BEFORE THE PUBLIC UTILITIES COMMISSION OF OHIO

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In the Matter of the :
Application of Ohio Edison:
Company, The Cleveland :
Electric Illuminating :
Company, and The Toledo :
Edison Company for

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 9:00 a.m. on Thursday, September 10, 2015.

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VOLUME VIII

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	1539
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		1542	
1	INDEX		
2			
3	WITNESSES	PAGE	
4	Jason Lisowski Direct Examination by Mr. Alexander	1555	
5	Cross-Examination by Mr. Soules	1557	
6	Cross-Examination by Ms. Hussey Cross-Examination by Mr. Michael	1610 1627	
O	Cross-Examination by Mr. Oliker	1651	
7	Cross-Examination by Ms. Fleisher	1686	
8	Cross-Examination by Mr. Settineri Cross-Examination by Mr. Dougherty	1693 1730	
	Cross-Examination by Mr. McNamee	1737	
9	Cross-Examination by Mr. Soules	1743	
10			
11	COMPANIES EXHIBITS IDENTIFIED ADMI	TTED	
12	17 - Direct Testimony of Judah L. Rose VI-1132	1546	
13		1340	
14	18 - Direct Testimony of Judah L. Rose		
15	(Confidential) VI-1132	1546	
10	21 - Testimony of Jason Lisowski		
16	(Public Version) 1555		
17	22 - Testimony of Jason Lisowski (Confidential Version) 1555		
18			
19	23 - Jason Lisowski Errata Sheet (Public Version) 1555		
20	24 - Jason Lisowski Errata Sheet		
21	(Confidential Version) 1555		
22	SIERRA CLUB EXHIBITS IDENTIFIED ADM	TTTED	
23	9 - Direct Testimony of Judah L. Rose Duke Case VI-1147	1547	
24			
25	13 - Set 1 Interrogatory 39 VI-1174	1547	

				1543
1		INDEX		
2				
3	SIE	ERRA CLUB EXHIBITS IDE	ENTIFIED	ADMITTED
4	14	- Set 1 Interrogatory 28	VI-1182	1547
5	1 5	- PJM Load Forecast Report -		
6	13		VI-1190	1547
7	16	- Request For Production		
8		of Documents Sierra Club Set 1 (Confidential) V	7II-1320	1547
9	17	- Responses to Request IEU	1006	1.5.4.5
10		Set 1 (Confidential) V	7II-1336	1547
11	18	- IEU Set 1 INT 9 Attachment 1 (Confidential) V	7II-1336	1547
12	19	- IEU Set 1 INT 9 Attachment 2 (Confidential) V	/II-1336	1547
13	0.6		11-1330	1347
14	∠6	- Response to Discovery Request NUCOR Set 1 INT-38	1606	
15	27	 Response to Discovery Request OCC Set 1 INT-21 	1607	
16	28			
17	20	(Confidential)	1746	
18	29	<pre>- SC INT 54(a) Attachment 2 (Confidential)</pre>	1746	
19			1/40	
20	30	SC INT 54(a) Attachment 3 (Confidential)	1746	
21	31	- SC Set1 INT 54(a) Attachment 4 (Confidential)	1763	
22				
23	32	- FEC Subpoena Response Attachmen 1 (Sammis) (Confidential)	1764	
24	33	- FES Subpoena Response Attachmen 2 (Davis) (Confidential)	nt 1764	
25		2 (Davis) (Continuencial)	1/04	

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				1544
1		INDEX		1011
2				
3	SIE	RRA CLUB EXHIBITS	IDENTIFIED	ADMITTED
4	34	i i		
5		3 (OVEC) (Confidential)	1764	
6	35	- FES Subpoena Response Attach 4 (Outputs) (Confidential)	nment 1766	
7	36	- FES Response to Sierra Club Subpoena (Confidential)	1767	
8	IGS	EXHIBITS	IDENTIFIED	ADMITTED
10	3	- Unredacted Testimony, Workpapers and Discovery		
11		Responses from Case 11-3549 (Confidential)	VII-1374	1552
12	4	- 2016/1017 RPM Capacity Performance Transition		
13		<pre>Incremental Auction Results (Confidential)</pre>	VII-1379	1552
14	5	- 2018/2019 RPM Base Residual		
15		Auction Results (Confidential)	VII-1380	1552
16	6	- Comparison of J. Rose Foreca	ast	
17		to Capacity Auction Prices (Confidential)	VII-1395	1553
18				
19	OCC	EXHIBITS	IDENTIFIED	ADMITTED
20	4	 Request for Production of Documents (Confidential) 	VII-1420	1554
21	5	- 2022 Calendar	1553	1554
22	6	- Deferred Prosecution Agreeme	ent 1627	
23				
24				
25				

Thursday Morning Session,

September 10, 2015.

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EXAMINER PRICE: Let's go back on the record.

Good morning. The Public Utilities

Commission has set for hearing and time at this time

and place Case No. 14-129-EL-SSO, being In the Matter

of the Application of the Ohio Edison Company, the

Cleveland Electric Illuminating Company and the

Toledo Edison Company for Authority to Provide for a

Standard Service Offer Pursuant to Revised Code

4928.143 in the Form of an Electric Security Plan.

This is our eighth day of hearing in this matter. My name is Gregory Price. With me in Mandy Chiles and Megan Addison. We are the Attorney Examiners assigned to preside over this case.

Let's dispense with appearances.

Mr. Alexander, your motion.

MR. ALEXANDER: Yes, your Honor, the companies renew their motion for the admission of Companies Exhibit 17. Your Honor, one point of clarification. Can we agree to a method of marking confidential exhibits such as 18-Confidential or some other designation so we can keep those straight?

1 EXAMINER PRICE: Yes. From this point 2 on, and we can remark the past ones. Anything 3 confidential we can use the convention of number and 4 confidential to make it more clear as to what is 5 confidential and what is not. MR. ALEXANDER: Thank you, your Honor. 6 7 The companies renew their motion for the admission of 8 Company Exhibit 17, Mr. Rose's public testimony, 9 Confidential 18, Mr. Rose's confidential testimony. 10 Companies 19 and 20 have already been admitted via stipulation. 11 12 EXAMINER PRICE: Any objections to the 13 admission of the exhibits? 14 MR. McNAMEE: No. 15 EXAMINER PRICE: Seeing none, they will

(COMPANIES EXHIBITS 17 AND 18 ADMITTED

INTO EVIDENCE.)

be admitted.

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MR. FISK: Thank you, your Honor. Sierra Club would move for admission of Exhibits 9, 11, 13, 14, 15, 16, 17, 18, and 19. And I believe we have already stipulated to the admission of exhibits 10 and 20 through 25, which 20 through 25 are all confidential.

EXAMINER PRICE: Can you list again just

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1 to be clear.
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2 MR. FISK: Yes, it is Sierra Club 9, 11,

3 | 13, 14, 15, 16, which is Confidential, 17

4 Confidential, 18 Confidential, and 19 Confidential.

Then we stipulated to Exhibits 10 and 20 through 25

6 as confidential.

19 Confidential.

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7 EXAMINER PRICE: Any objection to the 8 admission of exhibits?

9 MR. ALEXANDER: No objection to all but 10 Sierra Club 11.

EXAMINER PRICE: Okay, anybody else?

Let's go ahead and admit 9, 13, 14, 15, 16

Confidential, 17 Confidential, 18 Confidential, and

(SIERRA CLUB EXHIBITS 9, 13, 14, 15, 16

CONFIDENTIAL THROUGH 19 CONFIDENTIAL ADMITTED INTO

EVIDENCE.)

EXAMINER PRICE: Now let's turn our attention to Exhibit 11, Mr. Alexander.

MR. ALEXANDER: Thank you, Your Honor.

As the Bench may recall, when Sierra Club introduced

Exhibit No. 11, the companies objected to lack of

foundation for that document establishing the witness

had seen it before, a lack of authenticating the

document. And rather than quibble about what was

said, I printed off relevant copies of the transcript if it would be helpful for the Bench?

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EXAMINER PRICE: Thank you.

MR. ALEXANDER: Your Honor, the

companies' objection is two parts, relatively simple.

EXAMINER PRICE: Give me one minute so I can put the exhibit in front of me.

MR. ALEXANDER: Sure.

EXAMINER PRICE: Thank you. Go ahead.

MR. ALEXANDER: Thank you. As I said, the companies' objection has two parts, both relatively simple. First, Ohio Rules of Evidence 901 requires all documents submitted into evidence be authenticated. There's a good reason for this rule,

and that we need to establish that the document is what it purports to be.

There needs to be a witness of personal knowledge of the document or to authenticate the document unless it's self-authenticating. There's a whole series of self-authenticating exceptions which are not relevant here.

