signed my name to the signature page and authorize you to attach the same to the original transcript.

Page	Line	Change	Reason

Date _____ Signature: _____

1 CERTIFICATE

2 State of Ohio :
3 County of Franklin : SS:

4 I, Valerie J. Sloas, Notary Public in
5 and for the State of Ohio, duly commissioned and
6 qualified, certify that the within named John M.
7 McManus was by me duly sworn to testify to the whole
8 truth in the cause aforesaid; that the testimony was
9 taken down by me in stenotype in the presence of said
witness, afterwards transcribed upon a computer; that
the foregoing is a true and correct transcript of the
testimony given by said witness taken at the time and
place in the foregoing caption specified and
completed without adjournment.

10 I certify that I am not a relative,
11 employee, or attorney of any of the parties hereto,
12 or of any attorney or counsel employed by the
parties, or financially interested in the action.

13 IN WITNESS WHEREOF, I have hereunto set
14 my hand and affixed my seal of office at Columbus,
Ohio, on this 17th day of September, 2015.

15
16 Valerie J. Sloas
17 Valerie J. Sloas, Registered
18 Professional Reporter and
Notary Public in and for the
State of Ohio.



19
20 My commission expires June 8, 2016.

21 (VJS-79221-CONFIDENTIAL)
22
23
24

This foregoing document was electronically filed with the Public Utilities

Commission of Ohio Docketing Information System on

9/23/2015 12:28:06 AM

in

Case No(s). 14-1693-EL-RDR, 14-1694-EL-AAM

Summary: Deposition of John M. McManus electronically filed by Mr. Tony G. Mendoza on behalf of Sierra Club