

BEFORE THE PUBLIC UTILITIES COMMISSION OF OHIO

- - -

In the Matter of the :  
Application of Ohio Edison:  
Company, The Cleveland :  
Electric Illuminating :  
Company, and The Toledo :  
Edison Company for : Case No. 14-1297-EL-SSO  
Authority to Provide for :  
a Standard Service Offer :  
Pursuant to R.C. 4928.143 :  
in the Form of an Electric:  
Security Plan. :

- - -

PROCEEDINGS

before Mr. Gregory Price, Ms. Mandy Chiles, and  
Ms. Megan Addison, Attorney Examiners, at the Public  
Utilities Commission of Ohio, 180 East Broad Street,  
Room 11-A, Columbus, Ohio, called at 10:00 a.m. on  
Monday, September 28, 2015.

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## COMPANY EXHIBITS

## IDENTIFIED ADMITTED

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Monday Morning Session,

September 28, 2015.

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EXAMINER ADDISON: Let's go on the  
record.

The Public Utilities Commission of Ohio  
has set for hearing at this time and place Case  
No. 14-1297-EL-SSO, being In the Matter of the  
Application of Ohio Edison Company, the Cleveland  
Electric Illuminating Company and The Toledo Edison  
Company for Authority to Provide a Standard Service  
Offer pursuant to RC 4928.143 in the Form of an  
Electric Security Plan.

My name is Megan Addison. With me is  
Gregory Price and Mandy Childs, and we are the  
Attorney Examiners assigned by the Commission to hear  
this case.

We will dispense with taking of  
appearances this morning.

Are the companies ready to proceed?

MR. LANG: Yes, your Honor.

EXAMINER ADDISON: You may call your next  
witness.

MR. LANG: Thank you, your Honor. The  
companies call Raymond Evans.

1 (Witness sworn.)

2 MR. LANG: Thank you. Your Honor, the  
3 companies have marked Mr. Evans' Companies Public and  
4 Confidential versions as Companies 46, 47C, and the  
5 errata as 48 and 49C.

6 (COMPANY EXHIBITS 46, 47C, 48 and 49C  
7 MARKED FOR IDENTIFICATION.)

8 - - -

9 RAYMOND L. EVANS

10 being first duly sworn, as prescribed by law, was  
11 examined and testified as follows:

12 DIRECT EXAMINATION

13 By Mr. Lang:

14 Q. Mr. Evans, if we can go through these  
15 exhibits, can you identify Exhibit 46.

16 A. Company Exhibit 46 is the Supplemental  
17 Testimony of Raymond L. Evans on behalf of the Ohio  
18 Edison Company, Cleveland Electric Illuminating  
19 Company, and the Toledo Edison Company. It is dated  
20 May 4, 2015, and that is the public version.

21 Q. And can you identify Company Exhibit 47C?

22 A. Yes. 47C is my Supplemental Testimony on  
23 behalf of the Ohio Edison Company, the Cleveland  
24 Electric Illuminating Company, and the Toledo Edison  
25 Company. It is dated May 4, 2015. It is the

1 confidential version.

2 Q. And can you identify Company Exhibit 48?

3 A. Company Exhibit No. 48 is the Evans  
4 Errata. It deals with the Clean Power Plan, and it  
5 is dated September 14, 2015.

6 Q. Then, finally, Company Exhibit 49C?

7 A. Company Exhibit 49C is my errata, Evans  
8 Errata, regarding the Clean Power Plan. It is also  
9 dated September 14, 2015. It is the confidential  
10 version of my errata.

11 Q. And with regard to the errata, can you  
12 tell us what pages and line number appears in the  
13 supplemental testimony that errata is intended to  
14 replace?

15 A. The errata replaces the Clean Power  
16 portion of my original supplemental testimony  
17 beginning on line 9, on page 9 and continues to  
18 page 15, line 15.

19 Q. With regard to your supplemental  
20 testimony, are there any other corrections you would  
21 like to make?

22 A. Yes. There are additional corrections to  
23 be made beginning on Page 8 of the supplemental  
24 testimony, both the privileged and -- or the  
25 confidential and public version. On line 1, it says,

1 "Except for turbines at Davis-Besse." Strike  
2 "turbines" and insert "diesel generators."

3 Q. Any other corrections?

4 A. There are two more. On page 17 on  
5 line 9, strike "2013 to 2015", insert "2012 to 2014."

6 Also on page 17 on line 11 --

7 EXAMINER ADDISON: I'm sorry?

8 Q. Line 19?

9 A. Yes, thank you. On line 19 strike "on"  
10 in that sentence of line 19 and insert "in," I-N.

11 Q. All right. Thank you, Mr. Evans. So  
12 Mr. Evans, with those corrections that you've made to  
13 your supplemental testimony, including the errata, if  
14 I were to ask you the questions in Company Exhibits  
15 46 and 47C, would your answers be the same?

16 A. My answers would be the same in  
17 accordance with my supplemental testimony.

18 EXAMINER PRICE: Thank you.

19 Your Honor, Mr. Evans is available.

20 (Discussion off record.)

21 EXAMINER ADDISON: Go back on the record.

22 Mr. Fisk.

23 MR. FISK: Thank you, your Honor. Sierra  
24 Club would move to strike Exhibits 48 and 49C, the  
25 errata and confidential errata, submitted by

1 Mr. Evans on three different grounds. First, this is  
2 plainly not an errata under any reasonable definition  
3 of that word in evidence. This is an attempt to  
4 provide testimony in the hearing as to what the final  
5 version of the Clean Power Plan issued in early  
6 August may require.

7 Second, the supplementation and updating  
8 of Mr. Evans' testimony prejudices the intervenors  
9 who have not had a chance to take the deposition of  
10 Mr. Evans about his new testimony. Such prejudice is  
11 compounded by the fact that the information in the  
12 errata is designated confidential by the company.

13 As your Honors previously ruled, new  
14 confidential information from the companies that was  
15 not produced in discovery should not be admitted in  
16 the proceeding.

17 Third, the companies' selective  
18 supplementation of their testimony to reflect only  
19 some of the most recent regulatory market changes not  
20 in their entirety is not appropriate for the  
21 Commission's review in this proceeding.

22 As has become clear in last four years,  
23 there has been a wide array of market changes.  
24 Natural gas prices are substantially lower than what  
25 the companies predicted. If we are going to update

1 the record to reflect current regulatory and market  
2 conditions, we should update everything rather than  
3 allowing piecemeal and selective updates under the  
4 guise of so-called errata.

5 For each of those reasons, Sierra Club  
6 would object to the admission of this errata. If the  
7 errata is admitted, we ask that intervenors be  
8 afforded the opportunity to submit their own  
9 supplemental testimony.

10 Thank you.

11 MR. OLKER: I would join that motion.  
12 To further add, if you look at figures 1 through 4 in  
13 the original testimony submitted in May, that was  
14 based on the EPA analysis that was then used for a  
15 confidential analysis by FirstEnergy.

16 Then they supplement the testimony  
17 relying on a completely different EPA analysis and  
18 calling it an errata. To further compound this, as  
19 noted by Mr. Fisk, this new analysis contained  
20 figures 1 through 4 based on confidential information  
21 that hasn't been provided to the parties. I think  
22 that this should not be classified an errata, and I  
23 think it is inappropriate

24 EXAMINER PRICE: Mr. Lang, do you have a  
25 response?



1 MR. LANG: Yes. On the first point as to  
2 whether it is errata, it certainly is errata. There  
3 obviously was a change between the time that the  
4 testimony was filed on May 4. There was a final  
5 Clean Power Plan issued, which everyone is familiar  
6 with.

7 The purpose for the testimony being  
8 filed in the first instance was initially it was the  
9 Commission's decision in the AEP case expressing an  
10 interest in proceedings of this type to receive  
11 information on environmental compliance with the  
12 Clean Power Plan.

13 Compliance in regard to pending  
14 regulations is what prompted Mr. Evans' testimony  
15 filed on May 4. Then following that AEP order, there  
16 was a specific entry in the proceeding stating to the  
17 parties that if they had testimony to file on the  
18 issues identified, those four issues, those were to  
19 be by filed May 4. That's what Mr. Evans did.

20 I'd say really the only environmental  
21 regulation that the Commission has mentioned in its  
22 AEP order as being of interest to the Commission is  
23 the Clean Power Plan, and we didn't want to delay  
24 this proceeding until there would be a final Clean  
25 Power Plan so there could be testimony on that final

1 Clean Power Plan. Again, that's exactly what Mr.  
2 Evans is providing now through his errata.

3 He took his initial testimony on the  
4 proposed Clean Power Plan that was filed on May 4,  
5 went through that proposed Clean Power Plan  
6 testimony, and specifically adjusted it for each  
7 issue that was in the original testimony adjusting it  
8 so that it would reflect the provisions of the final  
9 Clean Power Plan. So, for example, where the  
10 proposed testimony said there were four building  
11 blocks, this testimony says there are three building  
12 blocks. That's an errata.

13 He also in his original testimony  
14 addressed the EPA modeling that was done of the  
15 proposed rate-based proposal that the EPA had. In  
16 this errata sheet, he had to change that because EPA  
17 with the final power plan has updated their  
18 rate-based modeling so that the rate-based modeling  
19 the results are a little bit different than they were  
20 under the proposed Power Plan.

21 So, again, Mr. Evans took the rate-based  
22 modeling that was in his proposed testimony and fixed  
23 it to the rate-based modeling that the EPA has done  
24 with regard to the final Power Plan, stayed within  
25 the strictures of what his testimony was on May 4,

1 and corrected that to where he reflected the final  
2 Clean Power Plan, which, again, is what the  
3 Commission has expressed an interest in hearing about  
4 in the proceeding.

5 With regard to the prejudice argument,  
6 I'm a little surprised. We gave notice two weeks ago  
7 that we would provide this testimony. We filed it  
8 two weeks ago, specifically so that parties would  
9 have an opportunity to review it over the last two  
10 weeks.

11 We had no requests for a deposition of  
12 Mr. Evans. We had no request for additional  
13 information on the errata that was filed, so to the  
14 extent there's any prejudice that the intervenors  
15 feel today that should be prejudice, I would say  
16 they've brought -- that they had the opportunity to  
17 ask for the deposition of Evans if they thought that  
18 was important. They did not.

19 With regard to this third issue that  
20 Mr. Fisk raised with regard to selective  
21 supplementation, we do not believe it is selective  
22 supplementation. What we have done is simply update  
23 for recent events. It is the Clean Power Plan,  
24 again, that the Commission wanted to hear testimony  
25 on in this case, and so Mr. Evans is here to provide

1       that testimony.

2               EXAMINER ADDISON:   Mr. Fisk.

3               MR. FISK:   Thank you, your Honor.

4               Just a few points.   First, you know,  
5       Mr. Lang has not identified any errors that Mr. Evans  
6       has corrected.   Mr. Evans' initial supplemental  
7       testimony addressed his interpretation of the  
8       so-called draft Clean Power Plan.   Is new testimony,  
9       his errata testimony, doesn't change his analysis of  
10      the draft Clean Power Plan.   It offers an analysis of  
11      that final Clean Power Plan.   That is different than  
12      an errata.   That is supplementing and revising his  
13      testimony.

14              Mr. Lang mentioned that, you know, he  
15      didn't want delay for -- to delay the hearing for the  
16      parties to address the Clean Power Plan.   You know,  
17      the intervenors in the proceeding actually did file a  
18      motion asking for the hearing to be delayed until  
19      after the Clean Power Plan went final.   There was  
20      opposition to that from the companies.   The hearing  
21      ended up going forward, as it did, and now they're  
22      trying to submit a new analysis based on something  
23      that changed long after testimony deadlines closed.

24              Finally, you know, with regards to  
25      whether any party asked for any discovery regarding

1 this so-called errata, FirstEnergy's position since  
2 May has essentially been no further discovery is  
3 allowed in the proceeding. To drop a new analysis on  
4 the parties in the middle of a hearing when we're all  
5 busy cross-examining witnesses and preparing for a  
6 second hearing, long after the deadlines for  
7 testimony and long after FirstEnergy itself has said  
8 the deadlines on the discovery were closed, simply is  
9 prejudicial under any reasonable interpretation of  
10 that word.

11 So we would continue to oppose the  
12 so-called errata and move to strike 48 and Exhibit  
13 49C.

14 EXAMINER ADDISON: Mr. Olikar, do you  
15 have anything to add?

16 MR. OLICKER: No. I would join Mr. Fisk's  
17 comments.

18 EXAMINER ADDISON: Mr. Lang, final word?

19 MR. LANG: Thank you, your Honor.

20 I think just one point, perhaps, of  
21 confusion is the point of disagreement over  
22 discovery, and there was FirstEnergy's opposition to  
23 requests at one point in this proceeding to update  
24 discovery related to the August 4 testimony. That  
25 was a separate issue than what's before you here,

1 which is the supplemental testimony addressing the  
2 four factors from the AEP proceeding, which was filed  
3 on May 4 and subject to a separate discovery process.

4 And, again, with regard to his testimony  
5 here and the errata that we provided to the parties  
6 two weeks ago, there was no request from anyone for  
7 any additional information or for deposition.

8 And the final point I'd think I'd make,  
9 this is no different than with Mr. Moul's testimony a  
10 couple of weeks ago. Mr. Moul had testimony with  
11 regard to the proposed capacity performance plan at  
12 PJM. When that final capacity performance plan was  
13 issued, at hearing he corrected his testimony so it  
14 would reflect the final capacity performance product.  
15 There was no objection from the parties in this case  
16 because it was a proper correction of his testimony  
17 to reflect that there was a final capacity  
18 performance product.

19 Similarly here with Mr. Evans, his errata  
20 reflects there is now a final or nearly final --  
21 until it is published in the Federal Register,  
22 Mr. Evans would point out to me, there isn't really a  
23 final Clean Power Plan -- so that his errata can be  
24 addressed today.

25 EXAMINER ADDISON: Thank you. At this

1 time we will take a brief recess to consider the  
2 arguments around the pending motion to strike. Let's  
3 say give it about 15 minutes. We will come back  
4 around 10:45.

5 MR. FISK: Thank you, your Honor.

6 EXAMINER ADDISON: Let's go off the  
7 record.

8 (Recess taken.)

9 EXAMINER ADDISON: Let's go back on the  
10 record.

11 At this time, the pending motion to  
12 strike will be denied. We believe the Commission  
13 needs the full record of or regarding the final Clean  
14 Power Plan and this information had been beneficial  
15 in their ultimate decision in the proceeding.

16 In order to exclude any prejudice to  
17 intervenors relating to this errata, Intervenor will  
18 have an opportunity to file supplemental testimony on  
19 the topic contained in the errata sheet within ten  
20 days of today or October 8, 2015.

21 If any supplemental testimony is filed,  
22 we will schedule the witness accordingly. I'm sure  
23 the companies will work on scheduling if there are  
24 any issues. And understanding the lack of  
25 opportunity to depose, we will provide intervenors

1     ample leeway during cross-examination of this  
2     witness.

3             Before we proceed, Mr. Olikier, I believe  
4     I need to mark the exhibits. I don't believe I did  
5     that earlier.

6             So the testimony of Raymond Evans will be  
7     marked as FirstEnergy Exhibit 46. The confidential  
8     testimony of Mr. Evans will be marked as FirstEnergy  
9     Exhibit 47, confidential, and the errata sheet of  
10    Raymond Evans will be marked as FirstEnergy Exhibit  
11    8. The errata sheet for Raymond Evans confidential  
12    will be marked as FirstEnergy Exhibit 49,  
13    confidential.

14            Thank you.

15            MR. LANG: Thank you, your Honor. It was  
16    probably my mistake for not asking you to do that.

17            MR. LANG: Can we go off the record for  
18    one minute.

19            EXAMINER ADDISON: Yes.

20            (Discussion off record.).

21            EXAMINER ADDISON: Mr. Olikier.

22            MR. OLIER: Thank you, your Honor.

23                    - - -



## CROSS-EXAMINATION

By Mr. Olikar:

Q. Good morning, Mr. Evans.

Just so I'm clear, the exhibits have been marked as 46, 47C, 48 and 49C. Is that correct?

MR. LANG: Yes.

Q. Starting with Exhibit No. 46 -- actually, before I go there. Do you have any documents with you besides Exhibit 46 through 49?

A. I do not.

Q. Okay, thank you. Are there any notes on the documents you brought with you?

A. There are no notes on the documents I've brought with me.

Q. Okay. Thank you. Referring to pages 9 through 15 in your testimony that deals with the Clean Power Plan. I'm referring to Exhibit 46 and 47.

A. That is correct.

Q. Okay. And am I correct that figures 1 through 4 in Exhibits 46 and 47 are based upon source data provided by the USA regarding the proposed clean --

THE WITNESS: Could you repeat the question please? after I USA I should say EPA.

1 MR. LANG: Thank you.

2 (Record read.)

3 Q. That should be USEPA?

4 A. That is correct.

5 Q. And am I correct that the source data is  
6 USEPA modeling run of what is known as EPA option  
7 1 state?

8 MR. LANG: Your Honor, I believe  
9 Mr. Evans is being questioned on testimony that is  
10 not before the Commission because he's asking him  
11 about testimony that's been supplanted by the errata.  
12 So to that extent, it's not relevant to this  
13 proceeding. What is relevant is the errata, but  
14 pursuant to your Honors' statement, you would be  
15 providing leeway, I just wanted to put on the record  
16 it is questioning about a portion of the prefiled  
17 testimony that is not actually part of the record.

18 EXAMINER ADDISON: Mr. Olikier.

19 MR. OLIER: Your Honor, I think it is  
20 very important to first explore his initial  
21 recommendations and then to compare them to his  
22 supplemental errata. The linkage will be clear  
23 shortly, but I'll be laying some foundation.

24 EXAMINER ADDISON: Thank you. I will  
25 provide Mr. Olikier a little leeway.

1 MR. LANG: Could you repeat the question  
2 please.

3 (Record read.)

4 THE WITNESS: In accordance with my  
5 testimony, the response is EPA Option 1 state IPM  
6 model outputs found in footnote 2 on page 13 of my  
7 testimony.

8 Q. Okay. And in the EPA option one, state  
9 is the source data for figures 1 through 4, correct?

10 A. In Exhibits 46 and 47, that is correct,  
11 Mr. Olikar.

12 Q. Before we move on, do you agree that the  
13 IPM is the integrated planning model that is provided  
14 by ICF International?

15 A. The model provided by ICF to USEPA is  
16 tuned to the specifications of the EPA, thus the  
17 source model is the EPA -- that EPA uses is from ICF,  
18 but the model is tuned to EPA criteria.

19 Q. Just to clarify that, first it is called  
20 the integrated planning modeling, correct, using EPA  
21 assumptions?

22 A. That is correct.

23 Q. Okay. And I think you mentioned this in  
24 your prior answer, the EPA option one state utilizes  
25 a certain set of assumptions that influence the

1 outcomes of the model?

2 THE WITNESS: Could you repeat the  
3 question, please.

4 (Record read.)

5 A. The way I would answer that question is  
6 that EPA's option one state is the output from the  
7 model.

8 Q. And the model incorporates certain  
9 assumptions, correct?

10 A. The way I would respond to that, as any  
11 model, there are input files for the model. EPA's  
12 modeling inputs are in those input files of the  
13 model -- that are input into the model is to --  
14 basically it takes the inputs, runs it through the  
15 model and then puts the outputs in a summary sheet  
16 which is the EPA state.

17 Q. Thank you. But if you look at what's in  
18 figure 1 through figure 4, first -- or this testimony  
19 took the outputs of the model. Then there were  
20 additional analysis done by FirstEnergy, correct, and  
21 that is what's reflected in figures 1 through 4?

22 A. The way I would answer that question is  
23 the outputs are data that's in the model. There was  
24 no additional analysis put into the figures. It just  
25 basically takes the numerical values that are in the

1 output files and organizes them and puts them in a  
2 figure..

3 Q. Maybe I can try it this way. What  
4 figures 1 through 4 represent, you looked at the  
5 spreadsheet that the EPA puts out, it's inputs and  
6 outputs, and you correlated that information,  
7 extracted the information out for your curve, and  
8 then compiled in it an Excel spreadsheet, and that  
9 data was graphed as a chart, correct?

10 A. That is correct.

11 Q. And for purposes of presenting figures  
12 1 through 4, you accepted all of the EPA's  
13 assumptions as being reasonable, correct?

14 A. That is correct also.

15 Q. And one of the assumptions you accepted  
16 is that qualified power plants would improve their  
17 heat rate by 6 percent?

18 A. That is the premise of the EPA's model.

19 Q. So the answer is yes?

20 A. The answer is yes.

21 Q. You have not done any analysis of what it  
22 would cost to improve the heat rate of any of the  
23 Sammis units by 6 percent, correct?

24 MR. LANG: Your Honor, at this point, I  
25 would object. Again, this line of questioning is on

1 the modeling of the proposed calendar, so asking the  
2 witness what analysis he's done to, you know,  
3 correlate with an assumption that was in the proposed  
4 calendar isn't relevant as we sit here today because  
5 there is a final calendar with a different set of  
6 assumptions, and what would be relevant to the  
7 Commission's determination is questions about the  
8 assumptions that are in the final Clean Power Plan.