Sierra Club in its foundational questions failed to authenticate this document. The witness did not testify he had ever seen it before. Instead what the witness testified to was his familiarity

with IEA and the Henry Hub prices generally. That does not authenticate this document.

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The second part of the objection is it's not needed to create a full and complete record for the Commission because the witness testified extensively over two days about the current state of the gas market, including Henry Hub prices. This portion of the transcript in particular, the witness was discussing the Henry Hub prices. So the Commission does not need the document in order to understand where the prices are today.

EXAMINER PRICE: Mr. Fisk.

MR. FISK: Thank you, your Honor. So the document is an Energy Information Administration reporting of Henry Hub natural gas prices. It's a government agency document. I think under Rules 8038, it comes in as a public record or report under Rule 803.17. It comes in as a market report. We believe it self-authenticates as an official publication under Rule 902.

Mr. Rose, in his testimony, I believe, said that he agreed that the 2014 numbers reported there and the 2015 numbers reported looked consistent with his knowledge of where natural gas prices are, and the Commission can also take administrative

notice of this document as an official government publication reporting these natural gas prices.

EXAMINER PRICE: Do you need administrative notice of the document or administrative notice of the prices?

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MR. FISK: I think administrative notice of the prices would be sufficient.

EXAMINER PRICE: Mr. Alexander, do you have any objection to just taking administrative notice of the prices of the Henry Hub for this time period?

MR. ALEXANDER: The only reason we're hesitating, I think the witness actually testified to that fact. It's already in the record. But we have no objection to the extent it's not in the record the Commission can take administrative notice of the price.

EXAMINER PRICE: Okay. We will go ahead and take administrative notice of the prices of the Henry Hub from 1997 through July 2015.

MR. McNAMEE: Excuse me, Your Honor, has Sierra 8 been admitted?

EXAMINER PRICE: That was a Day 5 exhibit. It must have been.

MR. FISK: I believe that was admitted

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2 EXAMINER PRICE: It was admitted under

3 Strah.

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4 MR. McNAMEE: My notes weren't clear.

5 Thank you.

MR. OLIKER: Good morning, your Honors, at this point I would move for the admission of IGS Exhibit 2, a public document, IGS Exhibit 3 confidential, IGS Exhibit 4 and 5, I would ask those be public documents, and ICS Exhibit 6 as a selection of IGS.

ask those be public documents, and IGS Exhibit 6 as a confidential document.

EXAMINER PRICE: Any objection to the admission of IGS Exhibits 2, 3, 4, 5 and 6?

MR. ALEXANDER: Your Honor, could I have one moment to look at the change of designation of Exhibits 4 and 5?

EXAMINER PRICE: Okay.

MR. OLIKER: I would also add I would be amenable to modifying the table in IGS Exhibit 6 given that we now have the 2017-2018 transition auction prices that are more favorable to the company and I would be happy to do that if the company so requested.

EXAMINER PRICE: We will deal with that in a second.

MR. ALEXANDER: Your Honor, the companies do not object to IGS Exhibit 6, 4 or 5. The companies do not object to marking IGS Exhibits 4 and 5 as public.

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The companies object to IGS Exhibits

2 and 3 confidential, IGS Exhibit 3 for the same

reasons previously identified in the original

briefing on the IGS subpoena and in the interlocutory

appeal on the companies on that point. I'm happy to

repeat those if the Bench feels it is beneficial, but

if not, we stand on it by reference.

EXAMINER PRICE: We will admit IGS

Exhibits 4, 5, and 6 -- 4 and 5 for now. We want to take administrative notice of IGS Exhibit 2 which is the redacted version of Mr. Rose's testimony and exists in the docketing system no matter what. With respect to the unredacted version of Mr. Rose's testimony, IGS Exhibit 3C, we will admit it noting the companies' continuing objections.

(IGS EXHIBITS 3, 4, AND 5 ADMITTED INTO EVIDENCE.)

EXAMINER PRICE: Let's go off the record and talk about IGS Exhibit 6.

(Discussion off record.)

EXAMINER PRICE: Let's go back on the

1553 record. At this time we will go ahead and admit IGS 1 2 6. 3 (IGS EXHIBIT 6 ADMITTED INTO EVIDENCE.) 4 EXAMINER PRICE: Mr. Sauer. 5 MR. SAUER: Thank you, your Honor. At 6 this time, OCC would request the admission of OCC 7 Exhibit 4, a confidential document, and a document 8 that was not marked yesterday but we ask that it be 9 marked this morning as OCC Exhibit No. 5, which is the OCC 2023 calendar. 10 11 EXAMINER PRICE: So marked. 12 (OCC EXHIBIT 5 MARKED FOR IDENTIFICATION.) 13 14 MR. SOULES: We ask for the admission of 15 that as well. 16 EXAMINER PRICE: Any objection to OCC 17 Exhibit 4 and 5 that was just marked? 18 MR. ALEXANDER: No objection. 19 EXAMINER PRICE: They will be admitted. 2.0 (OCC EXHIBIT 4 AND 5 ADMITTED INTO 2.1 EVIDENCE.) 22 EXAMINER PRICE: The companies may call 23 the next witness. 24 MR. ALEXANDER: The companies call Jason 25 Lisowski.

(witness sworn.)

EXAMINER PRICE: Please be seated and state your name and business address for the record.

THE WITNESS: Jason J. Lisowski. My business address is 341 White Pine Drive, Akron, Ohio, 44320.

7 EXAMINER PRICE: Mr. Alexander, you may 8 proceed.

9

10 JASON J. LISOWSKI

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

13 DIRECT EXAMINATION

14 By Mr. Alexander:

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- Q. Mr. Lisowski, did you prepare prefiled direct testimony in this proceeding?
- 17 A. I did.
- Q. And did you also subsequently file prefiled errata to that testimony?
- 20 A. I did.

MR. ALEXANDER: Your Honor, as we
previously provided the court reporters with
Mr. Lisowski's public testimony, confidential
testimony, public errata and confidential errata,
those are numbered Companies Exhibit 21 which is the

- 1 | public testimony, Companies confidential
- 2 Exhibit 22 which is Mr. Lisowski's confidential
- 3 testimony, Companies Exhibit 23, Mr. Lisowski's
- 4 public errata, and Companies confidential Exhibit 24,
- 5 which is Mr. Lisowski's confidential errata.
- 6 (COMPANIES EXHIBITS 21 THROUGH 24 MARKED
- 7 FOR IDENTIFICATION.)
- 8 Q. (By Mr. Alexander) Mr. Lisowski, do you
- 9 have copies of your prefiled testimony and errata in
- 10 front of you?
- 11 A. T do.
- 12 Q. And do you have any changes or
- corrections to that prefiled testimony other than the
- 14 errata previously discussed?
- A. No, we don't.
- Q. If I asked you the same questions today
- as appear in your prefiled direct testimony, would
- 18 your answers be the same?
- 19 A. That's correct.
- MR. ALEXANDER: Your Honor, the companies
- 21 move for admission of Companies Exhibits 22 through
- 22 24 and the witness is available for
- 23 cross-examination.
- EXAMINER PRICE: We will defer admission
- of Companies Exhibits 22 through 24 until we complete

1556 1 cross-examination. Please proceed. 2 3 CROSS-EXAMINATION 4 By Mr. Soules: 5 Good morning, Mr. Lisowski. My name is Michael Soules, and I represent Sierra Club in this 6 7 proceeding. 8 Can you hear me okay? 9 I can. Good morning. Α. 10 Q. Good morning. How are you today? I'm doing pretty well, thank you. 11 Α. 12 Q. What is your current job title, 13 Mr. Lisowski? I am the assistant controller of FES-FEG. 14 Α. 15 Q. And your direct employer is FirstEnergy 16 Service Company, correct? 17 Α. That's correct. 18 And you're employed by FirstEnergy 0. Service Company since 2004, correct? 19 2.0 That's correct. Α. 2.1 0. And other than your employment with 22 FirstEnergy Service Company, you have had no other employment in the energy sector, correct? 23 24 Α. That's correct. 25 Q. Okay. And currently your primary job

- responsibilities are to support FirstEnergy Solutions
 Corp., correct?
 - A. Among other responsibilities, that's correct.
 - Q. And if I refer to FirstEnergy Solutions Corp. as FES, will you understand what I mean?
 - A. Yes.

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- Q. And you're also an officer of FES, correct?
- 10 A. That's correct.
- Q. And in that capacity, you have been named as an assistant controller for FES, correct?
 - A. That's correct.
 - Q. Before we talk about your direct testimony, I just wanted to quickly cover a few preliminary points. If I refer to the Ohio Edison Company, the Cleveland Electric Illuminating Company, and the Toledo Edison Company collectively as the companies, will you understand what I mean?
 - A. Yes.
- Q. And secondly, are you aware of whether
 FES owns a 4.85 percent interest in two Ohio Valley
 Electric Corporation power plants?
- A. If you mean "own" as being an entitlement to an output, that's correct.