9 MR. OLIKER: Your Honor, it goes to the  
10 credibility in witnesses he's sponsoring and analysis  
11 based on certain assumptions that my opinion  
12 completely detach from the reality on anything he can  
13 support on the stand. But I do have follow-up  
14 questions on the issues that are tied to the next  
15 one, but this is important for what he submitted in  
16 May.

17 MR. LANG: Your Honor, what he is  
18 sponsoring, this is the EPA modeling. What  
19 Mr. Oliker is asking about is EPA modeling that was  
20 done in June of 2014, and he's testifying that that  
21 was the EPA modeling that was done in June of 2014.  
22 Again, what is the -- the reason Mr. Evans provided  
23 the errata, because there's EPA modeling in the final  
24 calendar that was done in I believe July or August of  
25 2015, which has a set of assumptions in it and that

1 is Mr. Evans' testimony. Some issue with regard to,  
2 you know, a 6 percent heat rate improvement is not  
3 Mr. Evans' testimony.

4 MR. OLIKER: Your Honor, we will get  
5 there as well.

6 EXAMINER ADDISON: Thank you. Relative  
7 to the objection, we will provide Mr. Oliker a little  
8 more leeway, but I would encourage him to move on to  
9 the information that is relevant to the Commission's  
10 consideration. Thank you.

11 MR. OLIKER: May I have the question read  
12 back.

13 EXAMINER ADDISON: You may.

14 MR. OLIKER: I can restate. That may be  
15 quicker.

16 Q. Would you agree you have not done any  
17 analysis of the cost of improving the heat rate  
18 improvement by 6 percent heat rate at the Sammis  
19 plant, correct?

20 A. That is correct with respect to the  
21 testimony in Exhibits 46 and 47C.

22 Q. And, in fact, you haven't evaluated the  
23 cost of improving the heat rates at the Sammis plants  
24 by any amount, correct?

25 THE WITNESS: Would you repeat the

1 question, please.

2 (Record read.)

3 THE WITNESS: With respect to the  
4 proposed Clean Power Plan from -- from 2014, we have  
5 not.

6 Q. Just to be clear, Mr. Evans, you haven't  
7 evaluated the cost of improving the heat rates at the  
8 Sammis plants of any amount irrespective of the Clean  
9 Power Plan, correct?

10 A. That is correct at this time.

11 Q. Thank you. And you do not know whether  
12 Mr. Lisowski's forecast of unit costs includes any  
13 projection of capital expenditures that may be  
14 necessary to improve the heat rates for the Sammis  
15 units?

16 A. In response to your question, Mr. Olikier,  
17 what I would say, Mr. Lisowski included unspecified  
18 capital dollars that could be used to improve the  
19 heat rates of the units.

20 MR. OLIKER: May I approach, your Honor?

21 EXAMINER ADDISON: You may.

22 Q. Mr. Evans, do you remember your  
23 deposition being taken on July 2?

24 A. I do.

25 Q. And has a transcript of that document



1       been put in front of you?

2               A.     That is the document I have in front of  
3       me.

4               Q.     Would you please turn to page 103 and let  
5       me know when you're there.

6               EXAMINER ADDISON:   Mr. Olikier, would you  
7       mind turning up your microphone.   Thank you.

8               MR. OLIKER:   Thank you, your Honor.

9               Q.     Are you there, Mr. Evans?

10              A.     I am there, Mr. Olikier.

11              Q.     And turning to page 103, line 6, there's  
12       the question, "Would you agree that Mr. Lisowski's  
13       testimony does not assume any additional capital  
14       expenditures relating to improving the heat rates of  
15       any of the Sammis units?"

16              THE WITNESS:   Could you repeat the  
17       question, please.

18              (Record read.)

19              "Answer:   I don't know."

20              Did I read that correctly?

21              A.     Since my deposition, I've met with  
22       Mr. Lisowski to go over what was in his forecast and  
23       what he had was unspecified dollars in the forecast  
24       for heat rate improvements.

25              MR. OLIKER:   Your Honor, I would move to

1 strike his answer which is not responsive to my  
2 question which is did I read that correctly. If his  
3 counsel would like to address that perhaps on  
4 redirect, that would be okay, but I would move to  
5 strike his response.

6 MR. LANG: Your Honor, he's simply  
7 explaining his answer here and the deposition is not  
8 consistent.

9 EXAMINER ADDISON: Thank you. At this  
10 time, I deny the motion to strike. It's been our  
11 practice during the proceeding to let the witness  
12 have one bite at the apple, but from this point  
13 forward, Mr. Evans, I'll just direct you to answer  
14 the question posed by counsel and then Mr. Lang can  
15 bring up any additional information on redirect.

16 THE WITNESS: Thank you.

17 EXAMINER ADDISON: Thank you.

18 Q. (By Mr. Olier) Mr. Evans, you would  
19 agree, though, that I did read that statement  
20 correctly?

21 A. Yes.

22 Q. Thank you. Mr. Evans, would you agree  
23 that the EPA's assumptions regarding its option one  
24 state, you believe they are riddled with errors?

25 THE WITNESS: Could the reporter repeat

1 the question, please.

2 EXAMINER ADDISON: Please.

3 (Record read.)

4 A. The way I would respond to that question,  
5 Mr. Olikar, is the EPA placed the proposed Clean  
6 Power Plan out for public comment and asked the  
7 public to make comment on various aspects of that.  
8 To state the Clean Power Plan is riddled with errors,  
9 I cannot agree to that term.

10 Q. Mr. Evans, do you understand that I asked  
11 you whether or not the EPA's assumptions are riddled  
12 with errors that are assumed in EPA option one? Did  
13 you understand that part of my question?

14 A. I did not understand your question.

15 Q. Take it this way. Would you agree that  
16 you believed the EPA's assumptions in the proposed  
17 Clean Power Plan and the final Clean Power Plan are  
18 unreasonable regarding heat rate improvements?

19 A. In response to your question, I would  
20 answer with a two-part response. With respect to the  
21 proposed Clean Power Plan, which cited is a 6 percent  
22 improvement in heat rate, FirstEnergy did supply  
23 comments to EPA questioning the reasonableness of  
24 that standard. We have not at this point formed any  
25 opinions regarding the heat rate improvements in the

1 final Clean Power Plan.

2 Q. Let's follow up on that. Would you agree  
3 that FirstEnergy believes that a merchant generator  
4 could only improve its heat rate for a coal-fired  
5 power plant by one to one and a half percent?

6 THE WITNESS: Would you repeat the  
7 question, please.

8 (Record read.)

9 A. Going back to our comments at  
10 FirstEnergy, at the time we submitted comments on the  
11 Clean Power Plan, our comment in the -- on the  
12 proposed regulation was that we believed that for  
13 competitive units that from an economic standpoint it  
14 only made sense to consider a heat rate improvement  
15 of one to one and a half percent.

16 Q. Okay. And the comments you are referring  
17 to were filed in December of 2014, correct?

18 A. That is correct.

19 Q. Okay. And to follow up, you indicated, I  
20 believe in your response, that the ability of a  
21 generator in a competitive environment to improve its  
22 heat rate is -- it's lower than a generator that  
23 operates in a regulated environment, correct?

24 THE WITNESS: Could you repeat the  
25 question, please.

1 (Record read.)

2 A. I don't have specific recollection of the  
3 exact way we termed that, but generally we look at it  
4 that way.

5 Q. Okay. And that's because a generator  
6 operating in the competitive environment must  
7 carefully consider whether the forward-looking  
8 revenues will cover the cost of the investment,  
9 correct?

10 A. That would be correct, in general.

11 Q. Okay. And adding additional uncertainty  
12 of a generator to recover their investment is the  
13 fact that building block 2 is intended to shift  
14 generation dispatch away from coal-fired units which  
15 will, thereby, reduce the efficiency of those coal  
16 units, correct?

17 MR. LANG: Your Honor, for point of  
18 clarification for the record, when talking about  
19 building block 2 are we talking about the final Clean  
20 Power Plan?

21 MR. OLIKER: I'm referring to the  
22 proposed plan, your Honor, but I don't think  
23 that's --

24 MR. LANG: So we're still talking about  
25 the proposal from the year ago, Mr. Oliker.

1 MR. OLIKER: Building block 2 is the same  
2 in both, Jim. It doesn't matter.

3 MR. LANG: First of all, there's been --  
4 your Honor, there's been no discussion about the --  
5 whether there's any change in building block 2. My  
6 point is I'd just like the record to be clear.  
7 Certainly Mr. Oliker is asking about questions on the  
8 proposed Clean Power Plan from June of 2014. I want  
9 to make sure when Mr. Evans answers the questions  
10 about building blocks, that we know which Clean Power  
11 Plan the question addressed. That's my point.

12 MR. OLIKER: Your Honor, I withdraw that  
13 question, and I will start over because this line of  
14 questioning is applicable to both the proposed and  
15 final plan.

16 EXAMINER ADDISON: Thank you, Mr. Oliker.

17 Q. (By Mr. Oliker) Before we move on,  
18 Mr. Evans, you're aware that in the final Clean Power  
19 Plan, the EPA assumed a heat rate improvement of  
20 approximately 4.3 percent for coal-fired power  
21 plants?

22 A. To expand upon your question, EPA made  
23 several assumptions about heat rate improvements of  
24 units across the United States. They actually  
25 separated it into three separate categories. The

1 4.3 number concerns the Eastern Interconnect. And  
2 units in that area would -- EPA's modeling assumption  
3 was that units in that area could achieve a  
4 4.3 percent.

5 Q. Where is the Eastern Interconnect?

6 A. I don't have a map specifically in front  
7 of me, but the map basically covers from the East  
8 Coast to the Mississippi line and into North and  
9 South Dakota is my recollection.

10 Q. So Ohio, correct?

11 A. Ohio would be one of the states.

12 Q. Okay. Whether or not we're talking about  
13 4.3 or 6 percent, you would agree that both of those  
14 numbers are unreasonable because the effect of  
15 shifting generation dispatch away from coal-fired  
16 power plants to lower carbon-intensive resources  
17 would lower the efficiency of coal power plants and  
18 thereby degrade their heat rate?

19 THE WITNESS: Could you repeat the  
20 question, please.

21 (Record read.)

22 A. I'm sorry, I can't agree with that  
23 generalization after further review of the integrated  
24 planning model. Since the Clean Power Plan has come  
25 out, it may be true of some units. It's not true of

1 all.

2 MR. OLIKER: May I approach, your Honor?

3 EXAMINER ADDISON: You may.

4 MR. OLIKER: I'd like to refresh the  
5 witness' recollection. I'm not going to mark this  
6 just yet.

7 Q. (By Mr. Oliker) Could you please turn to  
8 page 5, Mr. Evans, and look at note 46.

9 MR. LANG: Would you mind identifying  
10 what we are discussing for the record?

11 MR. OLIKER: Sure.

12 MR. LANG: Depending what he is doing  
13 with the documents, I think he said he would try to  
14 use the document to refresh his recollection in which  
15 case it would not be marked as an exhibit and  
16 actually not have been so identified. If he is going  
17 to mark it as an exhibit, certainly what you're  
18 requesting would make sense. I thought he would  
19 maybe start the first way and end the second way.

20 MR. OLIKER: I'll do the blend of two,  
21 how about that?

22 Q. Looking at the first page, these are  
23 comments you referenced earlier that FirstEnergy  
24 filed at the USEPA, right, in December of 2014 by  
25 yourself?



1           A.     That is correct.

2           Q.     And it's your name on the document,  
3 correct?

4           A.     That's also correct.

5           Q.     Footnote 2, would you agree -- does this  
6 refresh your recollection that reduction of a  
7 coal-fired plant's output due to shifting dispatch to  
8 lower carbon intensive resources will result in the  
9 degradation of the heat rate of a coal-fired power  
10 plant?

11          A.     That is a broad generalization of the  
12 impacts. It does not look at unit by unit specifics.

13          Q.     Just so we can flesh that out, what you  
14 are referring to is the capacity factor of a unit  
15 actually needs to drop below optimal levels before  
16 heat rate degradation occurs, correct?

17                THE WITNESS: Could you read back the  
18 question, please?

19                (Record read.)

20          A.     That is correct.

21          Q.     Okay. And if the capacity factor does,  
22 in fact, decrease and heat rate decreases, any of the  
23 potential improvements that the EPA has modeled, even  
24 if already achieved, would be offset?

25          A.     Could you repeat the question, again.

1 (Record read.)

2 Q. I'm sorry, there's a flaw in my question.  
3 To restate that, if the capacity factor of a unit  
4 goes down which causes the heat rate to degrade, even  
5 if there has been other investment which may have  
6 otherwise improved the heat rate of a unit, there  
7 would have to be an offset, correct?

8 THE WITNESS: I have to ask you to repeat  
9 that, please.

10 (Record read.)

11 A. I'm sorry, I don't understand your use of  
12 the term "offset."

13 Q. In other words, if a unit invests in  
14 capital expenditures which may improve the heat rate  
15 of a unit, let's use your estimate of one to one and  
16 a half percent, if the unit's capacity factor goes  
17 down, which degrades the unit's heat rate, there will  
18 not be a one to one and a half percent improvement of  
19 the heat rate, correct?

20 A. Your question requires me to make certain  
21 assumptions about how the unit is operated. Just  
22 reducing capacity factor during certain times may not  
23 change the overall heat rate of the unit, depending  
24 on how the unit is dispatched and utilized. So  
25 without that information, I find it difficult to

1 answer this question.

2 Q. For the purposes of this discussion,  
3 assume that the unit is no longer operated at its  
4 optimal designed capacity. Does that change your  
5 response?

6 A. There are many things that enter into the  
7 design of a unit. Certain units will have different  
8 design optimization and continue that through  
9 different load ranges. So based on your question,  
10 I'm still having a difficult time without further  
11 assumptions being made to answer your question.

12 Q. I think the easier way to do this would  
13 be to mark this as IGS Exhibit 8, which is the USEPA  
14 comments submitted by FirstEnergy on December 1,  
15 2014.

16 EXAMINER ADDISON: So marked.

17 (IGS EXHIBIT 8 MARKED FOR  
18 IDENTIFICATION.)

19 MR. OLKER: That will make this  
20 cross-examination go faster, I believe.

21 EXAMINER ADDISON: Thank you.

22 Q. Mr. Evans, increasing the utilization of  
23 natural gas combined cycle units will displace  
24 coal-fired output and coal-fired heat rates will  
25 actually increase, the results increasing their CO2

1 emission rate, correct?

2 THE WITNESS: Could you repeat the  
3 question, please?

4 (Record read.)

5 THE WITNESS: One more time, please. I'm  
6 sorry.

7 (Record read.)

8 A. That, I believe, is the comment we made  
9 or one excerpt of the comments we made in our filing  
10 of December 2014.

11 Q. So the answer is yes?

12 A. The answer is yes.

13 Q. Would you agree you are also critical of  
14 EPA's assumptions regarding nuclear power plants  
15 regarding the proposed rule?

16 A. We participated in the public process of  
17 making comments on proposed rules. We offer comments  
18 both positive and where changes could be made and ask  
19 the agency to consider them. To take it one step  
20 further that we're critical or somehow negative,  
21 that's not our purpose in making public comments.

22 Q. Okay. Maybe -- thank you for that  
23 clarification. Let's put it this way. FirstEnergy  
24 doesn't believe that the EPA should predetermine that  
25 any nuclear unit whose license expires prior to 2030

1       should be included in the calculation of state  
2       requirements?

3               MR. LANG: Your Honor, at this time I  
4       would object. The document's been marked. It says  
5       what it says. It relates to a proposal that is not  
6       the final rule. The relevance of the line of  
7       questioning about reading lines from what the company  
8       filed in December 1, 2014 that do not relate to the  
9       final Clean Power Plan is -- I object on the basis of  
10      relevance.

11             MR. OLIKER: May I respond, your Honor.

12             EXAMINER ADDISON: Mr. Oliker.

13             MR. OLIKER: My question was by way of  
14      foundation, but there are statements and opinions  
15      that FirstEnergy has made regarding whether or not  
16      you should consider a pending application for the  
17      nuclear facility to be something that should  
18      legitimately be, considered, and in this case there  
19      happens to be a nuclear facility with a pending  
20      application, so it goes to the credibility of the  
21      statements FirstEnergy has made earlier in the  
22      proceeding, but we haven't got there on foundation.

23             EXAMINER ADDISON: I'll go ahead and  
24      overrule the objection at this point.

25             Again, Mr. Oliker, if you try to tie

1 these comments into the more recent plan as proposed,  
2 we would appreciate it. Thank you.

3 MR. OLIKER: Thank you, your Honor.

4 MR. LANG: Can we have the pending  
5 question read back, please.

6 (Record read.)

7 EXAMINER ADDISON: You may. Thank you,  
8 Mr. Lang.

9 MR. LANG: Thank you. The final Clean  
10 Power Plan rule that the EPA issued, EPA chose not to  
11 accept FirstEnergy's comment on this, nor the comment  
12 of the entire industry regarding nuclear power  
13 plants.

14 Q. Turn to page 3.

15 A. Of what document, please?

16 Q. What's been marked as Exhibit 8. I'm  
17 under the subject heading "Nuclear." Let me know  
18 when you're there.

19 A. I am there.

20 Q. And would you agree that it states under  
21 the sentence that starts with NRC, "NRC cannot commit  
22 that it will approve any application prior to the end  
23 of the exhaustive public process. To do so would be  
24 inconsistent with the law and overall good  
25 government. EPA cannot and should not presume to

1 consider a licensing outcome that is currently  
2 unknown."

3 Did I read that correctly?

4 A. You read the comment correctly.

5 Q. Going back to the issue of heat rate  
6 improvements, first, would you agree that heat rate  
7 is the amount of British thermal units a power plant  
8 needs to burn to produce a kilowatt of electricity?

9 THE WITNESS: Could you repeat the  
10 question, please.

11 (Record read.)

12 A. I would broaden the definition a little  
13 bit to include the number of Btus of a fuel to  
14 generate a kilowatt-hour of energy.

15 Q. That's a very good point. But for  
16 purposes of a subcritical coal unit, would you agree  
17 the heat rate is somewhere in the area of 10,000 to  
18 10,500 or even higher?

19 A. To expand upon the question, a  
20 subcritical unit is a unit that operates at pressures  
21 of less than approximately 2500 psig, those units are  
22 called subcritical because the steam conditions are  
23 not at levels where it goes into almost a plasma  
24 configuration.

25 The general numbers you quoted are

1 approximate, but would be a good representation if  
2 you were talking about all subcritical chemicals  
3 within the United States or any other country.

4 Q. Okay. And if we were to just add to  
5 that, a supercritical coal unit would have a lower  
6 heat rate somewhere in the 9,000 range, would you  
7 agree, granted not all units are the same?

8 A. In general, a supercritical unit operates  
9 at pressures where the steam is a plasma,  
10 essentially. Typically the pressure in the United  
11 States is 3600-psi. The supercriticals would be in  
12 the range of 10.5 to 9.5.

13 Q. Thank you. And just so we understand how  
14 the math works, let's start with the proposed plan,  
15 improving the heat rate by 6 percent would drop a  
16 unit with 10,000 down to about 9,400, right? I tried  
17 to use easy numbers.

18 MR. LANG: And, your Honor, we have been  
19 going for a while. If we are going to start doing  
20 math, maybe after this question we can take the  
21 break.

22 MR. OLKER: I probably have about three  
23 to five minutes, I hope. If you guys don't mind  
24 continuing on, but if he needs the break, I'm fine  
25 with that, too.



1 EXAMINER ADDISON: Do you need the break  
2 at this time, Mr. Evans?

3 THE WITNESS: If we go three to five  
4 minutes.

5 MR. OLIKER: If we don't get there, we  
6 can take a break.

7 EXAMINER ADDISON: Let's have the last  
8 question read, and then we will go ahead and take a  
9 break.

10 MR. OLIKER: Could I have his answer too  
11 before the break?

12 EXAMINER ADDISON: Isn't there a pending  
13 question?

14 MR. OLIKER: Yes.

15 EXAMINER ADDISON: That's what I meant.  
16 Thank you, Mr. Oliker.

17 (Record read.)

18 A. That would be correct, Mr. Oliker.

19 EXAMINER ADDISON: At this time, we will  
20 take a brief recess. We'll come back around noon.  
21 Thank you.

22 Let's go off the record.

23 (Recess taken.)

24 EXAMINER ADDISON: Back on the record.

25 MR. OLIKER: Thank you, your Honor.

1           Q.     (By Mr. Oliker) Mr. Evans, before we  
2     talked about the heat rate reduction for the percent  
3     heat rate improvement. If there were a 4.3 percent  
4     heat rate improvement for a unit with a base heat  
5     rate of 10,000, would you agree that -- I'm trying to  
6     think -- the math would be 95.7 percent of 10,000.