- Q. Okay. Thank you for that clarification. If I refer to that share as the OVEC entitlement, will you understand what I mean?
 - A. Yes.

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- Q. And are you familiar with the proposed agreement under which FES would sell to the companies the capacity, energy and ancillary services from the Davis-Besse plant, in Sammis plants and OVEC entitlements?
- A. Yes, and they would also sell the environmental attributes associated with those plants.
 - Q. If I refer to that proposed agreement as the proposed transaction, will you understand what I mean?
- 16 A. Yes.
 - Q. Now, in this proceeding, you have presented a cost and revenue projection for the Sammis plant, for Davis-Besse and the OVEC entitlement; is that correct?
 - A. That's correct.
 - Q. And those projections are presented in attachments JJL-1, JJL-3, JJL-3 revised, correct?
- A. That's correct.
- Q. And among other things, those attachments

- estimate projected cost of Sammis, Davis-Besse, and
 the OVEC entitlement between June 1, 2016 and May 31,
 2031, correct?
 - A. They project other financial information beyond just cost, but that's correct.
 - Q. And among that other financial information is a projection of the revenues for Sammis, Davis-Besse and OVEC entitlement between June 1, 2016 and May 31, 2031, correct?
 - A. That's correct.

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- Q. And the cost and revenue projections presented in your testimony were developed in part using a dispatch model, correct?
 - A. That's correct.
- Q. Okay. And that modeling was performed under your supervision, correct?
- A. If you mean performed under my supervision as having others help assist me in modeling as well as reviewing, I myself also reviewed the results and it was run by others that was done under my direction.
- Q. Okay. Thank you for that clarification.

 The actual modeling was performed by the Business

 Development Group within FirstEnergy Service Company,

 correct?

A. I wouldn't agree with that point primarily because although the Business Development Group did assist me with the running of the model, I was the one that prepared and provided the inputs. I and reviewed those. I also reviewed the outputs and used the output dispatch to prepare my exhibits. So I would not say it was done solely by the Business Development Group.

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- Q. Did you directly run the model?
- A. You used the word "directly run the model." I view that as looking at the inputs, ensuring they're accurately input into the model, running the model, reviewing the outputs, making sure they are accurate. I did those aspects. Simply pushing the button to run the models is very simple, anyone can do it, quite frankly, but running the model requires all those steps and I was involved with all those complex steps of that process.
- Q. Okay. And was the Business Development Group involved in the running of the model?
- A. Yes. As I stated previously, they assisted me in that regard.
- Q. And did they actually push the button on the model?
- A. They were the one that pushed the button.

And as I stated before, pushing the button is not the complexity of the model, pushing the button is, quite frankly, anybody can do.

- Q. And you don't know who specifically pushed the button on the model, correct?
- A. As I stated before, Business Development was the one that pushed the model, and also as I stated before, pushing the button doesn't matter because anyone, quite frankly, could do that.

MR. SOULES: Could I have that answer read back?

12 EXAMINER PRICE: You may.

(Question read.)

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MR. SOULES: Your Honor, I would move to strike the second sentence of that response as being nonresponsive.

EXAMINER PRICE: We will deny the motion to strike and indicate to the witness this was your one warning. From this point on, you need to listen carefully to counsel's questions and answer counsel's questions and only counsel's questions.

THE WITNESS: Yes, your Honor.

EXAMINER PRICE: That will ensure you have a shortened time on the stand.

MR. SOULES: Thank you, your Honor.

1562 1 (By Mr. Soules) Mr. Lisowski, the Ο. 2 dispatch model is owned by FirstEnergy Service 3 Company, correct? 4 If you could clarify for me what you mean by "owned"? 5 Is the model a proprietary dispatch 6 Ο. 7 model? 8 Α. Yes. 9 Okay. And it's proprietary to FirstEnergy Service Company, correct? 10 11 It would be proprietary to FirstEnergy 12 Service Company and any other affiliates of 13 FirstEnergy Service Company. 14 So would that include any affiliate of Q. FirstEnergy Corporation? 15 16 I believe so, yes. Α. 17 The dispatch model is Microsoft Excel Q. 18 based; is that correct? That's correct. 19 Α. 2.0 And FirstEnergy Service Company developed Q. 2.1 the model by building calculations into a Microsoft 22 Excel workbook that can produce the modeling outputs, 23 correct? 24 Α. That's correct.

And you did not have any personal

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involvement in developing the model, correct?

- A. Just to make sure I understand your question, when you say "developing the model," you're saying the creation of it?
- Q. Correct, the model itself, not the modeling runs associated with your testimony, the model itself.
 - A. That's correct.

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- Q. And you do not know how frequently the model is updated, correct?
- A. You asked how regularly updated the model is. There's numerous aspects of updating the model. One may be in getting a new Microsoft Excel program from Microsoft. Something like that occurs every so often. It doesn't happen really regularly, but that may be one way the model is updated, through the actual software.

Other updates may be operational.

Financial constraints associated with these plants that are inputs of the model, those are regularly updated by FES, although FES may not know when those are regularly updated -- when those updates would be needed because it would just be defined as when plants need to be updated. So while I may not know how often they're regularly updated, they're

regularly updated when they need to be updated.

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Q. So setting aside software updates that might come from Microsoft, you don't know how frequently the model is updated; is that correct?

MR. ALEXANDER: Objection, asked and answered.

EXAMINER PRICE: Overruled.

THE WITNESS: May I have the question reread, please?

(Question read.)

A. While I may not know when the model will need to be updated, it is updated regularly when it needs to be updated.

MR. SOULES: Your Honor, I would move to strike that response as nonresponsive to my question.

EXAMINER PRICE: Granted. I think you're struggling with the word regularly. I think some people believe regularly means every other month.

And I think maybe you're using regularly as needed.

I think that's where we are struggling with getting where we need to go. So accepting for the purposes of the next 15 minutes that "regularly" means

"periodically" on a fixed periodic schedule, can you go ahead and answer the question.

THE WITNESS: Your Honor, based on what

you just said, that's correct, it is regularly updated.

- MR. SOULES: Okay. Thank you, your Honor.
- Q. (By Mr. Soules) Mr. Lisowski, do you receive notice when the calculations within the model are updated?
- A. Could you help me understand what you mean by "receive notices"? Do you mean receive like an e-mail or a phone call?
 - Q. I'm sorry?

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- A. Do you mean notice like I receive an e-mail or someone phone calls me?
 - Q. Is there any sort of communication that you receive when there's an update to the calculations in the model?
 - A. Not always. I may become aware of updates that in my normal responsibilities that I'm aware that will have an impact on the model but I may not receive a notification every single time an update is done.
 - Q. And does the same hold true for an update to the input assumptions for the model, you don't always receive notice of those updates?
 - A. When you're talking about the inputs, my testimony talks about a big aspect of the inputs are

energy price forecast. In those cases, whoever is running the model is going to be using those inputs. There would be no need for them to let me know they're using those inputs. I don't know if that answers your question. I'd be quite happy to respond if that doesn't answer your question.

- Q. No, that's fine, thank you. The model is used to project costs and revenues associated with power plants, correct?
 - A. FES's plants, that's correct.
- Q. And if there is an update to the assumptions associated with those power plants, like, for example, the heat rate for a generating unit, would you receive notice of that update?
 - A. I may have.
 - Q. But you don't always; is that correct?
 - A. I may not always receive that update.
- Q. Thank you. Is there a manual for the Microsoft Excel based model?
 - A. No.
- Q. Is there any kind of technical documentation for this model?
- 23 A. No.

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Q. And, Mr. Lisowski, you never directly entered the inputs into the workbook; is that

correct?

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- A. Based on the motion you just gave me, it appeared you were typing in the inputs, inputting the data into the model may not be typing. It's Excel-based as we talked about, so copying and pasting is generally a more efficient way to do that.
- Q. Thank you, and I apologize for the nonverbal hand motions. The model itself has not been produced to any party in this proceeding, correct?
- A. My understanding is the model itself has not been turned over to the intervenors. We have run four different cases for the Sierra Club that we've ran through the model and provided both the inputs and the outputs.
- Q. Thank you. And the inputs and outputs associated with the modeling associated with your testimony, has also been produced in discovery; is that correct?
- A. I'm sorry, may I have that question read back, please?

(Question read.)

- A. That's correct.
- Q. You're generally aware that there are commercially available models that can be used to

project the dispatch of power plants, correct?

A. Yes.

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- Q. And you've never supervised any dispatch modeling that used one of those other modeling programs, correct?
 - A. No.
- Q. To the best of your knowledge,
 FirstEnergy Service Company has never used one of
 those other dispatch models in projecting costs and
 revenues for a power plant, correct?
 - A. No.
- Q. Just to clarify, when you said "no," did you mean no, I'm not correct, or no, that FirstEnergy Service Company has not used a commercially available model?
- A. No, I'm not aware of FirstEnergy using one of these models you're talking about.
- Q. Thank you. The modeling results presented in your testimony use inputs that come from several different sources, correct?
 - A. That's correct.
- Q. I'd like to spend a couple minutes talking about a few of those inputs, and if you could please turn to page 5 of your direct testimony.
 - A. Okay.

- Q. So starting on line 14, it states, "The model incorporates the generation capabilities of each FES generation facility, adjusted for an assumed unavailability and forced loss, (EFOR, et cetera), and planned outages. That's your testimony, correct?
 - A. That's correct.

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- Q. And when the modeling for your testimony was performed, those inputs regarding the plants' generation capabilities were preexisting inputs into the model, correct?
- A. That's correct, FES would have had those assumptions already a part of the model.
- Q. Staying on page 5, looking at line 17, do you see the reference to forecasted energy pricing provided by company witness Mr. Rose?
 - A. I do.
- Q. So is it correct the modeling results presented in your testimony are based on market priced forecasts that Judah Rose provided to you?
 - A. That's correct.
- Q. And you don't personally have any expertise in market price forecasts, correct?
- A. That's correct. That's why I needed to rely on expert witness Rose.
 - Q. And in this proceeding you're not

- offering any opinions about the reasonableness of Mr. Rose's price forecast, correct?
 - A. No, I did not need to because of Mr. Rose being an expert in his field.
- Q. So you defer entirely to Mr. Rose with respect to those forecasts?
- 7 MR. ALEXANDER: Objection. Asked and 8 answered.
- 9 EXAMINER PRICE: Sustained.

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- Q. (By Mr. Soules) Another input into the model is the variable operating cost of each generating unit, correct?
 - A. That's correct.
- Q. And for the Sammis units, the variable operating costs include an assumed fuel cost,
- A. Among other items, that's correct.
- Q. Okay. And that fuel cost estimate was developed using a fuel price forecast that was provided by Mr. Rose, correct?
- MR. ALEXANDER: Could I ask the question be reread, please?
- 23 EXAMINER PRICE: Please.
- 24 (Question read.)
- MR. ALEXANDER: Did you say full or fuel?

1 MR. SOULES: Fuel.

THE REPORTER: I said fuel.

- A. That's correct.
- Q. (By Mr. Soules) And those, the forecasts that Mr. Rose referenced are on page 4, lines 22 to 23 of your testimony, correct?
 - A. I'm sorry, page 4, lines 21 to 22?
- Q. 22 to 23.

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- A. Thank you. That's correct.
- Q. Okay. And you did not take any steps to assess whether those forecasts were reasonable, correct?
- 13 A. That's correct. I relied on Mr. Rose 14 because he's an expert in his field.
 - Q. Okay. And you don't have an opinion as to whether Mr. Rose's coal price forecast was reasonable, correct?
 - A. No, I relied on what Mr. Rose provided me.
 - Q. Thank you. And for the Davis-Besse plant, the nuclear fuel cost for estimating was using information that was already in the model, correct?
 - A. That's correct, FES would have come up with those projections, and they were already available and loaded into the model.

Q. And you don't consider yourself to be an expert in projecting nuclear fuel costs, correct?

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- A. That's correct, and I would have in this case since it was provided by FES, looked at it -- looked at historical costs what nuclear fuel has historically been and just seemed to appear reasonable to me.
- Q. Okay. But beyond that, you wouldn't have taken any other steps to assess whether or not the cost estimate was reasonable, correct?
- A. No, I would have no need to because I relied on experts at FES to provide that projection.
- Q. Okay. Which particular expert or experts are you referring to?
- A. Within FES, we have an entire nuclear fuel department that resides within our FirstEnergy nuclear operating company that's primary responsibility is for all aspects of our nuclear fuel process including forecasting and making assumptions long term.
 - Q. Is Paul Harden one of those experts?
- A. The group that I just discussed was underneath his organization at the time I ran this model.
 - Q. Okay. Thank you. For the OVEC plants,

- the estimated fuel cost was provided directly by
 OVEC, correct?
 - A. That's correct.
- Q. The model for your testimony also included an assumed price for carbon emissions, correct?
- 7 A. That's correct.
 - Q. And that carbon price forecast was also provided by Mr. Rose, correct?
 - A. Yes, sir.

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- Q. And that price forecast was used for modeling, both the Sammis units and the OVEC entitlement, correct?
- 14 A. That's correct.
- Q. As well as Davis-Besse? Please strike that.
- Does the model assume that Davis-Besse is a carbon free resource?
- 19 A. Yes.
- Q. You didn't do anything personally to evaluate the reasonableness of Mr. Rose's carbon price forecast, correct?
- A. No, I had no need to since he's an expert in his field.
- Q. After compiling the various inputs for

purposes of the modeling run, you then provided those inputs for the Business Development Group to push the button on the model; is that correct?

A. That's correct.

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- Q. Using those various inputs the model then projected how frequently the Davis-Besse, the Sammis units and OVEC would operate, correct?
 - A. That's correct.
- Q. And when the Business Development Group ran the model, the plants were assumed to be dispatched economically, correct?
- A. If you mean economically as a form of dispatch, that's correct. Economic, just to make sure we're on the same page, we'll assume that a plant will run either more or less based on the variable costs given in a short period of time.
- Q. And the model -- whenever the FirstEnergy Service Company model was run, it assumes that the plants are being dispatched economically, correct?
 - A. That's correct.
- Q. And the way the actual model functions if variable operating cost for a generating unit is below the market energy price, the model assumes that the unit will operate, correct?
 - A. May I have that question read back,

please?

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(Question read.)

- A. That's correct, taking into consideration other operational constraints, such as unforced availability, if there's a plant outage, things like that.
- Q. But if for the given point in time this plant is assumed to be available and those two -- and that happens to be the case -- strike that.

For a given point in time, if the variable operating costs of a unit is below that market energy price at that point -- and if the unit is available, the model will assume it will run.

MR. ALEXANDER: Objection, asked and answered.

16 EXAMINER PRICE: Overruled.

Read the question back.

(Question read.)

- A. That's correct.
- Q. (By Mr. Soules) So, for example, if the model was projecting the dispatch of Sammis Unit 1, the model would consider the variable operating costs of the unit and the estimated energy price at that point in time, correct?
- 25 A. I want to make sure we're clear when I

respond. When you say "variable operating costs," could you define for me what that means to you?

- Q. What is your understanding of variable operating costs in the context of the dispatch model?
- A. Sure. Absolutely. For the Sammis unit, variable operating costs would include the coal price which would be a -- include the transportation via getting that coal to the plant and the fuel handling associated with that plant.

We talked about the carbon costs, that they were discussing earlier as part of the generation. We also included emission allowance costs, reagent costs and if there was any other types of variable O&M costs associated with running the plants, more or less.

- Q. Okay. And all of those cost components are embedded within the variable operating cost for the unit -- that the model will consider when projecting dispatch, correct?
 - A. That's correct.
- Q. And if I use the phrase variable operating costs with that understanding that you just laid out, you'll understand what I mean?
 - A. Yes.
 - Q. Okay. For the coal unit, does the

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variable operating cost include a cost component for coal ash disposal?

- A. Yes, it does. Thank you for that clarification. I missed that when I gave my definition earlier.
- Q. Thank you. So going back to my earlier question, if, for example, the model was projecting a dispatch of Sammis Unit 1, the model would look at the variable operating costs for Sammis Unit 1 as well as the market energy price at that point in time, correct?
 - A. That's correct.

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- Q. But the model would not consider the variable operating costs of, for example, the Davis-Besse plant, correct?
- A. I'm sorry, may I have that question read back, please?

18 EXAMINER PRICE: Please.

(Question read.)

- A. Yes, when the model is being run, or in this case Sammis Unit 1, it will only be looking at the variable operating costs for that Sammis 1 Unit plant.
- Q. And that model would ignore the variable operating costs for any other FES-owned or

non-FES-owned plant, correct?

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- A. That's correct.
- Q. And the model does not incorporate any type of analysis associated with plants that are not owned by FES, correct?
- A. I recall a similar question during my deposition around something of this nature, and I went back and I looked at Mr. Rose's forecast that he provided me. And this is something that is not in my dispatch model, nor would it be something that needs to be in there because it's something that's captured when he provides me his inputs.
- Q. Just to be clear, the dispatch model itself does not directly consider other plants, correct?
- A. No, because it would not need to because that is something that is used as an assumption in the energy inputs provided by Mr. Rose.
- Q. The model does not have a direct input for energy demand within the PJM footprint, correct?
- A. That's another similar topic of something that my model does not include nor should it because that is something that would be captured in the energy forecast provided by Mr. Rose.
 - Q. Do you know if any commercially available

dispatch models include an input for energy demand?