7           A.     I'm sorry, I don't understand the math  
8     you just did.

9           Q.     Could you explain how we would do the  
10    math of a 10,000 base heat rate improved by  
11    4.3 percent?

12          A.     You take the 10,000, multiply by  
13    4.4 percent, that's 430, and subtract that from the  
14    10,000.

15          Q.     You answered my next question, thank you.  
16    Okay. And what you're seeing when you reduce the  
17    heat rate is then it takes less Btus to produce a  
18    kilowatt, right?

19          A.     That is correct.

20          Q.     And so you're improving the ability of a  
21    unit to compete in the wholesale market, right, all  
22    else being equal?

23          A.     In general, that would be true.

24          Q.     So to the extent a unit that is operating  
25    in a regulated environment than a heat rate unit

1 operating in a competitive environment, the regulated  
2 unit will have an advantage, correct?

3 A. I don't know.

4 Q. Why don't you know, Mr. Evans?

5 A. I don't know the regulatory scheme that  
6 that other unit is being regulated under.

7 Q. Assuming that the regulated unit has a  
8 guaranteed cost recovery and a rate of return, would  
9 you agree that it's likely it could improve its heat  
10 rate more than that unit that operates in a  
11 competitive market?

12 MR. LANG: I'll object, your Honor, to  
13 the --

14 EXAMINER ADDISON: Grounds?

15 MR. LANG: -- to the hypothetical. I'm  
16 not sure what we're talking with regulated versus  
17 competitive. And at this point, we're far beyond the  
18 scope of Mr. Evans' testimony. He's here testifying  
19 about environmental matters, not about, you know,  
20 units in competitive or regulated markets.

21 EXAMINER ADDISON: Mr. Olikar.

22 MR. OLICKER: Your Honor, one of the  
23 issues that FirstEnergy itself identifies is a unit  
24 that competes in the competitive environment has a  
25 more difficult time improving their heat rate because

1     it doesn't have guaranteed cost recovery. What we  
2     have in the application is a proposal to effectively  
3     make several of the generating units regulated with a  
4     guaranteed rate of return. And my question, will  
5     that give these units a competitive advantage in Ohio  
6     relative to units regulated by an independent power  
7     producer so it is relevant to the case and for the  
8     Commission to consider.

9             MR. LANG: Your Honor, everything  
10    Mr. Olikar describes is not what companies have  
11    proposed that. He is here to testify on  
12    environmental issues. He is not here to testify to  
13    what Mr. Olikar just described, which was the  
14    difference between competitive units and regulated  
15    units. That's not in his testimony.

16            MR. OLICKER: Your Honor, it's not in his  
17    testimony. It goes to a relevant issue in the case.  
18    This is the only witness that would have specific  
19    knowledge of this issue and that he testified to in  
20    his comments, which is marked IGS Exhibit 8, and I  
21    think the Commission should be able to consider that  
22    information in this case.

23            MR. LANG: Your Honor, if he wanted to  
24    ask about market impact, certainly Don Moul was here  
25    and there could be other witnesses that could have

1 addressed that. That's not this witness.

2 EXAMINER ADDISON: I will overrule the  
3 objection. We will allow the question.

4 Mr. Evans, you can answer to the extent  
5 you have an opinion on the matter. But if he doesn't  
6 have any knowledge of this particular line of  
7 questioning, Mr. Oliker, you need to move on.

8 MR. OLIKER: Thank you, your Honor.

9 EXAMINER ADDISON: Could we have the last  
10 question read back, please.

11 (Record read.)

12 THE WITNESS: Could you repeat the  
13 question one more time, please.

14 (Record read.)

15 A. I go back to my original comment.  
16 There's a number of assumptions I have to make, but  
17 with saying hold it as true, I'm just very uncertain  
18 as to whether I understand the whole question.

19 Q. Let's turn to page 8 of IGS Exhibit 8.  
20 Let me know when you're there.

21 A. I'm on page 8.

22 Q. Would you agree the start of the first  
23 full sentence reads, "EPA fails to consider that what  
24 may be cost-effective in a state with regulated  
25 markets with a guaranteed rate of return on

1 investments may not be cost effective in states with  
2 competitive markets where market prices determine  
3 what is cost-effective."

4 Did I read that correctly and within the  
5 section of building block No. 1?

6 A. The context here was referring to the  
7 question of capital investment in units. Heat rate  
8 improvements aren't necessarily always capital  
9 investment. In fact, EPA said they believe that  
10 4 percent of the heat rate improvements could be done  
11 by implementing operational controls.

12 Q. Would you turn to page 9? Let me ask it  
13 this way: Would you agree that current market power  
14 prices in competitive markets do not support making  
15 many of these capital investments, such as a number  
16 of heat rates improvements and could lead to further  
17 shutdowns of coal plants beyond EPA's assumptions; in  
18 the regulated markets, additional costs, if approved  
19 by the state PUC, will be passed on to the customer  
20 through higher prices," correct?

21 MR. LANG: Your Honor, I would object.  
22 He's reading a couple sentences from page 9 in these  
23 comments. What he read refers to many of these  
24 capital investments, which as he reads it is out of  
25 context and has no discussion of what that means;

1       however, the comments in the paragraphs, above  
2       paragraph, provide that context.

3               He's marked it. I assume it's going to  
4       come in. If the Commission is interested in this  
5       line of questioning, they can read the entire  
6       statements and not the sentences that are quoted out  
7       of context. So as the question is posed to  
8       Mr. Evans, it's not a question that he can answer  
9       because it's ambiguous as to what is being referred  
10      to in the question, and I would object.

11             EXAMINER ADDISON: Mr. Olikier.

12             MR. OLICKER: I was just asking the  
13      question. I referred him to page 9. I just asked  
14      him a question. Outside of that, he's going to refer  
15      to the document. He can answer the question and  
16      provide me an explanation if he would like.

17             EXAMINER ADDISON: Objection overruled.  
18      Mr. Lang, you can provide any context that you wish  
19      the Commission to have in the record during redirect.

20             MR. LANG: Thank you, your Honor.

21             THE WITNESS: Could you repeat the  
22      question.

23             Q. Mr. Evans, do you agree current market  
24      power prices in competitive markets do not support  
25      making many of these capital investments such as a

1 number of heat rate improvements and could lead to  
2 further shutdowns of coal plants beyond EPA's  
3 assumptions, and in the regulated markets, additional  
4 costs, if approved by the state PUC, will be passed  
5 onto the customers through higher prices?

6 MR. LANG: I object for the record. It's  
7 compound.

8 MR. OLIKER: I was trying to speed things  
9 up by breaking it up.

10 EXAMINER ADDISON: Please do so the  
11 record is clear. Thank you, Mr. Olikier.

12 MR. OLIKER: Okay.

13 Q. (By Mr. Olikier) Mr. Evans, would you  
14 agree that current market prices do not support  
15 capital investments in heat rate improvements?

16 A. The comments at that time we prepared  
17 these were based on the current market prices then.  
18 I have not sat down and reanalyzed current market  
19 prices and looked at the new Clean Power Plan final  
20 from August 3, 2015. So I need to know whether this  
21 comment is still applicable.

22 Q. Would you agree that market prices are  
23 lower now than December of 2015?

24 MR. LANG: Objection, your Honor. The  
25 witness stated he has not analyzed current market



1 prices.

2 EXAMINER ADDISON: He can answer if he  
3 knows. If he doesn't, he can say so.

4 THE WITNESS: I don't know, Mr. Oliker.

5 Q. Assuming they are lower, would you agree  
6 that competitive markets don't support capital  
7 investments in heat rate improvements?

8 A. I would respond I don't know, Mr. Oliker,  
9 because there are other items that may justify  
10 capital investment. I just don't know.

11 Q. Okay, fair enough. Would you agree that  
12 in a regulated environment, power prices are not  
13 necessarily relevant so long as the Public Utilities  
14 Commission approves cost recovery of these  
15 expenditures?

16 A. I don't know.

17 Q. Why don't you know?

18 A. I don't believe I understand the  
19 question, Mr. Oliker.

20 Q. What about it don't you understand,  
21 Mr. Evans?

22 MR. LANG: Your Honor, we are getting  
23 into argumentative territory. If Mr. Oliker has an  
24 actual question, ask the questions and maybe we move  
25 on to that.

1 MR. OLIKER: I'm trying to ask an  
2 original question, but I need to clarify what part he  
3 doesn't understand in order to get there, your Honor.

4 EXAMINER ADDISON: Overruled.

5 MR. LANG: Your Honor, can we have the  
6 question restated so we know what the question is?

7 EXAMINER ADDISON: Yes.

8 Please restate your question, Mr. Olikier.

9 Q. (By Mr. Olikier) Mr. Evans, in a  
10 regulated environment, would you agree that a capital  
11 expenditure can go forward so long as the PUCO  
12 approves it regardless of what power prices are?

13 MR. LANG: Again, your Honor, I have to  
14 object again to the hypothetical. There's nothing to  
15 find what PUCO -- Are we talking about regulated  
16 environment where? Again, what does this have to do  
17 with the environmental testimony? So the  
18 hypothetical is undefined. It cannot be responded  
19 to, and again, I object on relevance.

20 EXAMINER ADDISON: Mr. Olikier.

21 MR. OLIKER: I was trying to restate my  
22 original question, your Honor, so he could get  
23 clarification of which part he didn't understand. So  
24 I think the objection is improper to that extent. I  
25 was merely offering what counsel asked me to do, but

1 I'll leave it at that.

2 EXAMINER ADDISON: I'm going to overrule  
3 the objection.

4 Please try to state your question with  
5 additional clarifications so Mr. Evans can understand  
6 it.

7 Q. Let's talk about the PPA in this case,  
8 Mr. Evans. If FirstEnergy Solutions decides to  
9 implement a capital expenditure to improve the heat  
10 rate of the Sammis unit, would you agree that it can  
11 recover the cost of that capital expenditure  
12 regardless of whether or not it leads to increased  
13 profits that would flow through the PPA?

14 MR. LANG: Objection. Beyond the scope  
15 of his testimony. Mr. Evans is not testifying on the  
16 PPA. He's not testifying on that. He's not  
17 testifying to what has been referred to as the  
18 proposed transaction. There's no foundation  
19 established he's familiar with any of that material.  
20 He's testifying on the Sammis and Davis-Besse unit's  
21 compliance with environmental regulations.

22 MR. OLIKER: Your Honor, this goes to the  
23 very heart of whether THIS was AN anti-competitive  
24 study, which distorts the wholesale market.

25 MR. LANG: Which Mr. Olikar can make in

1 his brief. It has no relevance with the issue.

2 EXAMINER ADDISON: Would you mind asking  
3 the question if he is actually familiar with the PPA.

4 MR. OLIKER: Yes.

5 EXAMINER ADDISON: Thank you.

6 Q. Mr. Evans, are you familiar with the PPA  
7 proposed between FirstEnergy and FirstEnergy  
8 Solutions, understanding it's not in its final form?

9 A. I am not familiar with the PPA.

10 Q. What is your familiarity with the  
11 application that you are testifying regarding today?

12 MR. LANG: Your Honor, I would object  
13 again. Sorry. Mr. Evans is testifying with regard  
14 to environmental compliance of the Sammis and  
15 Davis-Besse plant. With regard to Mr. Oliker's  
16 question about the application, that isn't clear as  
17 to what he is asking about.

18 MR. OLIKER: Your Honor, this is just a  
19 foundational question I think could be asked of any  
20 witness in this case.

21 EXAMINER ADDISON: Overruled.

22 Do you need the question read back,  
23 Mr. Evans?

24 THE WITNESS: Please.

25 MR. OLIKER: I would note the objections

1 are starting to become obstructive.

2 MR. LANG: Your Honor, I move to strike.

3 EXAMINER ADDISON: Motion to strike  
4 Mr. Olikier's comment will be granted.

5 (Record read.)

6 A. I have not seen the application that's  
7 referred to. What I have seen is my supplemental  
8 testimony. And my purpose in my supplemental  
9 testimony is to describe how the Davis-Besse Nuclear  
10 Power Plant and the W. H. Sammis plant are compliant  
11 with all pertinent regulations that I was describing.

12 Q. And why did you submit that testimony?

13 A. The testimony was submitted in accordance  
14 with -- as I believe, to support the application.

15 Q. What other parts of -- what other  
16 testimony did you review besides your own, if any?

17 A. My recollection is I reviewed a portion  
18 of Mr. Lisowski's exhibit with respect to forecasted  
19 costs. I reviewed certain excerpts from Mr. Rose's  
20 costs associated with emission allowances and CO2  
21 forecast. I don't have any recollection of any other  
22 testimony.

23 Q. Do you understand that if the application  
24 that you were testifying about today is approved,  
25 FirstEnergy will pay to FirstEnergy Solutions a rate

1       that allows FirstEnergy Solutions to recover all of  
2       its costs as well as a greater return related to,  
3       among other things, the Sammis power plant?

4               MR. LANG: Your Honor, I would object.  
5       Mischaracterizes the testimony. Mischaracterizes the  
6       proposal before the Commission.

7               EXAMINER ADDISON: Sustained.

8               Q.     Do you understand how FirstEnergy would  
9       compensate FirstEnergy Solutions for its costs with  
10      the Sammis power plant if this application is  
11      approved?

12              A.     I do not.

13              Q.     Let me ask you a hypothetical. Assuming  
14      that FirstEnergy agreed -- Let me ask it this way.  
15      Assume that FirstEnergy enters into a purchase power  
16      agreement with FirstEnergy Solutions for the output  
17      of the Sammis plant. FirstEnergy agrees to  
18      compensate FirstEnergy Solutions for all of the  
19      variable and fixed costs associated with the Sammis  
20      power plant.

21                     Would you agree under this hypothetical  
22      if FirstEnergy Solutions is doing capital  
23      expenditures related to heat rate improvements, they  
24      would be able to undertake more significant capital  
25      expenditures than if they were operating solely in

1 the competitive market?

2 A. I do not know.

3 Q. What would you need to know to be able to  
4 answer that question?

5 A. I would need to know the terms of the  
6 agreement. I would need to know the level of capital  
7 investment with respect to units. I would need to  
8 know -- I'm talking in generalities. I would need to  
9 know the other market dynamics that may be out there.  
10 There are many numerous assumptions I would have to  
11 make to be able to answer the question.

12 Q. Let me ask it this way. You are familiar  
13 with the regulatory environment of West Virginia?

14 MR. LANG: Objection, your Honor,  
15 relevance and beyond the scope.

16 EXAMINER ADDISON: Mr. Olikar.

17 MR. OLIKER: Trying to find the way I  
18 asked the question I asked about ten minutes ago when  
19 I was advised to give more specific discussion of  
20 what I meant with regulated environment, your Honor.  
21 This is my last line of questioning.

22 MR. LANG: The answer has been on that  
23 line of questioning which is beyond the scope of  
24 Mr. Evans' testimony, is he did not know, so maybe we  
25 can move on.

1 MR. OLIKER: He did not say he does not  
2 know about West Virginia.

3 EXAMINER ADDISON: I'll allow the  
4 question, but if he does state he doesn't know, we  
5 can move on from there.

6 MR. OLIKER: I'll restate it, your  
7 Honors. Thank you.

8 EXAMINER ADDISON: Thank you.

9 Q. (By Mr. Olikier) Are you familiar with  
10 the regulatory environment of West Virginia,  
11 Mr. Evans?

12 A. I am not.

13 Q. Are you familiar with the regulatory  
14 environment of any regulated state?

15 A. I am not. It's not my area of expertise.

16 Q. Will you turn to page 2 of IGS Exhibit 8.  
17 This is the bottom sentence. Did you not state, "As  
18 noted above, a heat rate that may be economically  
19 achievable in a regulated state may not be achievable  
20 in a competitive state"?

21 A. I'm sorry, I'm not finding it on  
22 page 2 of Exhibit 8.

23 Q. It's the last full sentence at the  
24 bottom.

25 A. I'm sorry. I apologize. I was on the



1 wrong document.

2 Q. Did you not state to the EPA, "As noted  
3 above, a heat rate that may be economically  
4 achievable in a regulated state may not be achievable  
5 in a competitive state"?

6 A. I believe the final Clean Power Plan  
7 issued on August 3, 2015, has gone beyond the comment  
8 that's here, and this comment is no longer  
9 applicable.

10 Q. How about on page 5, do you still agree  
11 that when capital investments are made at merchant  
12 plants, investors may have to consider whether the  
13 forward-looking revenues will cover the cost of  
14 investment? Is that still applicable?

15 A. That is my understanding.

16 Q. That it is still applicable?

17 A. The context of the sentence is capital  
18 investments. What I know is that investors are  
19 always curious about capital investments that are  
20 regulated and competitive units make. So that's  
21 always a concern of the investment community.

22 Q. And turning to Exhibit 48 and 49, are  
23 there spreadsheets to support figures 1 through 4?

24 A. They are the USEPA files, output files.

25 Q. Would you agree that figures 1 through

1 4 in your Exhibits 48 and 49, that is not merely the  
2 outputs of the USEPA model run, is it?

3 A. That is not -- the figures do not exist  
4 in the output files.

5 Q. Can you identify how figures 1 through  
6 4 were created in Exhibits 48 and 49?

7 A. I can.

8 Q. Please explain it.

9 A. The output files in -- actually it's the  
10 series of files. You have to go in and first  
11 identify the unit itself. So you go to what's called  
12 EPA's IPM needs database, is at the Clean Power Plan  
13 IPM modeling page. You go into that file and you  
14 hunt for the units that you're looking for with  
15 respect to those units.

16 You validate the accuracy of that based  
17 on the name of the unit and the code EPA applies to  
18 that. You then go for the D.A.T. names which are the  
19 assumption files for the units. Those D.A.T. files  
20 have the input data, including heat rate, capacity  
21 factor, and fuel costs associated with it.

22 After that you go to the summary files,  
23 which has an extension of an RPE, the RPE file  
24 basically tells you the variable O&M and capital  
25 costs associated with the various model run years of

1 the IPM model. And then finally you go to the  
2 emission summary file to establish what the shadow  
3 price is of CO2 in the files.

4 Q. At the time I submitted your testimony  
5 regarding Exhibits 46 and 47 -- First let me ask you  
6 Exhibits 46 and 47, those figures would have been  
7 created in the same way, correct?

8 A. That is correct.

9 Q. At the time I submitted your testimony,  
10 you did not know the process that you just identified  
11 for creating figures 1 through 4, correct?

12 A. That is incorrect. I did know the  
13 process. The file structures did not change  
14 significantly other than the output contents itself.

15 Q. At the time you couldn't identify the  
16 specific files, could you?

17 A. As I recall from my deposition, I think  
18 the question was, show me the exact file, and that's  
19 my recollection of the deposition. I didn't remember  
20 the extension name of the file. I know how to get to  
21 the files.

22 Q. And so I understand, is this -- figures  
23 1 through 4, is that done through another iteration  
24 of the IPM model or is there some other modeling that  
25 occurs?

1           A.     Figures 1 through 4 are the output from  
2     the IPM file.  There's been nothing changed from the  
3     output file.

4           Q.     And, for example, figures 1 through  
5     4 would also incorporate a 4.3 percent heat rate  
6     improvement as an input?

7           A.     In Exhibits 48 and 49C, it does include  
8     the 4.3 percent heat rate improvement.

9           Q.     And is there a document that actually  
10    describes the data that's incorporated in figures  
11    1 through 4, physical document, that the parties  
12    could review?

13          A.     Yes, the -- oh, regarding figures  
14    1 through 4?

15          Q.     In Exhibits 48 and 49.

16                 THE WITNESS:  Could you repeat the  
17    question, please.

18                 (Record read.)

19          A.     The data regarding -- that's in the  
20    figures is described in EPA's supplementary documents  
21    regarding those documents.  So it is in the public  
22    domain.  I don't have them with me today.

23          Q.     If it's in the public domain, why is this  
24    confidential?

25          A.     As I said in my deposition, this document

1 did not exist. Figure 1 through 4 does not exist.

2 The compilation of the curve, the curve, with its  
3 call-outs does not exist in the public domain.

4 Q. Maybe that's what I'm having trouble  
5 understanding. Can you describe now the compilation  
6 of the curve is performed in each of the figures  
7 1 through 4?

8 A. The data is seen from the files I  
9 mentioned earlier and applied as discrete points for  
10 each generating unit on those curves.

11 Q. So would it be as simple as to look at  
12 the EPA's analysis and merely convert it to a graph?

13 A. That is essentially what occurred.

14 Q. So each of the data points that exist,  
15 for example, on figure 1, we could locate them within  
16 the EPA's model run?

17 A. That is correct.

18 Q. And there are no workpapers to support  
19 figures 1 through 4?

20 A. No.

21 Q. Was a spreadsheet created to create  
22 figures 1 through 3?

23 A. We used the existing -- I used the  
24 existing data summary sheets from EPA's file.

25 MR. OLKER: Could I have one minute,

1 your Honor?

2 EXAMINER ADDISON: You may.

3 MR. OLIKER: Thank you, your Honor.

4 I believe that's all the questions I  
5 have.

6 Thank you, Mr. Evans.

7 EXAMINER PRICE: Thank you, Mr. Oliker.

8 At this time, we will take the break for lunch. We  
9 will come back at 1:45. Thank you, everyone. Let's  
10 go off the record.

11 (At 12:43 p.m. a lunch recess was taken  
12 until 1:35 p.m.)

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1 Monday Afternoon Session,  
2 September 28, 2015.

3 - - -

4 EXAMINER ADDISON: Let's go back on the  
5 record.

6 Mr. Fisk.

7 MR. FISK: Thank you, your Honors.

8 - - -

9 CROSS-EXAMINATION

10 By Mr. Fisk:

11 Q. Good afternoon, Mr. Evans.

12 A. Good afternoon, Mr. Fisk.

13 Q. How are you doing today?

14 A. I'm doing fine, thank you.

15 Q. Good. So turning to your errata, page 5,  
16 footnote 3, states EPA rate based trading IPM model  
17 outputs; do you see that?

18 A. I do, sir.

19 Q. Okay. And there is then a link provided;  
20 is that correct?

21 A. That is correct.

22 Q. Okay. And that link leads to a zip file;  
23 is that right?

24 A. That is correct.

25 Q. And that zip file includes approximately

1 6 megabytes of file; is that right?

2 A. That is correct.

3 Q. And that 163 megabytes is spread through  
4 multiple files?

5 A. That is correct, Mr. Fisk.

6 Q. Okay. And EPA rate based trading IPM  
7 model outputs, are those model outputs what you used  
8 in developing your errata?

9 A. Assuming you're referring to the zip  
10 file?

11 Q. Yes.

12 A. That is -- All the documents in the zip  
13 file are that.

14 Q. So all the documents in the zip file are  
15 what you used, for example, to create figures  
16 1 through 4 in your errata?

17 A. Actually, what I did was I went through  
18 the various documents in the zip file, and then in  
19 each of the pertinent files was able to pull  
20 information beginning with the D.A.T. file, the RPE  
21 file, the RPT file, and the RPT file is zipped also.  
22 So you have to open that up also. So there's an  
23 additional several hundred megawatts -- excuse me, an  
24 additional 700 megabytes of files there.

25 I spent approximately four weeks going



1 through all the files to identify the units, to  
2 identify the regional dispatch, to identify units  
3 that were retired and not retired, to identify units  
4 that had shadow pricing for climate. So you have to  
5 work all these files together to be able to pull  
6 together the information that went into figures  
7 1 through 4.

8 Now, previously I misspoke. I was a  
9 little confused by some of the questions, but what  
10 happened was we went in, we put -- I went in and put  
11 all the files together and told ICF how I wanted to  
12 do the files and how I wanted them sorted. And we  
13 walked through several examples of the sorting.

14 Then they took that same summary file and  
15 added four columns to the summary file. They added  
16 four columns to the summary file, and then they saved  
17 that file for me. They sent it back to me. I  
18 checked their work against the original summary files  
19 from that standpoint.

20 They did the calculation to add together  
21 the cost of the dispatch so that it included the  
22 variable O&M, the fixed O&M and the CO2 for that.  
23 And I then reviewed that, gave them comments back  
24 because there were errors in the files. They fixed  
25 those errors, and then they shipped me back that XL

1 file.

2 Q. And when you refer to four weeks, was  
3 that the entire process or was that just you going  
4 through the files to begin with?

5 A. That was going through the whole files.  
6 Remember, the Clean Power Plan rule came out  
7 August 3, so that really -- as we were working -- as  
8 I was working on the errata, it became a time of  
9 trying to understand where all the data files were  
10 and being specific because there are certain changes  
11 the EPA made to the original summary files.

12 They renumbered a number of units because  
13 they added additional push controls, and that made  
14 it -- and I had to go in -- what happened, I went  
15 into is files, and because of renumbering of the  
16 units because EPA does not carry the alpha -- they  
17 don't carry the alpha title of the unit through their  
18 files, I had to rehunt down the files of certain  
19 plants because they were renumbered.

20 Q. Okay. So would you say it would be  
21 reasonable to expect it would take at least four  
22 weeks to do the kind of analysis you did that's  
23 reflected in your errata?

24 A. I would answer that I'm not sure. It  
25 depends on your skill and ability to -- and

1 familiarity with IPM modeling results.

2 Q. Okay. But I guess I'm still slightly  
3 unclear. The four weeks is just the time you spent,  
4 or is that also the time that ICF spent?

5 A. I spent four weeks alone --

6 Q. Okay.

7 A. -- in doing that. ICF, I did not ask  
8 them for what their hours were on this project  
9 assisting me.

10 Q. Okay. You referred, I believe, a few  
11 minutes ago to when you click on the link that's in  
12 footnote 3 on page 5 of your errata, files come up  
13 and you selected out the D.A.T., RPE and RPT files;  
14 is that right?

15 A. That's correct. There may be one other  
16 file that it's described as an emissions summary. It  
17 may come up without being a secondary zip file. I  
18 just don't recall right at the moment.

19 Q. I believe before lunch you mentioned an  
20 EPA needs database?

21 A. Yes, the needs database is the database  
22 by which EPA tracks a lot of the individual unit  
23 information. You need to access the needs database  
24 to understand where the units are in various regions  
25 of the United States because in the actual IPM 5.15,

1     what they do is they use a numerical number to  
2     identify units, and that file correlates the unit  
3     alpha numeric -- alpha name and alpha numeric in some  
4     cases to the numeric name.

5             Q.     And the needs database, does that come up  
6     when you click on the link in footnote 3 on page 56  
7     of your errata?

8             A.     It does not.  It's in a separate location  
9     on the IPM website.

10            Q.     And the needs database is the only place  
11    in all the files you mentioned where individual  
12    units, generating units, would be identified by name;  
13    is that correct?

14            A.     That is correct.

15            Q.     Okay.  So all of the files found at the  
16    link that you provided in your errata, someone trying  
17    to figure out what specific units are being discussed  
18    in those files would have to do some sort of  
19    comparison of numbers identified in those files with  
20    names included in another database, correct?

21            A.     That is correct.

22            Q.     Okay.  And you did not identify the needs  
23    database in your errata as a source for any of your  
24    data, correct?

25            A.     I did not.

1           Q.    Okay.  And you did not identify in your  
2   errata specifically any of the D.A.T., RPE or RPT  
3   files as sources for the information contained in the  
4   errata, correct?

5           A.    Those files are all contained in the zip  
6   file.

7           Q.    Okay.  But you never identified those as  
8   the specific files that you used, correct?

9           A.    I did not.

10          Q.    And did you use those same files, the  
11   needs file, the D.A.T. file, RPT, and RPE file in  
12   creating figures 1 through 4 in your supplemental  
13   testimony?

14          A.    In the supplemental testimony, the files  
15   are different.  They have the same extensions, but  
16   they have slightly different names because it was  
17   state based rate.  So the state based rate zip file  
18   is my recollection from my supplemental testimony of  
19   where those files would be.

20          Q.    So if you go to page 13 of your  
21   supplemental testimony, footnote 2, that note refers  
22   to EPA Option 1, State IPM Model Outputs; is that  
23   correct?

24          A.    That is correct.

25          Q.    And then there is a link there, correct?

1           A.     That is correct.

2           Q.     Okay.  And that link leads to a zip file  
3     with approximately 103 megabytes of file; is that  
4     correct?

5           A.     That is correct.

6           Q.     And the modeling output files at that  
7     link were the source for the data used to create  
8     figures 1 through 4; is that right?

9           A.     Figures 1 through 4 in the supplemental  
10    testimony filed May 4, yes.

11          Q.     Okay.  And did you also in your --  
12    creating figures 1 through 4 in your supplemental  
13    testimony use the needs database?

14          A.     Yes, it does.

15          Q.     Okay.  And the needs database is not  
16    identified anywhere in your discussion of the Clean  
17    Power Plan in your supplemental testimony, correct?

18          A.     My recollection of that is on both of  
19    these zip files, both under the final rule, what I  
20    call the final rule, which was proposed August 3, and  
21    the rule from 2014, June of 2014, EPA does reference  
22    on these pages that are footnoted that you also need  
23    to access the needs database when you go to that  
24    link.

25          Q.     So somewhere in the 103 megabytes of

1 files that are included in the link that is in  
2 footnote 2 on page 13 of your supplemental testimony,  
3 there is a reference to you need to go to the needs  
4 database; is that correct?

5 A. Yes, because there are descriptor files  
6 in the needs database -- I'm sorry, descriptor files  
7 in the zip file that says -- that gives you some  
8 general directions. There's the summary page that  
9 provides that general direction and table of  
10 contents.

11 Q. But in your testimony itself, you never  
12 stated you relied on the needs database, correct?

13 MR. LANG: Objection. Your Honor, asked  
14 and answered.

15 EXAMINER ADDISON: Sustained.

16 Q. When you were asked at your deposition to  
17 identify the title of the spreadsheet that provided  
18 the source information for figures 1 through 4 in  
19 your supplemental testimony, you could not do so,  
20 correct?

21 MR. LANG: Objection, your Honor.

22 EXAMINER ADDISON: Grounds.

23 MR. LANG: Relevance. There's no use for  
24 impeachment of the deposition. I was just asking  
25 what he knew at the time of his deposition with

1       regard to the analysis of the proposed Clean Power  
2       Plan.

3               EXAMINER ADDISON:   Mr. Fisk.

4               MR. FISK:   The relevance is that, first,  
5       Mr. Evans in testimony, in his supplemental testimony  
6       regarding the Clean Power Plan where he never  
7       identified source documents for how he came up with  
8       this data.   We asked him about it at his deposition.  
9       He was unable to identify any specific files amongst  
10      the 103 megabytes of files.

11              Now suddenly today, he is able to  
12      identify specific files that he used for the same  
13      analysis that he's providing in his errata.   What I'm  
14      trying to show is that the parties never had a chance  
15      to verify what he did because when we asked him what  
16      files he used, he couldn't tell us.

17              EXAMINER ADDISON:   I'll allow Mr. Fisk a  
18      little leeway.

19              MR. FISK:   Do you you need the question  
20      read back?

21              THE WITNESS:   Yes, I do.

22              (Question read.)

23              THE WITNESS:   Mr. Fisk, could you take me  
24      to that citation in my deposition, please?

25              Q.     Certainly.   If you look at page 93 --



1 actually the discussion starts page 92, line 14 and  
2 goes through page 93, line 13.

3 A. My response is -- The question was do you  
4 know the title of the file, which is more than just  
5 what I described earlier today, so I was trying to  
6 remember a file title out of those multiple files  
7 there. So that's my recollection of my deposition,  
8 that I did not have the exact file title and was  
9 uncomfortable making a file name up, or a title, for  
10 that.

11 Q. But you never in your deposition  
12 identified any of the files that you were identifying  
13 today, any of those types of files as the source for  
14 your Clean Power Plan analyses in your supplemental  
15 testimony, correct?

16 A. My recollection of the deposition is I  
17 was asked to identify a specific file title which has  
18 a different nomenclature to me than extension.

19 Q. So basically the parties needed to guess  
20 which files in the 103 megabytes of files you used,  
21 correct?

22 MR. LANG: Objection, your Honor,  
23 mischaracterizes the testimony.

24 EXAMINER ADDISON: Sustained.

25 Q. Did you ever specifically identify the

1 extension names for the files from the 103 megabytes  
2 of files you used in your analysis for your  
3 supplemental testimony?

4 A. I don't recall a question regarding  
5 extensions during my deposition, sir, on that.

6 Q. The data sheets from the IPM modeling  
7 that you use in your supplemental testimony, is the  
8 identity of those data sheets confidential?

9 A. EPA's data summary sheets are not  
10 confidential.

11 Q. Okay. Do you consider the data sheets  
12 that you used, the identification of, you know, the  
13 RPE -- I'm forgetting the acronyms now. The D.A.T.,  
14 RPE, RPT files, the identification of those files  
15 that you used, do you consider that confidential?

16 A. I do not consider those sheets  
17 confidential.

18 MR. OLIKER: May we go off for a second?

19 EXAMINER ADDISON: You may.

20 (Off the record.)

21 EXAMINER ADDISON: Let's go back on the  
22 record.

23 MR. FISK: May we approach?

24 EXAMINER ADDISON: You may.

25 MR. FISK: We are handing to the witness

1 and the Attorney Examiners, et cetera, the  
2 confidential portion of Mr. Evans' deposition. I am  
3 going to ask about two sections I discussed with  
4 Mr. Lang that are not confidential, so he's agreed,  
5 at least based on what we discussed, that this can be  
6 held in the public session.

7 Q. Mr. Evans, do you have in front of you  
8 the transcript of the confidential portion of your  
9 deposition?

10 A. I do.

11 Q. Okay. And if you could turn to page 171,  
12 starting at line 20, then the question there is,  
13 "Okay. So you don't have any personal knowledge  
14 about any of the plants that are reflected on figure  
15 1, is that correct, outside of Davis-Besse and  
16 Sammis?"

17 Your answer is, "I have reviewed the  
18 summary data sheets of the EPA's IPM."

19 "Question: The ones you are not able to  
20 identify today?

21 "Answer: Yes."

22 Did I read that correctly?

23 A. That is correct.

24 Q. Okay. If you could turn to page 178, if  
25 I look starting at line 17, it says, "Okay. So in

1 going over to figure 4 on page 13 of your testimony,  
2 so figure 4 identifies what you claim is EPA's  
3 identification of capacity factors for the Sammis  
4 units in the future; is that correct?"

5 Your answer is "Yes."

6 "Question: Okay. And that again is from  
7 a file that you are unable to identify?"

8 Your answer, "I have not said I was  
9 unable to identify it. I just said I don't have it  
10 available today."

11 "Question: So today you are unable to  
12 identify the file that you got that from, correct?"

13 "Answer: That's correct."

14 Did I read that correctly?

15 A. Correct.

16 Q. So with regards to both figures 1 and  
17 4 in your supplemental testimony, you confirmed at  
18 your deposition then at that time you were unable to  
19 identify the files from where you got the information  
20 for those figures, correct?

21 MR. LANG: Objection, your Honor. Asked  
22 and answered.

23 EXAMINER ADDISON: Overruled.

24 THE WITNESS: Could you repeat the  
25 question, please.

1 (Record read.)

2 A. That is correct.

3 Q. So sometime after your deposition, you  
4 refreshed your memory as to what specific EPA IPM  
5 modeling files were used in creating figures  
6 1 through 4 of your supplemental testimony; is that  
7 right?

8 A. The files that were used to create the  
9 supplemental testimony were, as I recall, prepared in  
10 the time frame of April. I did not refresh my memory  
11 for deposition to be able to answer the question of  
12 the file name or file type; therefore, I was unable  
13 at deposition to do that. Since that time, I have  
14 refreshed my memory.

15 Q. Okay. And you submitted an errata to  
16 your deposition transcript, correct?

17 A. I did.

18 Q. Okay. And you did not include in such  
19 errata any update identifying the EPA IPM files you  
20 were unable to identify during your deposition,  
21 correct?

22 MR. LANG: Objection.

23 EXAMINER ADDISON: Grounds?

24 MR. LANG: It would be improper in an  
25 errata to the deposition to say in the deposition, "I

1 can't remember," and then to start adding file names  
2 in the transcript. So I think the question he's  
3 asking of the witness is improper.

4 EXAMINER ADDISON: Mr. Fisk.

5 MR. FISK: I find that objection quite  
6 ironic that there's been seven pages of errata  
7 submitted in this proceeding regarding the Clean  
8 Power Plan. I'm simply confirming that he had  
9 chances to provide us with the information of what  
10 files we wanted and he never did.

11 MR. LANG: Your Honor, the files are in  
12 the zip file as referenced in the testimony. They  
13 can ask him about it. In his deposition he said, if  
14 I had them in front of me, I would be able to  
15 describe them to you. But no one put them in front  
16 of him at his deposition.

17 So it's just this game of gotcha doesn't  
18 make any sense in the context of this proceeding,  
19 particularly since we are talking about files related  
20 to part of his testimony that has been replaced. And  
21 it doesn't relate to Mr. Evans' knowledge of the  
22 filed Clean Power Plan.

23 EXAMINER ADDISON: Mr. Fisk.

24 MR. FISK: The only gotcha that's been  
25 played here is by FirstEnergy. They submitted first

1 testimony about the Clean Power Plan based on  
2 103 megabytes of files that they were unable to  
3 identify. Then they submitted the errata providing  
4 an update analysis.

5 And now suddenly the witness is able to  
6 identify what files were relied on. There has been  
7 no opportunity for the parties to be able to verify  
8 the analysis he did until today, and I'm simply  
9 showing that through the record, that he initially  
10 submitted testimony that he wasn't able to identify  
11 what the basis was for.

12 EXAMINER PRICE: Can the last question be  
13 read back, please.

14 (Record read.)

15 EXAMINER ADDISON: At this time, we will  
16 overrule the objection.

17 Mr. Fisk, let's move on from this line of  
18 questioning.

19 MR. FISK: Sure.

20 EXAMINER ADDISON: Thank you.

21 MR. FISK: Thank you, your Honor.

22 Q. (By Mr. Fisk) I'm sorry, sir, is that  
23 question still being able to be answered?

24 EXAMINER ADDISON: Yes, still pending.

25 MR. FISK: Do you need it read back?

1 THE WITNESS: Yes, I do.

2 (Record read.)

3 A. Yes.

4 Q. Okay. I believe a few minutes ago you  
5 testified regarding the figures in your errata that  
6 you put files together and then told ICF how to sort  
7 them out; is that correct?

8 A. In general, we looked at the files --  
9 after I had looked at the files, I sat down via video  
10 conference with ICF, and we shared the file. I  
11 pointed out the information I wanted added together  
12 to create the analysis that became figures 1 through  
13 3.

14 Q. And when you said we shared the file,  
15 which file are you referring to?

16 A. We're talking about all the previous  
17 files, the D.A.T. file, the RPT files, the RPE file  
18 and emissions summary file.

19 Q. Okay.

20 A. The capacity retirements file.

21 Q. Okay. So those are the files from the  
22 link in footnote 3 on page 5 of your errata; is that  
23 right?

24 A. Other than the needs file which is on a  
25 separate link that you can reach off of the file.



1           Q.    So you told IPM on this video conference  
2           these are the files from that link I want you to use  
3           for your analysis; is that right?

4           A.    We actually walked through and I told  
5           them what the analysis was to be.  They were to add  
6           all the shadow carbon price, the price of O&M, both  
7           variable and fixed, to create the dispatch curve.  So  
8           I told them what the formula was to be to be created,  
9           and they did the mechanics of creating that single  
10          price point for the various data points on those  
11          curves.

12          Q.    Okay.  At that point, did you send any  
13          document to ICF?

14          A.    We shared the EPA file from the common  
15          database.  We -- I saw no need to send them a file  
16          because they understood my instructions, and they  
17          repeated the instructions back to me.  They sent the  
18          file to me.  I reviewed the file and corrected errors  
19          in their file.

20          Q.    Okay.  So I believe earlier you also said  
21          that ICF took the summary file and added four columns  
22          to it; is that right?

23          A.    That is correct.  The four columns were  
24          at my direction, so I could have the review, and  
25          that's where the calculations that are in that

1 spreadsheet are.

2 Q. And the summary file before the four  
3 columns were added, what is the summary file?

4 A. The summary file is the EPA rate based  
5 summary file RPE, .RPE.

6 Q. Then ICF took the file, added four  
7 columns and sent the new file with four columns added  
8 to you?

9 A. That is correct.

10 Q. So there is a file that exists that was  
11 used to create figures 1 through 3 in your errata  
12 that is not -- It consists of something other than  
13 just EPA data, correct?

14 A. That is correct. There is additional  
15 analysis in this file.

16 Q. Okay. And do you have that file?

17 A. Yes, I have that file.

18 Q. Okay. And there was a similar process  
19 done with regards to the figures 1 through 3 in your  
20 supplemental testimony?

21 A. It was a very similar process on figures  
22 1 through 3.

23 Q. Okay. So with regards to figures  
24 1 through 3 in your supplemental testimony, was there  
25 a file created in which ICF added columns to the EPA

1 summary file?

2 A. Yes.

3 Q. Okay. And was that file provided to you?

4 A. At my deposition, I indicated that that  
5 file was not provided to me. I had that file sent to  
6 me after the deposition.

7 Q. So at the time of your deposition, you  
8 had not asked ICF to send that file to you?

9 A. That is correct.

10 Q. Did you specifically instruct them to  
11 wait to send that file to you until after your  
12 deposition?

13 A. I did not.

14 Q. So they just happened to send that to you  
15 after your deposition; is that right?

16 MR. LANG: Objection, your Honor, part  
17 argumentative and part asked and answered.

18 EXAMINER ADDISON: Sustained.

19 Q. So you now have that file; is that right?

20 A. That is correct.

21 Q. Okay. And that file has never been  
22 provided to any party in the proceeding, correct?

23 A. Not that I'm aware of.

24 Q. Okay. And what are the four columns that  
25 were added to the summary file with regards to your

1 tables 1 through 3 in your errata?