A. I don't know.

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- Q. And the model does not have a direct input for energy efficiency, correct?
- A. That's also another item that would not be an input to my dispatch model because that is something that would be included in the assumptions that Mr. Rose provided me.
- Q. Do you know if energy efficiency can be an input into a commercially available dispatch model?
- A. I don't know.
 - Q. Mr. Lisowski, you're aware that the OVEC plants included multiple generating units, correct?
 - A. Yes.
 - Q. But the model does not separately project the dispatch of those individual units, correct?
 - A. That's correct because I would not have that ability to run that model by each of the individual units of OVEC.
 - Q. And the model assumes -- or essentially the model treats Kyger Creek and Clifty Creek as a single generating unit, correct?
- A. That's correct because I do not have the inputs that would allow me to run the model for each

of the individual OVEC units separately.

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- Q. Thank you. The dispatch modeling that was performed to develop the cost and revenue projections in your testimony was performed on a monthly basis, correct?
- A. Well, it is a monthly model. There is also a breakdown within the month of nine separate categories of inputs based on varying hours, time periods, if you will, within the month, so it's not one single model -- monthly, excuse me. It's not one single monthly assumption.
- Q. The model does not dispatch on an hourly basis; is that correct?
- A. No, it dispatches based on these nine periods of time within the month for the forecast.
- Q. And the modeling results are presented on an annual basis, correct?
 - A. That's correct.
- Q. And the Business Development Group only did a single modeling run to produce the results that are presented in your testimony; is that correct?
- A. That's correct. There's -- There was one set of inputs that was provided. There was only one set of inputs needed, and so only one set of forecast run was done.

- Q. Okay. Thank you. In projecting the dispatch of the Sammis units, Davis-Besse, and the OVEC entitlement, the model includes an assumption about each plant's unforced capacity, correct?
- A. Can I have that question read back, please.

(Question read.)

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- A. When you say unforced capacity, are you referring to, like, an E4 assumption or a forced outage rate? I'm struggling with unforced capacity because I think of capacity when you use that term.
- Q. I'm sorry, what was the last part of your answer?
- A. Sure. When you said unforced capacity, I think capacity revenue side, is that what you're referring to?
- Q. No, I'm referring to the physical capacity of the generating unit.
- A. One of the inputs into the model is an assumed equivalent forced outage rate, EFOR. We use EFOR for that. That's an operation constraint. That is an assumption of how long the plant will not be available due to forced outage. That would be one of the operational constraints of the model that would say the plant cannot run during certain periods of

time of the year.

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- Q. And there would be another operational constraint on plant outages as well, correct?
 - A. Correct.
- Q. Once you subtract those out from the nameplate capacity for a unit, then you have essentially the available capacity for dispatching the model, correct?
- A. Very generally speaking, that's correct. I would add that when the model is run, though, it's looking at that on a monthly basis. It's not saying this is the capacity for this unit, period. It's looking at that capacity on a monthly type basis.
- Q. Okay. And those assumptions were provided by FES for the modeling associated with your testimony, correct?
 - A. That's correct.
- Q. You did not personally perform any analysis to determine if those assumptions were reasonable, correct?
- A. I did not have a reason to go back and run my own analysis of what it is. I did look at what the -- those constraints were historically and asked questions if there was anything that stood out to me, and so I relied on the FES individuals to

provide that to me.

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- Q. Did you ask FES questions about those assumptions when you were performing the modeling associated with your testimony?
- A. I don't recall specifically whether I asked them questions around the -- around these inputs of the model.
- Q. Okay. You're not aware of FES ever conducting a study to compare a generating unit's actual dispatch with its projected dispatch from a modeling run, correct?
- A. If you mean the word "study" as a formal study having someone independently come in and do a full analysis of it, I'm not aware of that. FES regularly reviews the outputs of these models and uses it in its normal course of its business day in and day out. So I would view that as a review, study, if you will, that because they rely on it, they believe it to be a very accurate dispatch model.
- Q. So FES relies on this model in making business decisions; is that correct?
 - A. Yes.
- Q. Do you know if FES relies on this model in making capital investment decisions?
 - A. Yes, among other factors.

Q. Has FES relied on this model in making capital investments decisions at the Sammis plant?

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- A. Just for clarification, do you mean are they using it now?
- Q. Has FES -- Since you joined FirstEnergy Service Company, has FES used this model in making capital investment decisions related to the Sammis plant?
- A. While I don't -- I do not know if they were using it for capital decisions when I started with FirstEnergy back in 2004, I will say since I started my current position, which was in 2012, FES does rely on this dispatch model as one factor in making capital investment decisions at the Sammis plant as well as the Davis-Besse station.
- Q. Thank you. Mr. Lisowski, the model includes assumptions about plant outages, correct? Ithink we talked about that.
- A. To clarify, the model doesn't come up with those plant outages. I receive that from experts within the FES and generation organization.
- Q. Does the modeling include any assumptions about the cost of starting up a coal unit?
- A. Could you clarify for me what you mean by "cost to start up the coal unit"?

- Q. Is it your understanding that when a coal generating unit starts up, it incurs additional expenses?
- A. Could you clarify for me what you mean by "other costs"?
- Q. Could I have that last question re-read, please?

(Ouestion read.)

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- A. I believe my question, just for clarification to answer your question appropriately, when I say "additional costs," what in particular are you talking about?
- Q. For example, does a coal unit have higher than -- higher fuel costs than it would during steady state operation?
- A. One of the inputs into the model is variable operating costs. We refer to it as VOM inputs, which I believe we provided in discovery. That VOM cost would include start-up costs such as what you're talking about here.
- Q. Thank you. In addition to the energy revenue estimate that's provided in your testimony, you also estimated the capacity revenue from the Sammis units, Davis-Besse and the OVEC entitlement, correct?

A. That's correct.

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- Q. Okay. And in estimating capacity revenues up through the 2017-2018 planning year, you used the actual clearing prices of the PJM auctions, correct?
- A. That's correct, for the auctions that had occurred at the time of my filing, which we know has been updated since then or that we have additional information on since then, I should say.
- Q. Okay, thank you. And in projecting capacity revenues after 2017-2018, you relied on a capacity price forecast provided by Judah Rose, correct?
 - A. That's correct.
- Q. And you did not do anything to evaluate the reasonableness of that capacity price forecast, correct?
- A. No, I had no reason to since Mr. Rose is an expert in his field.
- Q. And you're not offering any opinions in this proceeding about the reasonableness of that forecast, correct?
 - A. That's correct.
- Q. And on the cost side of your projection, so in addition to the variable operating costs that

were associated with the energy revenue, there were also several additional cost elements that were built into your projections, correct?

- A. Just as a point of clarification, are we talking about the costs that are a part of the dispatch model?
- Q. I'm sorry, the costs associated with your overall projections.
 - A. Okay.

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- Q. So there's a series of costs that went into the dispatch model, correct?
 - A. That's correct.
- Q. And then there are another series of costs that you added to your overall cost and revenue projections after the model had been run, correct?
 - A. That's correct.
- Q. Okay. And one of those was an estimate for fixed operating and maintenance costs, correct?
- A. I don't believe we have a single line item that refers to that. I would refer you, however, to my exhibits, which lay out all of the other types of operating costs that are outside of the dispatch model.
- Q. Your cost and revenue projections also include a projection for capital costs over the

15-year period, correct?

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- A. That's correct, those are laid out in the workpapers on my exhibits.
- Q. And once you had put together your overall cost and revenue projection, you then provided those results to Jay Ruberto; is that correct?
 - A. That's correct.
- Q. Do you know if Jay Ruberto reviewed the results of that projection?
- MR. ALEXANDER: Objection. Calls for speculation?
- EXAMINER PRICE: Well, he can answer if he knows.
 - A. I don't believe -- I don't know. I believe you should ask Mr. Ruberto that question.
- Q. (By Mr. Soules) Thank you. In developing
 the projections associated with your testimony, you
 did not calculate the net revenues or net losses
 associated with the operation of these plants,
 correct?
- EXAMINER PRICE: Can I have that read back, please?
- 24 (Question read.)
- MR. ALEXANDER: Objection to form. I

believe the question is confusing.

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MR. SOULES: I'm happy to rephrase.

EXAMINER PRICE: We'll see if he understands the question. Do you understand the question?

THE WITNESS: No, if you could rephrase the question, please.