2 A. The four columns that were provided was  
3 the carbon shadow price, the variable O&M price, the  
4 fixed O&M price, and the assumed capital expenditure  
5 price for the units. In addition -- I take that  
6 back. There was also a fifth file, capacity factor,  
7 that was also added to that file. Sorry.

8 Q. And the variable O&M, that was for --  
9 that was for the Sammis and Davis-Besse units?

10 A. The variable O&M files were EPA's own  
11 files on what they assumed for variable O&M for the  
12 units based on the IPM model.

13 Q. So it was not specific information about  
14 Sammis or Davis-Besse; is that right?

15 A. That is correct.

16 Q. Okay. Are Sammis and Davis-Besse some of  
17 the units included in the summary file?

18 A. Yes, Sammis and Davis-Besse are included  
19 in the summary data file.

20 Q. And the carbon shadow price, what is the  
21 source of that?

22 A. The carbon shadow price comes out of a  
23 separate output file called emissions summary file,  
24 and what the IPM model does is predict the price of  
25 carbon in the model. The price of carbon as we

1 reviewed that file is very similar to some of our own  
2 projections that we used in the case.

3 Q. Okay. So this summary file with the five  
4 columns added was used to create just figures  
5 1 through 3 on your errata; is that correct?

6 A. It was also used to create figure  
7 4 because that also had the capacity factors of the  
8 Sammis units --

9 Q. Okay.

10 A. -- on that sheet.

11 Q. Okay. Was there any additional modeling  
12 run on this summary file before you produced figures  
13 1 through 4?

14 A. No.

15 Q. Okay. So without revealing any of the  
16 confidential information, say, in figure 1, how did  
17 you go from the summary file with the five added  
18 columns to figure 1?

19 A. The way the figure was created, you used  
20 the chart feature of XL, and you basically highlight  
21 the data you want to include in your chart. So for  
22 these charts, we highlighted the data for the units  
23 in figures 1 and 2 in the PJM. They all have a  
24 variable operating cost, and we highlighted this data  
25 and used the chart features of the XL program to

1 create that. I asked ICF to do that for me.

2 Q. And who at ICF did you work with on this?

3 A. The individual at ICF was Imran Lahani.

4 Q. Did Mr. Rose have any involvement, to  
5 your knowledge?

6 A. I'm not aware that Mr. Rose had any  
7 involvement.

8 Q. If this is encroaching on confidential  
9 information too much, please let me know, but without  
10 revealing any numbers from figure 1, am I correct  
11 that the curve on figure 1 represents the variable  
12 O&M cost from the summary sheet with the five columns  
13 added that you got from ICF?

14 A. That is correct.

15 Q. Okay. And so the -- once again, without  
16 revealing the numbers, that figure 1 does include  
17 Davis-Besse and Sammis; is that right?

18 A. That is correct.

19 Q. Okay. Am I right that you stated earlier  
20 the variable O&M cost that you used was not -- was  
21 from the EPA, wasn't a specific FirstEnergy data  
22 regarding O&M cost; is that right?

23 A. The variable O&M cost had to be created  
24 from the EPA file, so we had to do addition. Part of  
25 the reason for the columns, to create the variable

1 O&M because EPA had it broken it up into fixed  
2 variable. And on another spreadsheet, the emissions  
3 measurement spreadsheet, they had the shadow price  
4 for carbon by unit price there. So we had to pull  
5 that together, add it together to create the variable  
6 O&M that became the basis for this figure.

7 Q. Okay. Simply looking at figure 1, I  
8 would not be able to determine -- strike that.

9 Did you do anything to evaluate the  
10 variable O&M cost reflected in figure 1 is consistent  
11 with the variable O&M costs for Sammis that has been  
12 projected in this proceeding?

13 A. I did not.

14 Q. Is that the same with regards to the  
15 variable O&M cost for Sammis identified in figure 2?

16 A. Part of the reason we use the EPA model  
17 to compare the cost of all the fleets was so we had a  
18 common database of variable O&M costs of units in the  
19 PJM from a single source to maintain consistency in  
20 the record as we presented these costs. So we did  
21 not include nor did we compare these figures to the  
22 costs that are in the forecast.

23 Q. Okay. And did anyone else at FirstEnergy  
24 work with you on developing your errata?

25 THE WITNESS: Could you repeat the

1 question, please.

2 (Record read.)

3 A. I developed the errata. It was reviewed  
4 by others for comment.

5 Q. And who reviewed it for comment?

6 A. Marty Hall.

7 Q. Anyone else?

8 A. Counsel.

9 Q. Anyone else?

10 A. That's it.

11 Q. And who is Marty Hall?

12 A. He is Vice President of Federal  
13 Regulatory Affairs.

14 Q. But he reviewed it after you had done the  
15 analysis; is that right?

16 A. That's correct.

17 Q. Okay. And did he have any subsequent  
18 changes to it?

19 A. He did not.

20 Q. Okay. And so then outside of counsel,  
21 the only other person you worked with on figures  
22 1 through 4 would have been the individual you  
23 mentioned at ICF; is that right?

24 A. That is correct.

25 Q. If you could turn to page 7 of your



1 errata, lines 9 through 11, let me know when you're  
2 there.

3 A. I am there.

4 Q. You have a statement there that "Sammis  
5 and Davis-Besse will play an increased role in  
6 ensuring grid reliability and stability for Ohio"; is  
7 that correct?

8 A. That is correct.

9 Q. And that statement is based on your  
10 interpretation of the results of EPA's IPM modeling;  
11 is that right?

12 A. The IPM model predicts a capacity factor  
13 and the capacity factor in the IPM model increases  
14 depending on the year you look at, anywhere from  
15 10 to 20 percent, which is significant based on the  
16 current operational levels of the units.

17 We believe because of the way the model  
18 is structured to protect transmission reliability and  
19 EPA's assumption is they have to protect transmission  
20 reliability, that the model shows units being used  
21 and called for more as baseload because there are  
22 fewer units. The model itself actually predicts from  
23 the PJM footprint approximately (redacted number) of  
24 retirements.

25 MR. LANG: Your Honors, if we could on

1     that one statement, I believe that a number has been  
2     marked as confidential in his testimony. So if we  
3     could maybe move just the last -- I guess just redact  
4     that one reference to that number, maybe we can  
5     remove the last part of his sentence completely just  
6     to avoid the issue of having that in the public  
7     record.

8                 EXAMINER ADDISON: Did you have a  
9     response, Mr. Fisk?

10                MR. FISK: No, I actually was moving to  
11     strike the answer as nonresponsive. I simply asked  
12     whether that was his interpretation of EPA in the  
13     modeling, whether that statement was his  
14     interpretation, not a long explanation of that  
15     statement.

16                EXAMINER ADDISON: Mr. Lang.

17                MR. LANG: He was explaining where the  
18     interpretation came from and what is being referenced  
19     in the testimony, so I believe it was responsive to  
20     the question. I just have the issue with the one  
21     number, your Honor.

22                EXAMINER ADDISON: We will go ahead and  
23     strike the number so we can raise that issue in  
24     confidential session.

25                Mr. Fisk, as to the entire answer, we're

1 going to go ahead and deny that motion to strike, but  
2 I will direct Mr. Evans to answer Mr. Fisk's pending  
3 question. I'll just have the reporter read back the  
4 question and if you could give a direct answer,  
5 Mr. Evans.

6 (Record read.)

7 A. That's right.

8 Q. Okay. So EPA itself has not made the  
9 statement that Sammis and Davis-Besse will play an  
10 increased role in ensuring reliability and stability,  
11 correct?

12 THE WITNESS: Could you repeat the  
13 question, please?

14 (Record read.)

15 A. The IPM model is EPA's record of their  
16 views with respect to reliability. Even though they  
17 don't make a written statement, the model basically  
18 speaks to the fact that it dispatches per EPA's  
19 assumptions that the units run more reliably.

20 MR. FISK: May we go off for a second?

21 THE WITNESS: Could we take a break,  
22 please?

23 EXAMINER ADDISON: Let's go ahead and  
24 take the five-minute break.

25 (Recess taken.)

1 EXAMINER ADDISON: Let's go back on the  
2 record.

3 Mr. Fisk.

4 \*\*\*\*\*

5 MR. FISK: Thank you, your Honors.

6 Q. (By Mr. Fisk) So, Mr. Evans, you are the  
7 VP of Environmental and Technologies at FirstEnergy  
8 Service Company, correct?

9 A. That is correct.

10 Q. And previously you were Executive  
11 Director of the Environmental Department; is that  
12 right?

13 A. That also is correct.

14 Q. Okay. So when you were Executive  
15 Director, am I correct that you oversaw the work of  
16 the environmental department?

17 A. It was my primary duty, yes.

18 Q. And FirstEnergy submits comments to EPA  
19 regarding proposed environmental regulations; is that  
20 right?

21 A. That is our practice.

22 Q. Okay. And are those comments typically  
23 produced by the environmental department?

24 A. Typically the comments would be produced  
25 by the environmental department, but when we need

1 expertise that's outside our area, we'll bring others  
2 in to participate in the development of comments.

3 Q. Okay. At the time when you were  
4 Executive Director of the environmental department,  
5 were you ultimately responsible for whatever comments  
6 FirstEnergy submitted to EPA regarding environmental  
7 regulations?

8 A. That is typically correct, but there may  
9 be some small regulation somebody else may have filed  
10 in my absence.

11 Q. Okay, but on major regulations, that  
12 would ultimately have fallen to you?

13 A. That is correct.

14 Q. Okay. In your current position, do you  
15 still oversee the environmental department?

16 A. That is correct.

17 Q. Okay. And Mike Jirousek worked with you  
18 on your testimony; is that right?

19 A. That is correct.

20 Q. And he is a manager in the environmental  
21 department; is that right?

22 A. That is correct, he has responsibilities  
23 for air and water regulations.

24 Q. Okay. And he reports to you?

25 A. He does.

1           Q.    Okay.  And do you know who Douglas  
2 Hartman is?

3           A.    I do.

4           Q.    Does he work in the environmental  
5 department?

6           A.    Yes.  He works for me, also.

7           Q.    So he's a direct report to you?

8           A.    He is a direct report to me.

9           Q.    Okay.  And in your current position, you  
10 provide services to FirstEnergy Solutions; is that  
11 right?

12          A.    We are a corporate function.  We provide  
13 services to all affiliates of FirstEnergy, which  
14 would also include FirstEnergy Solutions should they  
15 have any questions or comments to ask.

16          Q.    Okay, great.  Are you aware that -- to  
17 your knowledge, does EPA often issue a regulatory  
18 impact analysis with a regulation that it's putting  
19 forth?

20          A.    On large rule makings, the EPA will issue  
21 a regulatory impact analysis to provide further  
22 information for the public on the basis for their  
23 regulations.

24          Q.    And do you know whether EPA issued a  
25 regulatory impact analysis regarding the final Clean

1 Power Plan?

2 A. Yes, they did.

3 Q. Okay. Have you ever reviewed that  
4 document?

5 A. Yes, I have.

6 Q. Okay. And your errata, am I correct, is  
7 based on EPA's rate based modeling of the Clean Power  
8 Plan?

9 A. Yes, it is.

10 Q. Okay.

11 A. And we did that to maintain consistency  
12 between the proposed regulation and the final  
13 regulation. We also did that because the basis for  
14 regulation by USEPA under 111(d) of the Clean Air Act  
15 is a rate based mechanism. And finally, if we had  
16 done the regulatory analysis as a mass-based  
17 regulation analysis, we would have to make numerous  
18 assumptions that were not in the EPA modeling for  
19 purposes of doing the comparison between before and  
20 after changes with the proposed and final Clean Power  
21 Plan.

22 MR. FISK: Your Honor, I move to strike  
23 everything after "Yes, it is." I simply asked was  
24 his analysis based on the rate based modeling, not a  
25 full explanation of why it might be based on that.

1 EXAMINER ADDISON: Mr. Lang.

2 MR. LANG: Your Honor, he was explaining  
3 why he used the rate based analysis. He's just  
4 providing context.

5 EXAMINER ADDISON: Motion to strike will  
6 be denied. I agree that the context would be  
7 helpful.

8 Thank you.

9 Q. (By Mr. Fisk) Okay. So turning to  
10 page 3 of your errata, lines 1 through 4, and I  
11 caution you there is a confidential number in there,  
12 so skipping over that number, you have testimony  
13 there that USEPA modeling projects some coal  
14 retirements in Ohio but not including Sammis; is that  
15 correct?

16 A. That is correct.

17 Q. Okay. And that conclusion is based on  
18 your analysis of EPA's rate based modeling, correct?

19 A. That is correct. As the model shows  
20 running all the way through 2050.

21 Q. Okay. And have you evaluated whether  
22 EPA's mass based modeling shows any of the Sammis  
23 units retiring?

24 A. I have not.

25 Q. Have you evaluated EPA's mass based



1 modeling at all?

2 A. I have not.

3 MR. FISK: May we approach, your Honor?

4 EXAMINER ADDISON: You may.

5 MR. FISK: May I have this document  
6 marked -- I believe we are at Sierra Club Exhibit 64,  
7 I hope.

8 EXAMINER ADDISON: So marked.

9 (SIERRA CLUB EXHIBIT 64 MARKED FOR  
10 IDENTIFICATION.)

11 Q. And, Mr. Evans, you have been handed a  
12 document that's been marked as Sierra Club Exhibit 64  
13 which is portions of the Regulatory Impact Analysis  
14 for the Clean Power Plan Final Rule; is that right?

15 A. That is correct, it is a portion of the  
16 Clean Power Plan RIA.

17 Q. Okay. And so this is the title page,  
18 Table of Contents, Executive Summary and Chapter 3;  
19 is that right?

20 A. That is correct.

21 Q. Okay. Are these portions of the  
22 Regulatory Impact Analysis that we discussed a couple  
23 minutes ago that you said you had seen previously?

24 A. That is correct.

25 Q. Okay. And if you could turn to

1 chapter 3, which says 3-1 at the bottom, probably  
2 about halfway through the document.

3 A. I am at page 3-1.

4 Q. Okay. And that chapter is entitled  
5 "Cost, Emissions, Economic and Energy Impacts"; is  
6 that right?

7 A. That is correct.

8 Q. And starting at the second sentence of  
9 the first paragraph, it discusses "EPA used the  
10 Integrated Planning Model, developed by ICF  
11 International, to conduct most of the analysis  
12 discussed in this chapter." Do you see that?

13 A. I see it.

14 Q. Okay. To your knowledge, is that the  
15 same IPM modeling that you are relying on in your  
16 errata?

17 A. Yes.

18 Q. Okay. If you could turn to page 3-11,  
19 the second full paragraph that starts "While IPM  
20 produces..." do you see that?

21 A. I do.

22 Q. Okay. And, actually, if you could go  
23 back to page 3 also of your errata, on lines 1 and 2,  
24 you refer to the rate based modeling as representing  
25 Ohio's least-cost strategy for complying with the

1 CPP; is that right?

2 A. Correct.

3 Q. Okay. So going back to page 3-11 of  
4 Sierra Club Exhibit 64, that first sentence of the  
5 second full paragraph, "While IPM produces a  
6 cost-minimizing solution to achieve the state goals  
7 imposed in the illustrative scenarios, there may be  
8 yet lower cost approaches that the states may adopt  
9 to achieve their state goals..." Do you see that?

10 A. That is a partial iteration of that  
11 paragraph, yes.

12 Q. Okay. So would you agree there may be  
13 lower cost strategies for Ohio to achieve Clean Power  
14 Plan compliance than what is set forth in the rate  
15 based modeling?

16 A. I have no personal basis to come to that  
17 conclusion.

18 Q. Okay. Would you agree that EPA's, this  
19 second paragraph on page 3-11 of EPA's Regulatory  
20 Impact Analysis states that there may be yet lower  
21 cost approaches that states may adopt to achieve  
22 their state goals?

23 A. Could you repeat the question, please.

24 (Record read.)

25 A. I would note the sentence also continues

1 with some what I would term caveats as to that. So  
2 my concern here is it's taken out of context.

3 Q. So the sentence continues "...inasmuch  
4 as states and sources take advantage of emission  
5 reduction opportunities in practice and flexibilities  
6 afforded under the final rule that are not  
7 represented in this analysis and would yield  
8 different cost and emissions outcomes," is that what  
9 you're referring to?

10 A. Yes.

11 Q. So have you analyzed whether there are  
12 any lower cost approaches that Ohio could take to  
13 Clean Power Plan compliance than the rate based  
14 modeling that you relied on in your errata?

15 A. I have not.

16 Q. If you could turn to page ES-9 of Sierra  
17 Club Exhibit 64. There is a table ES-5 about  
18 three-quarters of the way down the page; do you see  
19 that?

20 A. I see the table.

21 Q. Okay. And the table is entitled  
22 Compliance Costs for the Illustrative Rate-Based and  
23 Mass-Based Plan Approaches. Did I read that  
24 correctly?

25 A. Yes.

1           Q.    And that identifies incremental costs by  
2           the base case for the rate base approach and the mass  
3           base approach; is that right?

4           A.    That's correct, and I include it is also  
5           I believe at the national level.

6           Q.    So at the national level, am I correct  
7           that the table ES-5 shows if you add up the three  
8           figures for mass base approach, those did not --  
9           would help lower compliance cost than the rate base  
10          approach?

11          MR. LANG:  Your Honor, at this time, I  
12          object.

13          EXAMINER ADDISON:  Grounds?

14          MR. LANG:  Counsel has identified  
15          Mr. Evans is familiar with the document.  He has not  
16          identified that Mr. Evans is a preparer of the  
17          document of Table ES-5, so there isn't a foundation  
18          with regard to whether Mr. Evans can confirm the  
19          accuracy of the Table ES-5 that counsel is  
20          questioning Mr. Evans about.

21          MR. FISK:  Well, Mr. Evans has testified  
22          that relying on EPA rate based modeling, that he  
23          believes that a scenario involving the continued  
24          operation of Sammis is a least cost strategy based on  
25          EPA data, and I'm pointing him to an EPA document

1     that he acknowledges he's seen and he acknowledges it  
2     is related to the Clean Power Plan that identifies  
3     the incremental compliance cost on a rate base  
4     approach versus a mass base approach. And I think  
5     that's directly relevant to whether the rate based  
6     approach is really as Mr. Evans testifies, the least  
7     cost strategy for Ohio.

8             EXAMINER ADDISON: Mr. Lang.

9             MR. LANG: Your Honor, not disagreeing  
10    with anything Mr. Fisk said with regard to what he's  
11    trying to show with regard to relevance, there still  
12    has not been established a foundation with regard to  
13    this witness to opine on the table in this document.  
14    The document has been authenticated, his knowledge --  
15    there's no foundation with this witness as to his  
16    knowledge of what EPA did to calculate what's in that  
17    table.

18            EXAMINER ADDISON: I'll allow the  
19    question.

20            MR. FISK: Thank you, your Honor.

21            Do you need the question back?

22            THE WITNESS: Could you read the question  
23    back, please.

24            (Record read.)

25            A. I cannot express an opinion on it because

1 I have not looked in detail regarding the supporting  
2 information that supports these conclusions. I would  
3 have to accept it at EPA's face value.

4 Q. And you have not reviewed any of the  
5 modeling itself that went into the input and output  
6 files for EPA's IPM modeling; is that right?

7 A. I believe I understood your question, and  
8 I reviewed the model itself. And the answer is no,  
9 it is a proprietary model licensed to users by ICF  
10 International.

11 Q. Okay. But you're not sure whether EPA  
12 could even review such modeling because of ICF's  
13 proprietary claims, correct?

14 A. That is correct, but I understand that  
15 EPA has validated the output of the model via other  
16 methodologies against other dynamic linear models for  
17 reliability and dispatch. EPA justifies use of the  
18 model in the preamble to the Clean Power Plan by  
19 saying that they have peer reviewed it and validated  
20 it against other models and they believe it is  
21 accurate and correct, therefore, the model has been  
22 tested.

23 Q. But they never had an opportunity, to  
24 your knowledge, to actually review the ICF model  
25 itself, correct?

1           A.    I have not heard an EPA spokesman say  
2   that, no.

3           Q.    Okay.  And to your knowledge, could any  
4   of the Intervenor in the proceeding review the ICF  
5   model used to produce the modeling you rely on in  
6   your errata?

7           A.    I don't know.

8           Q.    And do you know what the Cross State Air  
9   Pollution Rule is?

10          A.    I do.  The Cross State Air Pollution Rule  
11   is a rule that EPA first implemented, I believe, in  
12   2011 to control the transport of SO<sub>2</sub> and NO<sub>x</sub> across  
13   regional boundaries of states, and it was subject to  
14   a number of litigations adding some uncertainty, but  
15   it became final and implemented on January 1, 2015.

16          Q.    Am I correct that FirstEnergy had  
17   submitted comments to EPA regarding the proposed  
18   Cross State Air Pollution Rule over the years, and it  
19   was percolating at the agency; is that correct?

20          A.    That is correct, FirstEnergy submitted  
21   comments as part of the public process.  We liked the  
22   rule and we saw the potential for improvements.

23               MR. FISK:  May we approach, your Honor?

24               EXAMINER ADDISON:  You may.

25               MR. FISK:  If we could have this marked



1 as Sierra Club Exhibit 65.

2 EXAMINER ADDISON: So marked.

3 MR. FISK: Thank you.

4 (SIERRA CLUB EXHIBIT 65 MARKED FOR  
5 IDENTIFICATION.)

6 Q. Mr. Evans, you have been handed a  
7 document that's been marked as Sierra Club 65 dated  
8 November 11, 2011, and it says, "Subject: Revisions  
9 to Federal Implementation Plans to Reduce Interstate  
10 Transport of Fine Particulate Matter and Ozone"; is  
11 that correct?

12 A. That is correct.

13 Q. Okay. Have you ever seen this document  
14 before?

15 A. I don't have a direct recollection of  
16 it. It's over four years old, so I'm not sure when I  
17 saw it and whether I even signed it since there's no  
18 signature page attached to it.

19 Q. Okay. If you look at the first paragraph  
20 of the letter on the front page, it says that it  
21 is -- FirstEnergy Corporation -- or FirstEnergy Corp.  
22 is submitting the following comments on USEPA FIP  
23 related to the Cross State Air Pollution Rule; is  
24 that correct?

25 A. That is correct.

1           Q.    And if you go to the very end of the  
2   letter on the backside, it states that any questions  
3   regarding these comments should be directed to  
4   Douglas Hartman and Michael Jirousek; is that  
5   correct?

6           A.    That is correct.

7           Q.    And those two individuals both report to  
8   you; is that right?

9           A.    That is correct.

10          Q.    And this letter is dated during the time  
11   when you were Executive Director of the environmental  
12   department at FirstEnergy Corporate; is that right?

13          A.    That is correct.

14          Q.    Okay.  So do you have any reason to doubt  
15   that this letter is a cover letter that FirstEnergy  
16   Corp sent to USEPA regarding revisions to Federal  
17   Implementation Plans to Reduce Interstate Transport  
18   of Fine Particulate Matter and Ozone?

19          A.    I have no reason to doubt.

20          Q.    Okay.  If you could turn to page 2 of the  
21   letter, the third paragraph from the bottom starts,  
22   "EPA's unprecedented use..." do you see that?

23          A.    Yes.

24          Q.    And so that sentence says, "EPA's  
25   unprecedented use of the proprietary Integrated

1 Planning Model, IPM, to model every significant  
2 source in the country produces results that appear to  
3 inappropriately reward some sources with allowances  
4 over others and the results cannot be independently  
5 substantiated or verified." Do you see that?

6 A. I do.

7 Q. And then the next sentence says, "Use of  
8 a proprietary model is not appropriate for this  
9 purpose as it deprives the public and regulated  
10 community of the opportunity to independently  
11 evaluate the inner workings of the model and ensure  
12 that it is accurate, precise and robust enough to  
13 perform this enormous task"?

14 A. I see that the context of this comment  
15 was for a different version of the IPM model. At  
16 that time frame in 2011, EPA has been more open with  
17 the assumptions and inputs and all compared to my  
18 experience back in the earlier time frames of the use  
19 of the IPM.

20 There was a lot of discussion with the  
21 EPA regarding how do you increase the transparency of  
22 the model. EPA has taken steps over the years to  
23 address that and provide a more robust validation of  
24 the model to the public community.

25 Q. But EPA, it's still using a proprietary

1 IPM model, correct?

2 A. As I stated earlier, EPA has validated  
3 the model using other comparative models which is a  
4 legitimate process to validate models. You don't  
5 have to necessarily look inside the model itself to  
6 validate. You can validate by running the same  
7 inputs, assumptions and various models and seeing if  
8 you get the same output.

9 Q. Are you a modeler?

10 A. I have been involved with modeling in my  
11 career for the past -- since the 1990s.

12 Q. Have you ever personally run the IPM  
13 model?

14 A. I have not.

15 Q. Have you ever personally run a dispatch  
16 model?

17 A. I have.

18 Q. Okay. Would you agree that because the  
19 ICF model is proprietary, the public would not be  
20 able to independently evaluate the inner workings of  
21 the model?

22 A. Yes.

23 MR. FISK: Can we go off for a moment?

24 EXAMINER ADDISON: Yes.

25 Off the record.

1 (Discussion off record.)

2 EXAMINER PRICE: Back on the record.

3 Q. (By Mr. Fisk) So your testimony discusses  
4 the Sammis and Davis-Besse plants' compliance with  
5 various environmental regulations; is that correct?

6 A. My testimony discusses compliance for the  
7 Davis-Besse and Sammis plants with respect to  
8 regulations that are currently considered and enacted  
9 and/or final but not yet implemented.

10 Q. Okay. So to break that down a little  
11 bit, am I correct that there's -- in your testimony,  
12 there's three categories of environmental  
13 regulations; is that right?

14 A. That is correct.

15 Q. Okay. And the first one, which I believe  
16 you refer to as pertinent regulations are regulations  
17 that have been on the books for a period of time and  
18 you've already implemented compliance with; is that  
19 right?

20 A. That is correct.

21 Q. Okay. And then pending regulations is  
22 the second category, and those are regulations that  
23 have been finalized by EPA with a compliance date in  
24 the future; is that right?

25 A. I would take that one step further. I

1 would say regulations published in the Federal  
2 Register by EPA.

3 Q. Okay. And then finally the third  
4 category is additional or proposed regulations which  
5 are regulations that have not yet been published in  
6 final form; is that right?

7 A. That is correct.

8 Q. Okay. And such proposed regulations  
9 would include regulations that have been issued in  
10 draft form; is that right?

11 A. If what you mean by draft form is  
12 proposed regulations published in the Federal  
13 Register, then the answer would be yes.

14 Q. On page 3 of your supplemental testimony,  
15 lines 3 through 5, you -- there's a sentence there  
16 that states, "Any costs that the plants may incur to  
17 comply with these regulations are included in the  
18 Companies' cost forecast provided by company witness  
19 Lisowski." Do you see that?

20 A. I'm sorry could you give me the line  
21 number again, please?

22 Q. Yes, lines 3 through 5 on page 3.

23 A. Yes.

24 Q. Okay. And at the time you submitted your  
25 testimony, the only documents you reviewed regarding

1 Mr. Lisowski's testimony were the spreadsheets that  
2 were included as attachments to his testimony; is  
3 that right?

4 THE WITNESS: Could you repeat the  
5 question please.

6 (Record read.)

7 A. What I reviewed with Mr. Lisowski, and I  
8 validated this after my deposition, was his  
9 spreadsheets that went to build his forecast and his  
10 forecast sheets. So when you say his testimony, I  
11 don't have an understanding whether all the  
12 spreadsheets are attached to his testimony or not. I  
13 just go by the common vernacular of spreadsheets.

14 Q. So you reviewed a spreadsheet created by  
15 Mr. Lisowski forecasting the costs for Sammis and  
16 Davis-Besse plants; is that right?

17 A. That was one of several spreadsheets he  
18 had.

19 Q. And you reviewed all of those?

20 A. I believe so, in my discussions with him.

21 Q. And had you reviewed all of those before  
22 you submitted your testimony?

23 A. Yes, plus the fact that a lot of the  
24 spreadsheets are redundant to business plan  
25 information we submitted, and I know Mr. Lisowski

1 used those spreadsheets, other spreadsheets, from the  
2 environmental department to help create his forecast.

3 Q. Do you still have your deposition  
4 transcript, the public version, in front of you? If  
5 you could turn to page 71, starting at line 18, let  
6 me know when you're there.

7 A. I am there.

8 Q. Okay. And starting at line 18 on  
9 page 71, the question says: "I just wanted to go  
10 back and clarify something. Earlier I believe you  
11 testified you had reviewed Mr. Lisowski's cost  
12 forecast spreadsheet; is that correct?

13 "Answer: I believe it is the document he  
14 submitted as his testimony, yes.

15 "Question: Okay. So you were referring  
16 to the exhibit to his testimony?

17 "Answer: Yes.

18 "Question: Okay. Outside of that you  
19 haven't reviewed any other documents from  
20 Mr. Lisowski?

21 "Answer: As it relates to Mr. Lisowski's  
22 testimony, no."

23 Did I read that correctly?

24 A. As in my previous answer, I said to  
25 refresh my memory, I went back and talked to



1 Mr. Lisowski and the statement I made at deposition  
2 was not correct. I had reviewed other spreadsheets  
3 that Mr. Lisowski had put together. I did not  
4 understand the reference attached to testimony. That  
5 was my error.

6 MR. FISK: Your Honor, I would move to  
7 strike that answer. I simply asked if I had read the  
8 transcript correctly.

9 EXAMINER ADDISON: Mr. Lang.

10 MR. LANG: Again, your Honor, he's simply  
11 trying to explain with context what he said in his  
12 deposition and what he said in the prior three  
13 questions and answers in the transcript here.

14 EXAMINER ADDISON: At this time, we will  
15 strike Mr. Evans' answer. We will have the question  
16 reread and then Mr. Evans, I ask that you give a yes  
17 or no answer to Mr. Fisk's question.

18 Could we have the question reread please.

19 (Record read.)

20 A. Yes.

21 Q. Okay. And the only specific costs that  
22 you provided to Mr. Lisowski for his costs were with  
23 regards to compliance with Section 316(b) of the  
24 Clean Water Act, correct?

25 THE WITNESS: Could you read the

1 question, please.

2 (Record read.)

3 A. Yes.

4 Q. And Section 316(b), that applies to  
5 cooling water intake structure at the Sammis plant;  
6 is that correct?

7 A. Yes.

8 Q. Okay. And the primary cooling system at  
9 the Sammis plant is a once-through system rather than  
10 a closed-cycle system; is that right?

11 A. That is correct.

12 Q. Okay. And 316(b) seeks to reduce, if  
13 necessary, the impingement and entrainment deaths of  
14 aquatic species in the cooling water intake of power  
15 plants; is that right?

16 A. Yes.

17 Q. You are currently undertaking studies to  
18 determine whether any further steps to reduce  
19 impingement and entrainment of aquatic species at the  
20 Sammis cooling water intake system may be needed; is  
21 that right.

22 A. Studies are underway to provide the  
23 factual basis for the permitting agency Ohio EPA to  
24 understand whether the existing system represents the  
25 best available technology for cooling water systems.

1           Q.    Okay.  And those studies need to be  
2           completed by October 2017; is that right?

3           A.    That is correct.

4           Q.    Then once those studies are completed,  
5           Ohio EPA will need to decide whether to require  
6           additional steps to reduce impacts to aquatic life  
7           from the Sammis cooling water intake system; is that  
8           right?

9           A.    Yes.

10          Q.    And to your knowledge, Mr. Lisowski has  
11          not included in his cost forecast any cost for if you  
12          needed to convert the primary cooling water intake at  
13          Sammis to closed-cycle cooling, correct?

14               MR. LANG:  I object, your Honor.

15               EXAMINER ADDISON:  Grounds?

16               MR. LANG:  The question referred to  
17          closed-cycle cooling.  There's been no factual basis,  
18          no foundation laid that has anything to do with  
19          316(b).

20               EXAMINER ADDISON:  Mr. Fisk.

21               MR. FISK:  I'm happy to add a couple  
22          questions to lay the foundation.

23               EXAMINER ADDISON:  Thank you.

24          Q.    (By Mr. Fisk) Would you agree that one  
25          potential way to reduce impingement and entrainment

1 death of aquatic species including water intake of  
2 power plants is closed-cycle cooling?

3 A. The technology may not be effective from  
4 the technical standpoint nor may the technology be  
5 effective on the cost end standpoint as required  
6 under the Clean Water Act. So I wouldn't necessarily  
7 agree 100 percent that the technology is one of many  
8 options including upgraded screens, new fish return  
9 systems.

10 Q. Davis-Besse has a closed cooling system,  
11 correct?

12 A. The Davis-Besse plant has a closed  
13 cooling system as it is in a different aquatic  
14 environment.

15 Q. And 316(b) applies to Davis-Besse; is  
16 that right?

17 A. That is correct.

18 Q. And do you feel that the closed cycle  
19 cooling system at Davis-Besse is ineffective at  
20 reducing impingement and entrainment deaths of  
21 aquatic species in the cooling water system for that  
22 plant?

23 A. Cooling water systems are designed based  
24 on the flow of water coming into them, the aquatic  
25 environment, those type of systems. To try and apply

1 a generalization to what is best available technology  
2 requires the aquatic studies to be performed.

3 MR. FISK: Move to strike that answer. I  
4 asked whether he considers closed cycle cooling at  
5 Davis-Besse to be effective, not whether studies need  
6 to be performed generically.

7 EXAMINER ADDISON: Mr. Lang.

8 MR. LANG: He's actually getting into the  
9 technical area and maybe it's beyond me, but I think  
10 he's trying to explain in his terms what effective  
11 means and effective with regards to Davis-Besse.

12 EXAMINER ADDISON: Motion to strike will  
13 be granted. We'll have the question reread and  
14 please provide a response specific to Davis-Besse.

15 (Record read.)

16 A. Yes.

17 Q. And you would have to complete aquatic  
18 studies to determine whether closed cycle cooling  
19 would be needed at Sammis to reduce impingement and  
20 entrainment death of aquatic species in the cooling  
21 water intake there; is that correct?

22 A. That is one of several factors that go  
23 into the decision-making of Ohio EPA. Also, Ohio EPA  
24 has requested design data for the cooling water so  
25 they can establish a background basis at the Sammis

1 plant. In addition -- an additional point is that  
2 they will be asking for a cost/benefit study to  
3 understand the benefits of reducing impingements  
4 versus the cost of a cooling water system. All those  
5 factors are brought into the decision-making process  
6 by Ohio EPA before they make a decision.

7 Q. And that is the decision that will be  
8 made after your aquatic studies are completed in  
9 October 2017; is that right?

10 A. That is correct.

11 Q. And to your knowledge, Mr. Lisowski's  
12 cost forecasts do not include any costs for doing  
13 closed cycle cooling at the Sammis plant; is that  
14 right?

15 A. Mr. Lisowski's costs includes upgraded  
16 screens which we believe is the technology that will  
17 be demonstrated for the Sammis plant, if needed. It  
18 is possible that the aquatic studies and the other  
19 supporting documentation could mean that the plant  
20 would not have to install anything.

21 At this point the forecast does not  
22 include cooling towers, nor do we expect, based on  
23 data available to us and information of having the  
24 plant on the Ohio River for 40 years, that we will  
25 have to do closed loop cooling systems.

1 MR. FISK: Your Honor, I would move to  
2 strike that answer. I simply asked whether  
3 Mr. Lisowski's forecast included costs for closed  
4 cycle cooling, not an explanation that his counsel is  
5 free to try to get on redirect, except for the small  
6 part where he answered the question toward the end of  
7 the answer.

8 EXAMINER ADDISON: Mr. Lang.

9 MR. LANG: Your Honor, Mr. Evans was  
10 answering as what is in Mr. Lisowski's cost forecast  
11 with regard to the specific question he was being  
12 asked.

13 EXAMINER ADDISON: Could I have the  
14 answer read back, please.

15 (Record read.)

16 EXAMINER ADDISON: We will go ahead and  
17 deny the motion to strike. It seemed like Mr. Evans  
18 was trying to respond to the question, and throughout  
19 there, there were bits and pieces that were more  
20 appropriate than others.

21 So I will direct Mr. Evans to answer the  
22 question posed by counsel, and Mr. Lang will have an  
23 opportunity to bring any additional information out  
24 on redirect, but we will go ahead at this point and  
25 deny the motion to strike.

1 MR. FISK: Thank you, your Honor.

2 Q. (By Mr. Fisk) If you could turn to  
3 page 4 of your supplemental testimony, Mr. Evans,  
4 starting on line 16. Let me know when you're there.

5 A. I am there.

6 Q. Okay. And this is the beginning of the  
7 discussion regarding the coal combustion residuals  
8 rule; is that correct?

9 A. That is correct.

10 Q. And the term coal combustion residuals is  
11 commonly abbreviated as CCR; is that correct?

12 A. That is correct.

13 Q. And the EPA finalized the CCR rule in  
14 2014; is that correct?

15 A. That is correct. The rule is actually  
16 published, though, in April of 2015.

17 Q. Okay. And that compliance with the  
18 requirements of the CCR rule will take place over the  
19 next couple of years; is that right?

20 A. The compliance time period is spread out  
21 over 40 months.

22 Q. Under the three categories of  
23 environmental regulations we discussed earlier, am I  
24 correct you would categorize the CCR rule as a  
25 pending regulation?



1           A.     That is correct.

2           Q.     Okay.  And at the Sammis plant, am I  
3 correct there are three categories of coal combustion  
4 residuals?

5           A.     That is correct.

6           Q.     And one of those categories is bottom ash  
7 which is ash withdrawn from the bottom of the  
8 boilers; is that right?

9           A.     That is correct.

10          Q.     And second is fly ash which is ash which  
11 is collected in precipitators or bag houses and then  
12 removed via a hopper system; is that right?

13          A.     That is correct.

14          Q.     And then the third category is gypsum  
15 from the scrubbing process which is removed from the  
16 scrubbers through a series of tanks and then put  
17 through a wet drum; is that right?

18          A.     It is put through a wet drum vacuum  
19 filter, but that is correct, to make it dry.

20          Q.     And so with regards to the bottom ash,  
21 that material is slewed to a hydrobin where it is  
22 dewatered; is that right?

23          A.     That is correct.

24          Q.     And the dewatered ash is then either  
25 recycled or landfilled off site; is that right?

1           A.    That is correct.

2           Q.    And the wastewater from that dewatering  
3 process is either used for makeup in the plant or  
4 sent to a pond for settling before it's discharged;  
5 is that right?

6           A.    That is correct.

7           Q.    Okay. And the settling pond to which the  
8 bottom ash wastewater goes is not lined; is that  
9 correct?

10          A.    That is correct.

11          Q.    Okay. And that wastewater is treated in  
12 the settling pond with flocculants and acids and  
13 basins as needed to increase settling before it's  
14 discharged; is that right?

15          A.    That is correct.

16          Q.    And that wastewater does not undergo any  
17 other chemical treatment before being discharged; is  
18 that right?

19          A.    That is correct.

20          Q.    And that bottom ash wastewater also does  
21 not undergo any biological treatment before being  
22 discharged; is that right?

23          A.    That is correct.

24          Q.    And the process for handling the gypsum  
25 from the scrubbers also produces wastewater; is that

1 right?

2 A. That is correct.

3 Q. And that wastewater goes through a series  
4 of tanks and vessels; is that right?

5 A. That wastewater goes through a series of  
6 clarifiers and then is treated with -- for PH  
7 flocculants and a proprietary chemical to remove  
8 heavy metals.

9 Q. Okay. And the scrubber for gypsum  
10 wastewater does not undergo any biological treatment  
11 before being discharged; is that correct?

12 A. That is correct, there are no  
13 requirements for biological treatment of either  
14 ash -- bottom ash water or scrubber water in the  
15 state of Ohio currently.

16 Q. And you referenced a chemical treatment  
17 that removes heavy metals; is that right?

18 A. That is correct.

19 Q. What heavy metals does it remove?

20 A. Basically it removes heavy metals like  
21 mercury.

22 Q. Anything besides mercury?

23 A. It would also be active on lead, selenium  
24 arsenic.

25 Q. Anything else?

1           A.     There are additional heavy metals in the  
2     wastewater stream that it would be effective on. I  
3     just -- I would end up giving you most of the  
4     periodic table.

5           Q.     Fair enough. Are you able to go on the  
6     public record and say the name of the chemical  
7     treatment that you use?

8           A.     I would prefer to hold that.

9           Q.     Fair enough. And your testimony, page 5,  
10    lines 1 through 5, you testify there you expect any  
11    additional costs related to the CCR rule to be  
12    immaterial; is that correct?

13          A.     That is correct.

14          Q.     And the costs you are referring to here  
15    for additional groundwater monitoring wells for the  
16    lime landfill you use to store the scrubber gypsum  
17    waste; is that right?

18          A.     That is correct.

19          Q.     And that that's the dried scrubbed gypsum  
20    scrubber waste; is that right?

21          A.     That's correct.

22          Q.     And the costs are also for a publicly  
23    available website that needs to be created under the  
24    CCR rule; is that correct?

25          A.     That's true.

1           Q.    And those costs you consider to be  
2           immaterial because they fit within an undesignated  
3           capital budget for small capital projects; is that  
4           right?

5           A.    That is correct, with respect to  
6           Mr. Lisowski's forecast.

7           Q.    Okay.  Would you agree that the CCR rule  
8           also applies to the unlined settling pond for the  
9           bottom ash wastewater?