- Q. (By Mr. Soules) Sure. Without getting into the actual numbers in the attachments to your testimony because I know those are confidential, those attachments include a projection of revenues and a projection of costs for Sammis, Davis-Besse and OVEC, correct?
 - A. That's correct.
- Q. In preparing those projections, you did not attempt to create -- you did not attempt to estimate the net revenue or net loss for a given unit at a given point in time, correct?
- A. I apologize, I'm very confused. You're saying net revenue? Are you -- If you are referring to my workpapers including a subtotal that includes a line on my revenue less my total expenses to get to a net number, my exhibits do not include that line item, but that's a simple subtraction calculation.
 - Q. Okay. But you -- you did not actually

perform those calculations in developing your testimony, correct?

A. Well, I think my testimony speaks for itself. It's not a complex calculation to do subtraction, per se. My workpapers lay out those total revenues gross, gross expenses, so it would just be a simple subtraction that I believe anyone can do.

9 EXAMINER PRICE: So your answer would be 10 no?

THE WITNESS: My answer would be no.

- Q. (By Mr. Soules) And did you perform a calculation of the net present value of operating the plant at given points in time over the 15-year period?
 - A. No, I have not done that calculation.
- Q. Okay. Thank you. So turning back to the proposed transaction that we talked about a little earlier, is it your understanding that the proposed transaction was negotiated between FES and the companies?
 - A. That's correct.
- Q. And you've heard of the EDU team before, correct?
- A. I have.

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- Q. And you were not a member of the EDU team, correct?
 - A. No, I was not.

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- Q. And you don't know what the EDU team's responsibilities were, correct?
- A. During my deposition, I did receive a lot of questions around the FES team, the EDU team.

 After my deposition I did give some additional thought about my activities on that team. Reviewed the term sheet, thought a little more about it. My understanding on the EDU team's activities was to negotiate the proposed PPA, specifically the term sheet, on behalf of the companies to make it advantageous for customers.
- Q. But you did not participate in any internal EDU team meetings, if they occurred; is that correct?
- A. No, I was not part of any of those meetings.
- Q. And you were designated a member of an FES team that helped negotiate the proposed transaction, correct?
 - A. That's correct.
- Q. And it's your understanding that Jay
 Ruberto was a member of the EDU team, correct?

A. Yes.

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- Q. And I believe earlier we established that you provided the results of your modeling to the EDU team through Jay Ruberto; is that a fair statement?
- A. I provided it through legal counsel to

 Jay Ruberto. I don't -- I do not know Jay Ruberto

 shared it or if he shared it with the rest of the EDU

 team.
- Q. Okay. Thank you. Other than the modeling associated with your testimony, you did not perform any other modeling that may have gone to the EDU team; is that correct?
 - A. That's correct.
- Q. And you first learned about the proposed transaction sometime in the April through June time period of 2014, correct?
 - A. That's correct.
- Q. And the modeling that was used to develop your testimony was performed sometime between May and July of 2014; is that correct?
 - A. That's correct.
- Q. Now, as part of your normal job responsibilities, you prepare revenue projections for FES's units, correct?
- A. When you say the word "prepare for," if

you're talking about the actual revenues of these plants, that would be correct.

EXAMINER PRICE: Could I have that question and answer read back again?

(Question read.)

- Q. (By Mr. Soules) Actually, I was referring to projections of future revenues.
 - A. Yes.

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- Q. Okay. And those revenue projections are prepared on a regular basis, correct?
- A. Regular basis in regards to whenever FES needs to have one, so there's not a set schedule that they will come out this routinely, but they're regularly when FES needs them.
- Q. Okay. Thank you. And the same FirstEnergy Service Company model is used in developing those revenue projections, correct?
 - A. That's correct.
- Q. And FES has been using this model since before you joined FirstEnergy Service Company in 2004, correct?
- A. I know the model has been used at least since I joined FirstEnergy in 2004. I don't know if they were using it prior to me joining the company.
 - Q. With respect to the FES plants that are

the subject of this proceeding, when was the most recent revenue projection that you performed for FES?

MR. ALEXANDER: May I have the question reread back, please?

EXAMINER PRICE: You may.

(Question read.)

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MR. SOULES: I will rephrase it. It is a little confusing.

- Q. (By Mr. Soules) Mr. Lisowski, when was the most recent revenue projection you prepared for the Sammis plant?
- A. For the time period that we are discussing here in my testimony, using FES's energy forecast would have been around the August time period of last year -- July-August time period of last year. I don't remember a specific date.
- Q. When you said with respect to this time period, you're referring to a long-term projection of costs and revenues that would have extended through 2031; isn't that correct?
- A. That's correct. And shorter-term forecasts have been turned over to the Sierra Club, among other intervenors, I believe. That's on a much shorter time period.
 - Q. Okay. And the most recent of those was

sometime in 2015; is that correct?

- A. Just for clarification, we're talking about the shorter-term forecast, correct?
 - O. Correct.

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- A. Yes. I believe it was around the January-February time period when those were prepared earlier this year.
- Q. Okay. And with respect to Davis-Besse, when was the last time you prepared a revenue projection, either short term or long term, for that plant?
- 12 A. The response would be the same as I gave 13 for Sammis.
 - Q. Okay. Are you aware of any FES revenue projections that are more recent than January for the Sammis plant?
 - A. No.
 - Q. And are you aware of any more recent revenue projections for Davis-Besse than January?
 - A. No.
- Q. Thank you. Now, when FES uses the
 FirstEnergy Service Company model to project future
 revenues, it uses an energy price forecast of its
 own, correct?
- 25 EXAMINER PRICE: Could I have that

1596 question back, please? 1 2 (Question read.) 3 If FES wants to run its projections on Α. 4 the plant, it will absolutely use what it believes to 5 be as the inputs for that forecast. So FES has an internal energy price 6 7 forecast, correct? 8 Α. Yes. 9 0. And that forecast extends out at least 20 10 years; is that correct? That's correct. 11 Α. 12 Q. And FES also has a capacity price 13 forecast that it uses in projecting the costs and 14 revenues of its plants, correct? 15 THE WITNESS: May I have the question 16 read back, please? 17 (Question read.) 18 Yes. Α. 19 And that forecast extends out at least 15 Q. 20 years, correct? 2.1 Α. That's correct. 22 And, Mr. Lisowski, you don't know who Q. 23 specifically within FES develops those energy and 24 capacity price forecasts, correct? 25 Α. I know there are a number of individuals

that get involved at FES when FES needs to do a long-term price forecast for energy and capacity. Many of its leadership team members, in fact, Business Development may get involved, our chief risk officer of the company may get involved, so there's a number of people that may get involved associated with that energy price forecast. I don't know the specific individual that may hold it, but when one is done, many of those folks will have access to it.

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- Q. Thank you. You personally don't have a role in developing those price forecasts, correct?
- A. When you say "role," I'm not an active participant in running those types of models. I may sit in some meetings. I may receive the output of it. I may get questions to help assist with it, but I would not be one of the people that approves it in that regard.
- Q. And is Donald Moul one of the individuals involved in developing those price forecasts?
 - A. I believe so, yes.
- Q. And FES also has a forecast of future carbon prices that it uses when projecting the costs and revenues of its plants?
 - A. That's correct.
 - Q. Now, I believe earlier you stated in

August of last year you prepared a long-term cost and revenue projection for Sammis and Davis-Besse; is that correct?

MR. ALEXANDER: Objection. Just to clarify, are we referring to the forecast in his testimony or the forecast also from last year for FES?

EXAMINER PRICE: Will you clarify?

- Q. (By Mr. Soules) Sure. Just stepping back, just to confirm, the projections associated with your testimony were prepared prior to August of 2014, correct?
 - A. That's correct.

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- Q. Okay. And in August 2014 you also prepared a long term cost and revenue projection for Sammis -- for the Sammis units, Davis-Besse and the OVEC entitlement, correct?
- A. That's correct using FES's internal energy and capacity forecasts and fuel forecasts which I believe we did provide to the Sierra Club under a subpoena response.
- Q. Thank you. If I refer to that, those August 2014 projections, simply as the August 2014 projections, you will understand what I mean?

MR. ALEXANDER: Your Honor, I would

actually object to that clarification. We refer to those as the FES projections, just so the record is clear, because the testimony was also filed in 2014, I don't want the record to be unclear.

EXAMINER PRICE: I think calling it FES projections makes more sense.

MR. SOULES: Okay, great. Thank you, your Honor.

- Q. (By Mr. Soules) And so the FES projections used the exact same dispatch model you used for your testimony, correct?
- 12 A. Yes.

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- Q. And those projections used the internal FES energy price forecast, correct?
- 15 A. That's correct.
 - Q. And those projections used the internal FES capacity price forecast, correct?
 - A. That's correct.
- Q. And those projections used the internal carbon price forecast, correct?
- A. That's correct.
 - Q. So the FES projections did not rely on any of Judah Rose's assumptions, correct?
- A. No, they did not, and that's because FES, running its own forecasts and projections, wants to

use what it believed to be the most accurate for it.

Q. Do you know if FES has updated its energy price forecast since August of 2014?

THE WITNESS: May I have the question read back please?

EXAMINER PRICE: Please.

(Question read.)

- A. Do I know? Yes. Do I -- Your question was do I know have they? I know the answer to that question.
- 11 Q. And could you please tell me what the answer of that question would be?
 - A. No.

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- Q. Do you know if FES has updated its capacity price forecast since August of 2014?
- A. Do I know? Yes. And no, they have not.
- Q. Thank you. Does the same hold true for FES's carbon price forecast?
- A. Do I know? Yes. And no, they have not updated it.
- Q. Thank you. And Mr. Lisowski, earlier you mentioned a Sierra Club subpoena, correct?
 - A. Earlier I mentioned one of the subpoenas from the Sierra Club.
- Q. Okay. And at a deposition in December of

2014, were you identified as a witness for FES for purposes of that deposition?

A. That's correct.

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Q. But here today you're only testifying on behalf of the companies, correct?

MR. ALEXANDER: Objection to the extent it calls for a legal conclusion, particularly since counsel just spent the last half hour asking about the FES updates since this period. I do not think he's qualified to answer.

EXAMINER PRICE: We will sustain the objection to the extent you're asking for a legal conclusion.

Go ahead and answer.

THE WITNESS: Can I have the question repeated?

(Question read.)

- A. I'm not an attorney, so I don't know how to answer that question.
- Q. (By Mr. Soules) Okay., fair enough.

 Thank you. With regards to the forecast that Judah

 Rose provided for purposes of the projections he

 created, you were not the person who decided to use

 Judah Rose's assumptions, correct?
 - A. No, I was not the one that selected

Mr. Rose.

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- Q. And you don't know who made the decision to select Mr. Rose, correct?
 - A. No, I do not.
- Q. Okay. And you were not involved in any discussions about whether to use Mr. Rose's assumptions versus FES's internal assumptions, correct?
- A. I was not involved in any of those discussions, and I do not have any issue with using Mr. Rose's projections in this case.
- Q. Thank you. Mr. Lisowski, are you familiar with the phrase "legacy cost components"?
 - A. I am.
- Q. And for purposes of this proceeding, legacy cost components are all costs that arise from decisions or commitments made and contracts entered into prior to December 31, 2014, including any costs arising from provisions under such historic contracts that may be employed in the future. Is that correct?

MR. ALEXANDER: Objection. If we are going to ask the witness about a phrase from a term sheet, we should mark it as an exhibit.

MR. SOULES: I was actually --

EXAMINER PRICE: You can respond.

Respond to me, but not to him. You can respond.

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MR. SOULES: I was actually quoting from Ms. Mikkelson's direct testimony.

EXAMINER PRICE: I understand.

Do you understand the question?

A. I think so. I know that we had a discovery response where we defined the term "legacy cost component," so I would prefer if we could use it as an exhibit so I could refer to it in answering the question fully.

MR. SOULES: I think that phrase was actually defined in Ms. Mikkelson's testimony, not in a discovery response. Is there any chance that there's a copy of, I think it's Companies Exhibit 7?

MR. ALEXANDER: To move things along, we will stipulate to whatever is in Miss Mikkelson's testimony's definition.

MR. SOULES: Okay.

EXAMINER PRICE: But does he understand what was in Ms. Mikkelson's testimony? That is the issue.

MR. ALEXANDER: I guess that may be the next question, your Honor.

EXAMINER PRICE: Why doesn't the company provide the witness with a copy of Company Exhibit 7

and then he can refer to it and will move things along better than a bunch of questions.

MR. ALEXANDER: May we have a moment, your Honor?

EXAMINER PRICE: You may.

MR. ALEXANDER: Your Honor, it's been an hour and a half. Would it make sense to take the break while we locate the exhibit?

EXAMINER PRICE: Yes, take ten minutes.

(Recess taken.)

EXAMINER PRICE: Let's go back on the record, please. Proceed.

- Q. (By Mr. Soules) Mr. Lisowski, do you have a copy of Companies Exhibit 7 in front of you?
 - A. Yes.

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- Q. And if I could direct your attention to page 14 of that exhibit, lines 10 through 12.
 - A. Okay.
- Q. Do you understand that definition of legacy cost components as stated in those lines of testimony?
 - A. Yes.
- Q. Okay. And so the companies are proposing that all legacy cost components incurred up through December 31, 2014 will be reviewed and approved by

1605 1 the Commission in this proceeding; is that correct? 2 THE WITNESS: I'm sorry, may I have that 3 question read back, please? 4 (Question read.) 5 MR. ALEXANDER: Objection. 6 EXAMINER PRICE: Grounds? 7 MR. ALEXANDER: Beyond the scope of this 8 witness' testimony. And just to be clear, I do not 9 object to asking the witness about legacy cost 10 components with regard to the numbers, but I do object with regard to the proposal made by the 11 12 companies as that was addressed by company witness 13 Mikkelson. 14 EXAMINER PRICE: I think that question 15 was just foundational, and he will be getting to the 16 numbers next; is that correct? 17 MR. SOULES: That's correct. 18 MR. ALEXANDER: You can go ahead and 19 answer the question. 2.0 Α. I don't know the answer to that question. 2.1 (By Mr. Soules) Mr. Lisowski, have you 22 been asked to identify the legacy cost components

that are the subject of the Commission's review in the proceeding?

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Α. Yes. And that listing has been provided

to the intervenors, and it's my understanding that the intervenors had the ability to review any or all of those contracts in detail if they so wished.

MR. SOULES: Your Honor, may we approach the witness?

EXAMINER PRICE: You may.

MR. SOULES: Your Honor, could we have this document marked as Sierra Club Exhibit 26?

EXAMINER PRICE: It will so marked.

(SIERRA CLUB EXHIBIT 26 MARKED FOR

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- Q. (By Mr. Soules) Mr. Lisowski, you have just been handed a response to discovery request

 Nucor, Set 1, INT-38. Are you familiar with this discovery response?
- 16 A. Yes.
 - Q. And are you one of the sponsoring witnesses for this discovery response?
 - A. With Eileen Mikkelson, that's correct.
 - Q. Thank you. Mr. Lisowski, if you could look at subpart A of this request and the response to that. Were you responsible for responding to that portion of the request?
 - A. The response here refers to responses in another response as noted at the bottom. You just

provided me INT-38. I do not have in front of me INT-21 or OCC Set 1 or OCC Set 2- INT-4 which is the response.

- Q. I agree with you. Just for present purposes, I'm just asking if you were responsible for responding to subpart A of this interrogatory?
 - A. Yes.
 - Q. Okay. Your Honor, may we approach?

 EXAMINER PRICE: You may.
- MR. SOULES: Your Honor, may we have this
 marked Sierra Club Exhibit 27.
- 12 EXAMINER PRICE: It will be so marked.
- 13 (SIERRA CLUB EXHIBIT 27 MARKED FOR
- 14 IDENTIFICATION.)

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- Q. (By Mr. Soules) Mr. Lisowski, you have been handed a response to discovery request OCC Set 1-INT-21. I recognize that you are not the sponsoring witness for this response, but are you familiar with this document?
 - A. Yes, I'm familiar.
- Q. And did you rely on this discovery response, in part, in responding to Nucor Set 1, INT-38, subpart A?
- A. It was one discovery response that was relied on

- Q. Okay. Thank you. Would you agree that OCC Set 1-INT-21 does not ask for a complete list of the legacy cost components?
- A. I'm sorry, may I have that read back, please?

(Question read.)

A. Yes.

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- Q. (By Mr. Soules) And would you agree that this interrogatory does not ask the companies to identify the cost of each legacy cost component?
 - A. Yes.
- Q. Okay. If we could turn back to Sierra Club Exhibit 26, the Nucor interrogatory, if you could look at subpart B, were you responsible for responding to this subpart of the interrogatory?
- A. I believe so. I haven't memorized every single acronym to what I produced, but I believe so, but I would need to see it to confirm that.
- Q. Okay. Would you agree that the response to subpart B only refers to SC Set 2-INT-74 and no other information?
- A. Correct. I do not know what the response was for SC Set 2-IN2-74, so there may be additional documents referring to other document here, but I believe the answer is yes.

Q. Thank you.

MR. SOULES: Your Honor, I have nothing

3 further for the witness.

EXAMINER PRICE: Thank you.

Let's go off the record.

(Discussion off record.)

EXAMINER PRICE: Back on the record.