10          A.    The unlined bottom ash pond does require  
11          groundwater monitoring.  That is also considered to  
12          be immaterial with respect to Mr. Lisowski's  
13          undesignated capital funds.  The bottom ash pond  
14          needs to be -- have the groundwater monitoring to  
15          establish whether it needs to perform as to the  
16          specification of the USEPA's CCR rule.  So at this  
17          point, we don't have any reason to believe that the  
18          pond has an issue.

19          Q.    But you are still evaluating whether any  
20          changes would be needed to that unlined settling pond  
21          under the CCR rule?

22          A.    That is correct.

23          Q.    So at this time, you don't know if  
24          additional costs would be needed for the wastewater  
25          handling at Sammis; is that right?

1 THE WITNESS: Would you repeat the  
2 question?

3 (Record read.)

4 A. With the knowledge we have today, we are  
5 not forecasting any additional wastewater costs.

6 Q. Okay. But you are still -- given that  
7 you are still evaluating what the CCR rule may  
8 require for bottom ash wastewater settling pond, you  
9 do not know for certain whether there will be a need  
10 for capital investments, correct?

11 A. We believe there's a high probability it  
12 will not need additional.

13 Q. Okay. But the evaluation of the impacts  
14 of the CCR rule on bottom wastewater handling that  
15 you are carrying out will be completed by 2017; is  
16 that right?

17 A. That is correct.

18 Q. Okay. And until that is completed,  
19 there's no uncertainty on that issue, correct?

20 A. What we are trying to understand is to  
21 meet the performance based specifications on that.  
22 Our initial review under the regulation says we need  
23 to install groundwater monitoring wells. We have  
24 been working through that process. So at this point,  
25 we are still confident we will not need to do

1 additional work.

2 Q. Okay. But that is not your final  
3 conclusion at this point?

4 A. It is not my final conclusion.

5 Q. Okay. And your testimony on page 35,  
6 lines 9 through 17, if you could turn there. Let me  
7 know when you're there.

8 A. I am there.

9 MR. LANG: Your Honor, and maybe to take  
10 you up on the earlier offer to take the break, looks  
11 like you are going to a new category.

12 MR. FISK: I am. I think I have five  
13 minutes left, but I'd be happy to take the break.

14 MR. LANG: Let's take the break.

15 EXAMINER ADDISON: Let's take the break.

16 (Recess taken.)

17 EXAMINER ADDISON: Let's go back on the  
18 record.

19 Mr. Fisk.

20 MR. FISK: Thank you, your Honors.

21 Q. (By Mr. Fisk) Okay, Mr. Evans, turning to  
22 your supplemental testimony, page 5, line 17, let me  
23 know when you're there.

24 A. Confirming that you said line 17, page 5?

25 Q. Lines 9 through 17, yes.

1           A.    Thank you.

2           Q.    So your testimony there discusses ELG  
3 regulations; is that correct?

4           A.    Yes.  This piece of the testimony  
5 discusses the ELGs that are known as the pertinent  
6 ELGs, steam electric generating plant discharge  
7 guidelines from 1978 and 1982 -- actually 1974 to  
8 1982.

9           Q.    Just so we are on the same page, ELG  
10 stands for Effluent Limitations Guidelines; is that  
11 correct?

12          A.    That is correct.

13          Q.    And so your testimony on lines 9 through  
14 17 of page 5 is not referring to EPA's proposed  
15 revisions to the ELG regulations, correct?

16          A.    That is correct, it is not referring to  
17 the 2013 proposed revisions to the ELG guidelines.

18          Q.    And those proposed revisions have not  
19 been finalized yet; is that right?

20          A.    That is correct, the proposed revisions  
21 are proposed to be finalized here in the next week if  
22 the EPA stays on schedule.

23          Q.    And you have not considered whether the  
24 proposed revisions to the ELG regulations would  
25 require any capital investments at the Sammis plant,



1 correct?

2 A. EPA in their original proposal issued  
3 eight options with varying levels of technology,  
4 everything from basically do nothing, input in terms  
5 of at least FirstEnergy's fleet of generating units,  
6 and potentially some additional treatment systems.

7 One of the concerns EPA raised in their  
8 comments on the various options is they were looking  
9 for feedback on the cost of technologies. They were  
10 looking for cost on the retrofit-ability of certain  
11 technologies and then they were looking for  
12 justification for how they go about doing the  
13 technology selection because the final ELG limits  
14 basically require EPA to do a cost/benefit analysis  
15 under the Clean Water Act.

16 So EPA can't necessarily mandate the  
17 maximum control technology without the cost basis and  
18 benefits to the environment, so they have to go  
19 through that process; thus, the reason for the  
20 proposed rule and the eight options they proposed.

21 Q. Okay. And some of those eight options  
22 could require change to how Sammis handles its  
23 wastewater from bottom ash; is that correct?

24 A. The proposed rule, I believe, three of  
25 the eight options and one of EPA's preferred proposed

1 some form of closed loop system. What EPA did not do  
2 is define what that closed loop system would look  
3 like.

4 We believe the infrastructure at Sammis  
5 on the bottom ash systems supports a portion of that  
6 system and that our costs could be significantly less  
7 than some of the costs that EPA collected in terms of  
8 comments during the comment period by various  
9 parties.

10 MR. FISK: Your Honor, I would move to  
11 strike that answer. My question was simply would  
12 some of the eight different scenarios require changes  
13 at the Sammis plant, not a lengthy discussion about  
14 whether they believe they may comply with -- whether  
15 they have evaluated compliance with those scenarios.  
16 I was just simply asking would some of those  
17 scenarios apply to Sammis.

18 EXAMINER ADDISON: Could I have the  
19 question and answer back, please.

20 (Record read.)

21 EXAMINER ADDISON: Mr. Lang, do you have  
22 a response?

23 MR. LANG: I would simply listen to it.  
24 Your Honor, the question was whether there could be  
25 impact from some of the options. We already talked

1       there are eight potential options and believe  
2       Mr. Evans was explaining in answer to that specific  
3       question that there are some of those options that  
4       could require costs, then describing what those  
5       costs -- and what that cost impact might be.

6               EXAMINER ADDISON: At this time, I will  
7       grant the motion to strike everything starting with  
8       "But what the EPA didn't do," and I might be  
9       paraphrasing that a little bit.

10              MR. FISK: Thank you, your Honor.

11              Q.     (By Mr. Fisk) And, Mr. Evans, you do not  
12       know if Mr. Lisowski's cost forecast included any  
13       costs related to the proposed ELG revisions, correct?

14              A.     Mr. Lisowski's forecast includes certain  
15       unspecified capital dollars that could be used for  
16       implementation of certain ELG requirements.

17              Q.     Do you still have your deposition  
18       transcript in front of you?

19              A.     I do have to look.

20              Q.     Public version. Let me know when you are  
21       there.

22              A.     I'm there.

23              Q.     Starting at line 4.

24              "Question: Okay. Do you know whether  
25       Mr. Lisowski's cost forecast included any costs

1 related to the proposed ELG revisions?

2 "Answer: I do not."

3 Did I read that correctly?

4 A. Yes.

5 Q. All right, if you could go to page 5,  
6 line 18 of your testimony. And you have discussion  
7 starting there about the 1 hour SO2 NAAQS; is that  
8 correct?

9 A. That is correct.

10 Q. And it is your opinion that the SO2  
11 emissions from the Sammis plant are in compliance  
12 with the 1-hour SO2 NAAQS; is that right?

13 A. That is my opinion due to the fact that  
14 during the NSR consent decree, we installed modern  
15 control systems and flue gas stacks for the units at  
16 Sammis. We believe that latest state-of-the-art  
17 technology will satisfy the requirements for the  
18 1-hour SO2 standard.

19 Q. And you have not done any air quality  
20 modeling of the SO2 emissions from Sammis, correct?

21 A. The Sammis area, which is the northern  
22 part of Jefferson County, does not require modeling  
23 for the 1-hour SO2. The area is designated as  
24 unclassified. Recently Ohio EPA contacted us asking  
25 us to assist them with modeling for the

1 unclassifiable area. Though EPA and I agree that  
2 most likely Sammis area will be designated, we still  
3 have to do the modeling to answer USEPA's question is  
4 the area attainment or nonattainment.

5 MR. FISK: Your Honor, I move to strike  
6 the answer on two grounds. One, it is nonresponsive.  
7 My question was simply had he done any modeling; and,  
8 secondly, to the extent that he's purporting to say  
9 what Ohio EPA believes, that's pure hearsay.

10 EXAMINER ADDISON: Mr. Lang, response?

11 MR. LANG: And, your Honor, he was  
12 responding on the modeling point that he has  
13 discussed with EPA doing modeling, and as the witness  
14 in the proceeding, he's certainly entitled to rely on  
15 what he knows, which is not hearsay.

16 EXAMINER ADDISON: Mr. Fisk.

17 MR. FISK: Whether EPA has asked him to  
18 do modeling at this point isn't responsive to my  
19 question which is have they done any SO2 modeling at  
20 the time when he submitted his testimony about his  
21 opinions about the 1-hour SO2 NAAQS, so I believe his  
22 answer is not responsive to the question I asked.

23 EXAMINER ADDISON: Mr. Lang, last word.

24 MR. LANG: Maybe I missed it in the  
25 question the first time around, but I don't know if

1 the original question spoke specifically about  
2 modeling at the time the testimony was filed. But,  
3 you know, Mr. Evans has responded that modeling is  
4 not necessary but they're going to do modeling, which  
5 I think is responsive to his question.

6 EXAMINER ADDISON: May we have the  
7 question read back, please.

8 (Record read)

9 EXAMINER ADDISON: At this time we will  
10 deny the motion to strike. I feel that the question  
11 was a little ambiguous as to what constitutes  
12 modeling, that the question falls within that as  
13 well.

14 But I will direct Mr. Evans to answer the  
15 question to the extent you've performed any modeling  
16 to date. Do you need the question reread, Mr. Evans?

17 THE WITNESS: I do not. We have just  
18 begun the process to hire a modeler.

19 MR. HAYS: Your Honor, could I ask before  
20 the objections went back and forth, I missed what the  
21 answer was, if we can read back his original answer  
22 that was the subject of the motion to strike.

23 EXAMINER ADDISON: Certainly. Can we  
24 have that answer reread? Thank you.

25 (Record read.)

1 MR. HAYS: Thank you.

2 EXAMINER ADDISON: You're welcome.

3 MR. FISK: Can we go off?

4 EXAMINER ADDISON: Yes.

5 (Discussion off record.)

6 EXAMINER ADDISON: Back on the record.

7 MR. FISK: I have no further questions  
8 for the public session. I do have a motion. We  
9 would request that the companies be required to  
10 produce the ICF summary file with the five added  
11 columns that were used as the basis for the figures  
12 provided in Mr. Evans' eratta.

13 If the parties are going to be able to  
14 have any opportunity to fully evaluate those figures  
15 and Mr. Evans' eratta analysis, we need the file that  
16 went into creating it. We believe it qualifies as a  
17 workpaper. It was used to -- I believe the testimony  
18 showed it was used to create figure 1, figure 2, and  
19 figure 3.

20 And especially in light of the fact that  
21 we first got this errata during the hearing and that  
22 the sources for the errata testimony were simply  
23 identified as a link to a zip file, 160 megabytes of  
24 documents, we believe the parties are entitled to be  
25 able to see the actual information that went into

1 Mr. Evans' testimony.

2 MR. LANG: Your Honor, we will produce  
3 the file. We're good.

4 MR. FISK: Fair enough.

5 EXAMINER ADDISON: Thank you, Mr. Lang,  
6 we appreciate that.

7 Thank you, Mr. Fisk.

8 MR. HAYS: Just to clarify, will that  
9 include also -- I'm sorry, I can't get all the  
10 initials, the RTP, the other individual sections that  
11 are located in the federal papers of the EPA records?

12 MR. LANG: What the file is that he  
13 described is essentially the summary of the data  
14 pulled from all those different files that was then  
15 used to create figures 1, 2, 3 and 4. So that's what  
16 we expect to produce.

17 EXAMINER ADDISON: Thank you, Mr. Lang.

18 MR. FISK: Do you know roughly when we  
19 will be able to get that?

20 MR. LANG: If we can find it overnight,  
21 we should be able to produce it tomorrow.

22 MR. FISK: Great. Thank you.

23 EXAMINER ADDISON: Thank you.

24 Ms. Fleisher, cross-examination.

25 - - -



## CROSS-EXAMINATION

By Ms. Fleisher:

Q. Mr. Evans, I am Madeline Fleisher. I represent the Environmental Law and Policy Center. I'd like to refer to ELPC Exhibit 12. It's a copy of the Sammis permit titled at the top Application No. OH0011525.

A. I have the file.

Q. Is it correct this is currently the Clean Water Act permit for the Sammis plant?

A. That is correct.

Q. And on the first page it lists the effective date as September 1, 2014, correct?

A. That is correct.

Q. Did you review this permit in the course of preparing your testimony?

A. I did.

Q. Can you turn to page 25?

A. I'm at page 25.

Q. Great. And can you just take a second to review Part B(1) and (B)(1)(a). Just let me know when you're done.

A. Okay.

Q. All right. And looking at subsection A, does this require FirstEnergy Solutions to submit a

1 plan of action for meeting the Final Effluent  
2 Limitations for Mercury at outfall 0IB0001009 not  
3 later than six months from the effective date of the  
4 permit?

5 A. Yes, and that plan has been submitted.

6 Q. Okay. Did you review that plan in the  
7 course of preparing your testimony in this case?

8 A. Yes, I did.

9 Q. Okay. And your testimony does not  
10 address that plan, correct?

11 A. It did not.

12 Q. Thank you. And you said as part of  
13 preparing the errata testimony, you looked at EPA's  
14 rate based RPT files; is that correct?

15 A. That is correct.

16 Q. In doing so, did you look at any data  
17 regarding a regional summary of IPM model results for  
18 the ATSI zone?

19 A. As the files are set up, I had to filter  
20 for the ATSI zone to get the results. There is not a  
21 summary sheet that specifically refers to the ATSI  
22 zone. You have to go into the summary sheet and do a  
23 filter to find ATSI. Once you do that filter, using  
24 Excel you can pull up the ATSI zone.

25 Q. Do you know if the rate based model you

1 looked at included projections at the peak load in  
2 the ATSI zone?

3 A. The IPM model summary files do give peak  
4 summertime generation, and it is sortable by zone.  
5 And in the figures, that is the -- in the year that  
6 we actually produced the charts or the figures, the  
7 peak -- that information from the model became the  
8 designation of what the peak demand was in the  
9 dispatch curve.

10 Q. And do you know whether the peak load  
11 projections in EPA's modeling are consistent with the  
12 peak load projections used by the companies for  
13 forecasting market prices and plant revenues in this  
14 case?

15 A. I do not know, ma'am.

16 Q. And do you know if the rate based  
17 modeling results you looked at included projections  
18 regarding new natural gas combined cycle generation  
19 in the ATSI zone?

20 A. The way I look at the IPM model  
21 information, the only new natural gas combined cycle  
22 plant, I believe, was the Fremont Energy Center. I  
23 did not sort the data on the ATSI zone. I was just  
24 looking at Ohio at the time. At the time, they had  
25 no other new builds in the model.

1           Q.    Do you know whether that's an input of  
2   the model or an output of the model?

3           A.    That is an input to the model.

4           MS. FLEISHER:  That's all I have.  Thank  
5   you.

6           EXAMINER ADDISON:  Thank you,  
7   Ms. Fleisher.

8           Ms. Hussey.

9           MS. HUSSEY:  Thank you, your Honor.

10                               - - -

11                           CROSS-EXAMINATION

12   By Ms. Hussey:

13           Q.    Mr. Evans, can you turn to page 17 of  
14   your testimony?

15           A.    I'm at page 17.

16           Q.    Thank you.  And there you discuss the  
17   impact of an ozone standard in the 65 to 70 parts per  
18   billion range on Sammis.  And at line 17, you state,  
19   "If needed, Sammis can purchase allowances."  Did I  
20   read that accurately?

21           A.    That is correct.

22           Q.    Okay.  Do you know whether the cost of  
23   any such allowances were included in Mr. Lisowski's  
24   cost forecasts?

25           A.    I do know the cost of allowances are

1 included in Mr. Lisowski's forecast. He received  
2 that cost on a per-unit basis from witness Mr. Rose.

3 Q. And that would be -- that would include a  
4 cost of allowances for exceeding the ozone standard  
5 that you discussed on page 17?

6 A. That cost would be for any additional  
7 allowances. One of the things that we did in  
8 preparing the testimony is the Sammis plant actually  
9 (CONFIDENTIAL REDACTION -----  
10 -----.) So any  
11 additional needs could be partially offset by those  
12 allowances received from Ohio EPA and the Clean Air  
13 Markets Division for allowances. The remaining  
14 capability of the units -- I'm sorry, I had a break  
15 in my train of thought here....

16 The Sammis plant is in a unique position  
17 because of a consent decree that its technology, SCR  
18 and SNCR, allow it to comply with the current ozone  
19 standard and most likely the future ozone standard  
20 based on the quality of the data. The ozone  
21 regulations, you know, at this point, we would  
22 project that on the '15 -- basically the '13 through  
23 '15 time frame, Jefferson County will get attainment  
24 and the only requirement Sammis will have to address  
25 is any additional tightening of the CSPAR rules

1       should USEPA choose to do that.

2               Q.     Just to specify, I asked about purchasing  
3       additional allowances if they're necessary, those  
4       costs were accounted for or not?

5               A.     Those costs are accounted for in  
6       Mr. Lisowski's forecast.

7               MS. HUSSEY:   Thank you.

8               EXAMINER ADDISON:   Thank you.

9               Mr. Hays.

10              MR. HAYS:   I am close to being at zero.  
11       I think if the OCC goes, they may well cover my  
12       questions.

13              EXAMINER ADDISON:   OCC.  
14       Cross-examination.

15              MR. SAUER:   Thank you, your Honors.

16                               - - -

17                               CROSS-EXAMINATION

18       By Mr. Sauer:

19              Q.     Good afternoon, Mr. Evans.

20              A.     Good afternoon.

21              Q.     My name is Larry Sauer.   I'm an attorney  
22       with the Ohio Consumers' Counsel.

23                       If you would turn to page 3 of your  
24       testimony.  You were asked questions about the 316(b)  
25       provision.  Is it your testimony that the Clifty

1 Creek and Kyger Creek plants are in compliance with  
2 those regulations as well?

3 A. Regarding 316(b), my testimony excludes  
4 the Clifty Creek and Kyger Creek plants.

5 Q. Would the cost of any compliance for  
6 those plants be included within Mr. Lisowski's  
7 forecast?

8 A. And I do not know at this time, whether  
9 Kyger Creek or Clifty Creek would even require  
10 cooling towers or screens or any other additional  
11 technologies. So I don't know with respect to  
12 Mr. Lisowski's testimony whether the costs are  
13 included in that.

14 Q. On page 4 you talk about the CCR rule.

15 A. That's correct.

16 Q. Similarly do you know if the Kyger Creek  
17 and Clifty Creek plants are in compliance with that  
18 rule?

19 A. I do not know.

20 Q. And do you know if any costs of  
21 compliance for that rule are included in  
22 Mr. Lisowski's forecast?

23 A. I do not know.

24 Q. If you turn to page 5, you talk about the  
25 ELG regulations.

1           A.     Correct.

2           Q.     Do you know whether Clifty Creek and  
3 Kyger Creek are in compliance with the proposed ELG  
4 regulations?

5           A.     If you are referring to the 2013 proposed  
6 ELGs, I do not know. And I do not know their  
7 compliance status with the existing regulation, but I  
8 have not heard or read anything in the newspapers or  
9 reporting that they are not.

10          Q.     Do you know whether Mr. Lisowski has  
11 included any compliance costs with regard to ELG  
12 regulations in his forecast for Clifty Creek and  
13 Kyger Creek?

14          A.     Because that is a pertinent regulation  
15 for that facility, I would say he does have those  
16 costs in his forecast.

17          Q.     To the extent you were discussing that  
18 being a proposed regulation based on 2013  
19 modifications, would he have any compliance costs  
20 associated with that provision included within his  
21 forecast for Clifty Creek and Kyger Creek?

22          A.     I do not know.

23          Q.     On page 8 you talk about the CSAPR  
24 regulations beginning on line 6. Do you see that?

25          A.     Yes.



1           Q.    Do you know whether Clifty Creek and  
2           Kyger Creek are in compliance with that regulation?

3           A.    What I know about Clifty Creek and Kyger  
4           Creek is they have SCRs and FGD systems on them. I  
5           do not know their status with respect to emission  
6           allowances and how they use them to comply.

7           Q.    And do you know whether Mr. Lisowski has  
8           included in his forecast costs associated with  
9           compliance under CSAPR regulations for the Clifty  
10          Creek and Kyger Creek plants?

11          A.    Mr. Lisowski's forecast would include the  
12          compliance costs that OVEC would have provided him  
13          with respect to his testimony.

14          Q.    On page 9 of your testimony, lines  
15          1 through 4, you make a statement that Sammis will  
16          not require any additional expenditure requirements  
17          due to the installation of additional emission  
18          controls to comply with CSAPR. Do you see that?

19          A.    I do.

20          Q.    How about additional O&M expenses  
21          associated with compliance with CSAPR for Sammis?

22          A.    They will not require additional O&M  
23          other than that what's already been cited in the  
24          testimony of Mr. Lisowski.

25          Q.    There were some discussions earlier today

1 with Mr. Olikier regarding the building block 1 and  
2 some heat rate assumptions. Do you recall that?

3 A. I do.

4 Q. It's your errata page 1, line 14,  
5 "Building Block 1: Improved coal plant heat rates to  
6 increase unit efficiency," correct?

7 A. That is correct.

8 Q. And you were discussing with Mr. Olikier  
9 your opinion that the Sammis plant could be expected  
10 to increase its heat rate by one to one-and-a-half  
11 percent; is that correct?

12 A. My discussion with Mr. Olikier was with  
13 reference to the proposed Clean Power Plan of 2014.  
14 I'm not sure during the questioning whether we did or  
15 didn't try to compare that also to the final plan.

16 Q. That's fair enough. I'll rephrase my  
17 question. Under building block 1, as you discuss it  
18 in your errata on page 1, line 14, are you assuming  
19 that any heat rate efficiency improvements at Sammis  
20 will be as a result of best practices?

21 A. Based on our analysis to date, we believe  
22 that the heat rate is dependent on what Ohio chooses  
23 as the SIP limit. Ohio has the choice of obligating  
24 units to 4.3 or they could choose some other number.  
25 But based on the numbers that we have been able to

1 look at so far, we believe we can do that through  
2 operational practices.

3 Q. So your expectation is you won't have to  
4 purchase any new equipment to improve the heat rate  
5 to whatever level you ultimately achieve?

6 A. That is our belief based on the analysis  
7 we've performed so far.

8 EXAMINER ADDISON: Can we go off the  
9 record for a moment.

10 (Recess taken.)

11 EXAMINER ADDISON: Let's go back on the  
12 record.

13 Mr. Sauer.

14 MR. SAUER: Thank you, your Honor.

15 Q. (By Mr. Sauer) Mr. Evans, with regard to  
16 the Clean Power Plan and your testimony in the errata  
17 that you prepared, will the cost of compliance, as  
18 you expect it today, are those compliance costs  
19 included within Mr. Lisowski's forecast?

20 THE WITNESS: Would you read the question  
21 back, please.

22 (Record read.)

23 A. Yes, there is a cost of compliance  
24 included in Mr. Lisowski's forecast, and that is, the  
25 carbon price based on Mr. Rose's projections from

1 Mr. Lisowski in the preparation of testimony.

2 Q. Is there a chance as a result of the  
3 implementation of the Clean Power Plan that Sammis  
4 will be permitted to run fewer hours in a year than  
5 forecasted?

6 A. I don't know.

7 Q. How about the Clean Power Plan compliance  
8 costs for Kyger Creek and Clifty Creek, are there any  
9 compliance costs included in Mr. Lisowski's forecast  
10 for those plants?

11 A. I don't know.

12 Q. Is there a chance with the implementation  
13 of the Clean Power Plan that Clifty Creek and/or  
14 Kyger Creek would be permitted to run fewer hours in  
15 a year than forecasted?

16 A. I don't know.

17 Q. On page 15 in your testimony you talk  
18 about 1-hour SO<sub>2</sub> NAAQS activity. Do you see that,  
19 beginning at line 16 on page 15 of your testimony?

20 A. Yes.

21 Q. Are those compliance costs associated  
22 with that regulation for Clifty Creek and Kyger Creek  
23 included in Mr. Lisowski's forecast?

24 A. The ongoing compliance costs -- let me  
25 back up. The units are located also in

1 unclassifiable areas, like the Sammis plant. My  
2 understanding is Ohio EPA has also asked and IDEM,  
3 which is the Indiana Department of Environmental  
4 Management has asked those plants to perform either  
5 modeling or monitoring also to support the  
6 designation of those areas as attainment; therefore,  
7 they would not incur any costs.

8 They have the capability with their  
9 scrubbing systems and then SCRs under the compliance  
10 agreements to continue operating those systems, and  
11 those costs are in Mr. Lisowski's model.

12 Q. Is there a possibility they could be  
13 determined to be in a nonattainment area and have  
14 additional compliance costs that he has not  
15 forecasted for?

16 A. Not in my belief.

17 Q. Is that a possibility?

18 MR. LANG: Objection, asked and answered.

19 EXAMINER ADDISON: Sustained.

20 Q. On page 16 you talk about the ozone NAAQS  
21 revisions. Do you see that?

22 A. I do.

23 Q. And are there compliance costs associated  
24 with complying with the ozone NAAQS revisions that  
25 would pertain to the Kyger Creek and Clifty Creek

1 plants that would need to be included in  
2 Mr. Lisowski's forecast?

3 A. I do not know if Mr. Lisowski's forecast  
4 includes continuing operating costs for the scrubbing  
5 and SCR systems at the Kyger Creek and Clifty Creek  
6 plants.

7 Q. Did you say you don't know if he included  
8 them?

9 A. What I'm saying is I don't know if  
10 there's additional costs for the ozone standard  
11 because I don't know how those counties will be  
12 designated.

13 Q. Are there proposed EPA modifications to  
14 the Mercury and Air Toxics Standards or MATS  
15 regulations that are proposed?

16 A. I'm not aware of any proposal. USEPA is  
17 required to do a cost justification of the MATS rule  
18 in accordance with the decision of the Supreme Court,  
19 which is all now in front of the to U.S. District  
20 Court of Appeals in Washington, D.C. for  
21 consideration on remand or vacatur. That has not  
22 happened yet. That's the only activity that I'm  
23 aware of with the mercury and air toxicity rules at  
24 this time.

25 Q. So there could be some new rules coming

1 out of that litigation?

2 A. There could be some new regulation comes  
3 out of that litigation specifically addressing the  
4 issues of cost justification of the MATS rule. The  
5 scope of that ruling doesn't include anything with  
6 respect to the standards that were set by EPA.

7 Q. Are there any pending EPA regulations  
8 that pertain to fine particulate matter that are  
9 pending?

10 A. As I understand the question, EPA and  
11 Ohio EPA have taken the position that CSAPR meets the  
12 criteria, CSAPR and/or CAIR. It's been the subject  
13 of a lot of litigation, as is the rules that define  
14 the obligation for steam electric generating units,  
15 coal-fired, and gas and oil units. So there is no  
16 pending for steam electric generating units at this  
17 time.

18 Q. Are there any proposed EPA regulations  
19 pertaining to the Data Requirements Rule that might  
20 bring about a need for additional monitoring with  
21 regards to the fine particulate matter regulations?

22 A. To provide some clarification, the data  
23 requirement rule only applies to the 1-hour SO<sub>2</sub>  
24 standard. The Data Requirements Rule is not linked  
25 to the fine particulate standards.

1           Q.    With that clarification, are there any  
2 proposed modifications to the EPA rules that might  
3 require additional monitoring?

4           A.    Not that I'm aware of at this time.

5           MR. SAUER: Your Honor, may we go off the  
6 record at this time?

7           EXAMINER ADDISON: We may.

8           (Discussion off record.)

9           EXAMINER ADDISON: Back on the record.

10          Q.    (By Mr. Sauer) Mr. Evans, your counsel  
11 has been kind enough to supply you with a copy of OCC  
12 Exhibit No. 2. I think there are nine pages attached  
13 there having to do with environmental disclosure  
14 information. Are you familiar with the information  
15 contained within OCC Exhibit No. 2?

16          A.    That is correct.

17          Q.    If you could turn to page 2 of the  
18 document, the very top says "Environmental  
19 Disclosure, Quarterly Comparison." Do you see that?

20          A.    I do.

21          Q.    And does your organization prepare this  
22 document?

23          A.    Not for this period.

24          Q.    The period being January 1, 2014 to  
25 September 30, 2014?



1           A.     That is correct.

2           Q.     Did your organization prepare this prior  
3     to this period?

4           A.     We did prepare it.  There was a change in  
5     protocol based on the fact that we could no longer  
6     tie FES generation to the individual operating  
7     companies, that is, Ohio Edison, Cleveland Electric  
8     Illuminating, and Toledo Edison.  So we, in  
9     consultations, determined that we would use a  
10    regional average going forward which is provided by  
11    the Public Utilities Commission to us.

12          Q.     Are you familiar with the information  
13    contained within the document?

14          A.     Yes, I am.

15          Q.     The pie chart that's shown on page 2 of  
16    this document that says "Projected," who did the  
17    projections, do you know?

18          A.     My understanding an individual within the  
19    Public Utilities Commission, and, most likely, we  
20    took that projection as raw numbers and converted it  
21    into the figure.

22          Q.     On the other side of the pie chart that's  
23    labeled "Actual," do you know who provided the actual  
24    information to assemble this pie chart?

25          A.     The document information would have come

1 from the Public Utilities Commission.

2 Q. If you know, is this information provided  
3 to consumers as a bill insert?

4 A. That is my understanding.

5 Q. If you turn back, there's another page of  
6 similar information that is Projected Data for the  
7 2014 Calendar Year. Do you see that? We have to  
8 flip back five pages.

9 A. Is that the document that says  
10 "Environmental Disclosure Information, Ohio Edison,  
11 Cleveland Electric Illuminating, and Toledo Edison,  
12 Projected Data for 2014 Calendar Year"?

13 Q. Yes, sir. Was this a time period your  
14 organization would have prepared information, or this  
15 was again the Public Utilities Commission provided  
16 you information that was later assembled by  
17 FirstEnergy?

18 A. Could you repeat the question, please?

19 Q. Yes. The 2014 calendar year a time that  
20 falls within the period that your organization was  
21 not preparing the information, correct?

22 A. That's correct.

23 Q. In the pie chart to the left, it says  
24 "Suppliers' Product." Do you know what is meant by  
25 "Suppliers' Product"?

1           A.    I do not.

2           Q.    And the pie chart to the right that says  
3    "Regional," do you know what is meant by "regional"  
4    in that pie chart?

5           A.    Regional has always meant, in my  
6    organization, information provided by the Public  
7    Utilities Commission to us regarding regional  
8    emissions.

9           Q.    And, again, is this information that you  
10   understand was provided to consumers as part of the  
11   bill insert?

12          A.    That is my understanding of the purpose.

13          Q.    Look at one more chart.  If you look back  
14   a few more pages, there is Projected Data for the  
15   2015 Calendar Year, again, Environmental Disclosure  
16   Information for Ohio Edison, Cleveland Electric  
17   Illuminating, and Toledo Edison for that projected  
18   period of 2015.

19          A.    I have that chart.

20          Q.    And, similarly, it is your understanding  
21   this information was provided to consumers as part of  
22   a bill insert?

23          A.    That is my understanding.

24               MR. SAUER:  Your Honor, I have no further  
25   questions in the public session.

1 EXAMINER ADDISON: Thank you, Mr. Sauer.

2 MR. HAYS: I think I have a couple.

3 EXAMINER ADDISON: Sure, Mr. Hays.

4 - - -

5 CROSS-EXAMINATION

6 By Mr. Hays:

7 Q. Good afternoon. I am hopeful we will be  
8 done by 5:30. My name is Tom Hays, and I represent  
9 the Northeast Ohio Aggregation Coalition and a number  
10 of communities, like Toledo and Lucas County.

11 I believe earlier you indicated that  
12 under the CCR, which is the -- if I get it right, the  
13 coal combustion -- I can't remember what the R stands  
14 for.

15 A. Coal combustion residuals.

16 Q. Thank you. I have to confess I'm such an  
17 old-timer, I always think of it as fly ash and bottom  
18 ash. I will try to use the right term here, CCR.

19 I think you indicated there was bottom  
20 ash, fly ash, and gypsum from the scrubbing system;  
21 is that correct?

22 A. That is correct.

23 Q. How much bottom ash approximately is  
24 produced at Sammis in a year?

25 A. I don't remember. I don't have a direct

1 recollection at this point. We could find out.

2 Q. Do you have an approximate amount, a  
3 ballpark number?

4 A. I do not.

5 Q. How about fly ash, do you know how much  
6 is produced at Sammis in a year or a month, whatever  
7 you might use as a time interval?

8 A. I do not at this time.

9 Q. And I assume then you don't know the  
10 amount of the gypsum from the scrubbing systems. I  
11 guess you refer to -- at the end of the process it  
12 was dried out?

13 A. It is dried out at the end of the process  
14 and, I do not recall the exact tonnage of gypsum that  
15 is created at the Sammis plant.

16 Q. Where does the bottom ash go?

17 A. The bottom ash from the Sammis plant goes  
18 one of two directions. The first direction, which is  
19 one we work very hard on, is to send it into  
20 recycling. It is used by people in landfills to  
21 create drainage basins, or it's used as road grit as  
22 antiskid for snow removal. That is our preferred  
23 disposal method of bottom ash for all our facilities.  
24 The remaining material that is left over that we  
25 don't use is sent to a secondary contractor for

1 placement in their landfill.

2 Q. Is that a landfill that's owned by you or  
3 owned by a separate entity?

4 A. The landfills are owned by separate  
5 entities.

6 Q. Okay. For fly ash, where does the fly  
7 ash go?

8 A. The fly ash from the plant goes to a dry  
9 conveying system, and then it goes to silos. The  
10 silos are unladed daily, and fly ash is either -- a  
11 certain percentage of the fly ash is recycled to  
12 concrete block, brick manufacturing and cement  
13 manufacturing. The remaining ash is disposed of at  
14 the off-facilities.

15 Q. Are these FirstEnergy facilities or are  
16 these contractor facilities?

17 A. These are contractor facilities.

18 Q. Is fly ash taken there in railroad cars?  
19 Is that the kind of quantities we're talking about?

20 A. No. The material is moved by tandem  
21 trucks.

22 Q. If I were to ask you to make an estimate  
23 of how many trucks per week, could you do that?

24 A. I don't know, sir.

25 Q. And the gypsum from the scrubber systems,

1 where does that go?

2 A. Gypsum from the scrubbing system after  
3 it leaves the dewatering facility is put on what's  
4 called a pipe conveyor. It's a conveyor that  
5 basically acts as a conveyor at the load point and  
6 unloading point, but it is formed into a round tube  
7 to prevent in case some material -- to prevent  
8 fugitive dust. It is conveyed six miles to a line  
9 fly ash captive facility that is owned and operated  
10 by FirstEnergy.

11 Q. Where is that facility located?

12 A. It is located due west of the Sammis  
13 plant, basically above the town of Stratton. It's  
14 about five to six miles. I don't recall if there's a  
15 municipality or small town.

16 Q. Approximately how large?

17 A. I don't know.

18 Q. Do you just call it the facility? I  
19 would think of it as a disposal pond or disposal  
20 area. I'm trying to figure out the size of it, maybe  
21 in acres or tonnage, or however you can calculate it?

22 A. The facility basically has a capacity at  
23 the facility in terms of real estate of approximately  
24 25 years of production from the Sammis plant.

25 Q. And about how large is the acreage for

1 the disposal area?

2 A. Here, again, you're testing my memory. I  
3 think it's in excess of 300 acres.

4 Q. Okay.

5 A. It is a dry facility. There is no water  
6 used at the facility.

7 Q. Is it open to the rain?

8 A. It is a lined system. It is open to the  
9 rain. Any leachate that forms is collected and  
10 returned to the plant's wastewater for treatment.

11 Q. It goes back to the Sammis plant for  
12 treatment?

13 A. That is correct.

14 Q. Does it have monitoring wells around it,  
15 if you recall?

16 A. The facility does have monitoring wells  
17 around it, and they were a requirement of the state  
18 of Ohio's residual waste regulations.

19 Q. I believe you indicated that you were  
20 currently doing a -- you were doing testing for the  
21 water intake; is that correct?

22 A. That is correct, sir.

23 Q. Does that also involve looking at -- in  
24 the testing you're doing, are you doing any testing  
25 on the effluent that's going out? By that I don't



1 mean the monthly NPDES for solids and things like  
2 that.

3 Let me back up and try to ask it a little  
4 differently. Are you doing any monitoring to -- you  
5 indicated you were doing a study, and I'm actually  
6 interested if you could describe for me a little bit  
7 the study that you're doing of the intake water and  
8 if you're also having to do studies of the outfall of  
9 the water from the once-through system that you  
10 currently have for the water?

11 A. The work we are doing on the intake is  
12 aquatic biology. What we are doing is capturing  
13 species that are in the intake channel to the plant.  
14 It's behind the intake what I call the trash rack.  
15 We are sampling there. We are sampling behind the  
16 screens, and then we are sampling at the discharge of  
17 the condensers to look at different species.

18 The first portion of the study looks at  
19 what I call impingement; that is, species of fish or  
20 other aquatic life that could be captured against the  
21 screens of the facility. The screens are about a  
22 quarter inch mesh in size opening, so we measure the  
23 individual aquatic species on there. We will do  
24 assessments of those species to see their they're  
25 alive or dead, what the potential cause of death was.

1           After that we also look at species that  
2       have gotten through the screens, and we look at the  
3       type of species. We characterize those species as to  
4       size, age. It includes invertebrate species, such as  
5       insects, mollusks, and other types of creatures, in  
6       addition to any fish larvae that have gotten through  
7       the screens. So we assess the condition of those  
8       species at both the intake to the condenser and at  
9       the discharge of the condenser.

10           Q.    When you are doing this, will you build  
11       an array of possible things that could be done? One  
12       might be status quo. One might be -- I think you  
13       mentioned this earlier, putting in better screens  
14       or -- better screens, and I believe Mr. Sauer asked  
15       about installing a cooling tower.

16                    So my question is would you have an array  
17       that would look at different alternatives like that  
18       at the end of this study?

19           A.    Yes, we would have an array of  
20       alternatives as part of the study. It's a  
21       requirement of those studies to be submitted to Ohio  
22       EPA for their review. We would provide them that  
23       information along with the cost/benefit analysis;  
24       that is, if we install this technology, does it  
25       produce a benefit to the environment.

1           Q.    And the company could advocate for one  
2 alternative and it is possible the Ohio EPA would  
3 select a different alternative?

4           A.    Ohio EPA has to make a factual-basis  
5 decision on this, so they have to consider the study.  
6 I wouldn't make it seem as simple as Ohio EPA could  
7 decide because they want to. They have to consider  
8 the record and the information submitted to them  
9 before they can make their determination, and that is  
10 the intent of the company, to provide a complete  
11 record to Ohio EPA for their consideration.

12           Q.    And it's possible, though, that based on  
13 the record and their own analysis they could end up  
14 with a -- select a different alternative from the  
15 array that the company might have proposed? Just  
16 asking if it's possible.

17           A.    I guess what I would say, in my  
18 experience, given my experience with the Bay Shore  
19 plant in Toledo and given the criticality of the  
20 habitat up there, in 2011 the State did not make the  
21 decision to install cooling towers on that facility.

22           Q.    And that may have been a subject of legal  
23 challenges, I'm sure you will agree, by the groups up  
24 there opposing that that took a different position  
25 than FirstEnergy did.

1           A.    I understand that the groups did  
2           intervene. The final decision of Ohio EPA was not to  
3           require cooling towers at that facility. They --

4           Q.    Right.

5           A.    -- required screens.

6                   EXAMINER ADDISON: Mr. Hays, I'm sorry to  
7           interrupt. Let him finish his answer, and then it  
8           would be time to adjourn for the day.

9                   MR. LANG: You can finish.

10          A.    As I said, the record is Ohio EPA made  
11          the decision based upon the factual evidence and the  
12          evidence that was presented to them that cooling  
13          towers were not the retrofit of choice. Better  
14          screens were the retrofit of choice, and that has  
15          been upheld.

16          Q.    And that actually kind of came to a  
17          conclusion, didn't it, when FirstEnergy determined to  
18          close the four coal fired plants at Bay Shore?

19          A.    I'm sorry, that's not my recollection of  
20          the way it was dealt with.

21                   EXAMINER ADDISON: Let's go off the  
22          record for a moment.

23                   (Discussion off the record.)

24                   EXAMINER ADDISON: Back on the record.

25                   At this time we will adjourn for the

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1 evening. We will reconvene at 9:00 a.m. tomorrow  
2 morning.

3 Thank you, all.

4 (The hearing adjourned at 5:32 p.m.)

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CERTIFICATE

I do hereby certify that the foregoing is a true and correct transcript of the proceedings taken by me in this matter on Monday, September 28, 2015, and carefully compared with my original stenographic notes.

\_\_\_\_\_  
Rosemary Foster Anderson,  
Professional Reporter and Notary  
Public in and for the State of  
Ohio.

My commission expires April 5, 2019.

(rfa-79409)

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Summary: Transcript In the Matter of the application of Ohio Edison Company, The Cleveland Electric Illuminating Company, and The Toledo Edison Company hearing held on 09/28/15 - Volume XIX electronically filed by Mr. Ken Spencer on behalf of Armstrong & Okey, Inc. and Anderson, Rosemary Foster Mrs.