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10 CROSS-EXAMINATION

11 By Ms. Hussey:

- Q. Good morning, Mr. Lisowski.
- A. Good morning.
 - Q. Could you turn to page 2, line 8 of your testimony, please. Did you testify there that you used the categories to have costs proposed to be used in transaction between the companies and FES as a starting point for the estimates you're sponsoring; is that correct?
 - A. That's correct.
 - Q. Did you personally propose that certain categories of costs that are included in the version of the term sheet that's been submitted to the parties be included in the transaction?
- A. As a member of the FES team, that was

something that was discussed with the EDU teams in those meetings, so I was a part of those discussions.

- Q. Okay. And did you personally propose any of the terms of the categories of items that appear in the term sheet today?
- A. I don't recall specifically myself proposing any of those specifically. I was involved with discussing each of those as part of those meetings.
- Q. Okay. Thank you. And on the same page of your testimony, page 2 at line 10, you testified that you used FES's internal cost projections. For clarity's sake you're talking about FES's internal cost projections for each of the plants; is that correct?
 - A. That's correct.
- Q. On page 3 at line 8, you testified that the starting balances for net book value and similar cost items used the most recent cost data for each of the plants as recorded by FES. Is that accurate?
 - A. Yes.

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Q. And you state that the starting balances are regularly recorded based on generally accepted accounting principles. Could you explain what "regularly recorded" means in your testimony?

- A. Absolutely. Regularly recorded are items that in my normal day-to-day responsibilities in my position that we account for, we track or for things that, perhaps, we even forecast for. As my testimony lays out, my responsibilities, I have a lot of accounting and financial responsibilities, so things like this for the net book value, those are things that we regularly track, review, report and view on a monthly basis.
 - Q. On a monthly basis you said?
- A. In regards to net book value, on a monthly basis, yes.
- Q. Okay. Thank you. So how recently has the cost data for each of the plants -- if I say the plants, I'm sorry, let me back up for a second. If I say the plants, you understand I'm talking about the OVEC entitlement and then the Davis-Besse station as well as the Sammis plant?
 - A. Yes.

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- Q. Okay. How recently has the cost data for each plant been updated?
- A. Well, if you mean by updated, the costs were the most recently available costs that we had at that time. Since my testimony, if there's any revisions to the costs, we would have provided those

through responses. But this was the most recent cost data that was used in my forecast.

- Q. Okay. But cost data has been recorded on a monthly basis since the time that your testimony was advanced or filed?
 - A. Well, if you mean --

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MR. ALEXANDER: Your Honor, could I have that question reread, please?

EXAMINER PRICE: You may.

(Question read.)

- A. So on a monthly basis, FES closes its books and records any costs that were incurred in that month. That's actual costs that were incurred in that month. We are talking about here with my forecast is a projection of that future cost in the future, so I'm not sure I understand exactly your question.
- EXAMINER PRICE: In the months since you filed your testimony, you have not updated your forecast with any actual data, have you?
- 21 THE WITNESS: That's correct.
- MS. HUSSEY: Thank you. I appreciate that.
- Q. (By Ms. Hussey) And you talk about future costs at page 3, line 14, if you'd turn your

attention there. You say that for future costs, including operation and maintenance expenses and capital expenditures, your attachments use FES internal cost projections for the plants. Did I read that accurately?

- A. Yes, you did.
- Q. Okay. Thank you. And you testified these projections are made and kept in the regular course of business; is that correct?
 - A. Yes.

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- Q. By whom?
- A. There's a large number of people at FES and within FirstEnergy generation that are involved with that. We discussed a little bit earlier things like the nuclear fuel. There's a whole entire organization within FirstEnergy Nuclear that's responsible for that. That's one example.

There's a number of engineers, project managers, operators, analysts at the sites, at each of these plants that would be involved in this, and there's a lot of people in support organizations for FES and FES generation that would be providing input.

Q. Okay. And are there groups specifically aside from I believe you mentioned FENOC, groups within FENOC, are there other groups within FES that

are specifically dedicated to this purpose or that you can recollect contribute in a meaningful way?

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A. Yes. Another group would be our business services group, which is actually in my organization personally. This group includes accountants and financial analysts that are responsible for the O&M and capital for their individual stations. They're actually physically located at the plants.

Their responsibilities, which they are reviewed against, quite frankly, for performance ratings each year are around the accuracy of these forecasts. So it's their responsibility to work directly with their site. If it is a fossil plant, the fossil leadership. If it's a nuclear plant, the nuclear leadership, to ensure that those cost projections are the most accurate and complete forecast that they can come up with.

- Q. And are you familiar with the individuals who would have filed testimony on behalf of the companies in this proceeding, generally?
 - A. Some, I'm generally aware of; others, no.
- Q. Okay. Are you aware of any -- of whether any of the individuals testifying at this hearing specifically would have contributed to those projections?

A. One example earlier would be Mr. Harden we talked about with the nuclear fuel group. That would be one example.

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- Q. Do you have any other examples?
- A. Another group that we work with very closely is the environmental group which Mr. Evans is responsible for.
- Q. I know I mentioned Mr. Moul earlier in the context of a price forecast, I believe, or energy or capacity price forecast. Would this be the same for cost forecasting, aside from fuel?
- A. No, I believe Mr. Moul's responsibilities of costs in this regard would be primarily related to just the fuel.
- Q. Okay. Thank you. On page 3 at line 17, you testify that FES's forecast for O&M and capital are derived from a base level of maintenance and operations levels. I wondered who determines the base level of maintenance and operation levels for Sammis?
 - A. There's a number of people as --
 - Q. I'm sorry, go ahead.
- A. There's a number of people as we just talked about. There's fossil leadership. There's individuals at the sites. There's financial analysts

and accountants that get involved. There's a large number of people that would be looking at these types of costs as well as these type of operational inputs, if you will.

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- Q. Okay. If I could back up for just a second. Could you share with me what your definition of "base level of maintenance and operations levels" means as used in your testimony?
- A. Yes. So in the inputs on the model, through 2018 we have a very good forecast at a very granular level of what these plants are going to be spending, where they're going to be spending it, what their very specific outages are going to entail. We require that throughout FES working with all the individuals we just talked about.

Beyond 2018, since FES does not have that, we have to come up with a forecast. So working with many of these same folks, we come up with a projection of what do we think -- what does a normal routine outage schedule look like.

So every three years, you may do this activity at the plant on the turbine, on the generator, something like that based on best practices. History has told us what that cost is, so we used that as a basis for coming up with what that

plant outage spend would be. Same thing with Davis-Besse. So that takes care of really all of the planned outages for these facilities. That's included in my forecast projections, both the O&M and the capital.

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In terms of everything else, though, for a base level for everything that's non-outage related, we come up with a base level of spend. That base level of spend, we also work with these same folks that come up with that.

We inflate that each year. We know costs are going up, there will be a general wage increase, things like that. So we include a 2, 2.5 percent inflation rate. That base level spend then will cover all the other costs that occurred during that period, both environmental costs, nonenvironmental costs, if something needs to be repaired.

We don't know what may need to be repaired in 2023, but history has told us that the sites are very comfortable with that and the leadership team at FES and FEG, are very, very comfortable with those assumptions because, quite frankly, history has told them what things typically break, what it costs, and then the sites have always been able to manage those costs that occurred.

Q. So it's base level of maintenance and operation levels assume that the plants will be running during that period of time absolutely?

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- A. My forecast assumes that these plants will operate until May 31, 2031.
- Q. You referred to some individuals and groups earlier with regard to who determines base level of maintenance and operation levels for the different plants, and I wondered if you obtained the information used to derive the cost forecast for O&M and capital from those individuals?
- A. Can I have that question read back, please?

EXAMINER PRICE: Please.

(Question read.)

- A. Yes, we work directly with those individuals that I referred to earlier to come up with all those projections I just discussed.
- Q. Okay. And they would have directly supplied you with the information?
- A. If you mean directly supplied, they worked directly with me, my team, to come up with those projections.
- Q. Okay. Thank you. You also testified that FirstEnergy Solutions costs forecasts for O&M

and capital are derived in part from forecasts and outage schedules based on assumptions coordinated with fossil and nuclear operations at page 3, line 18; is that correct?

A. That's correct.

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- Q. Can you explain what these assumptions are that you referred to?
- A. Yes, I believe I explained in a little more detail earlier in very high-level terms, we work with people at the plants, a lot of engineers to look at what the typical outages look like and we project those all out individually unit by unit based on historically what is needed during an outage.

out very, very far. A history shows what that spend would typically look like, so we use that, rely on that, and we know that the plants are going to use outages, and we know that outages are going to require costs. And so all those costs are already in my numbers. That's part of my forecasts, but that covers all of the outage spend, as well as, quite frankly, that the outage duration, when those outages will occur, that's also input into the dispatch model as well. So it's both the costs as well as the operational constraints of those outages.

Q. And those are all built into the model?

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- A. The outage frequency duration, those operational constraints that are internal, those are actually input into the model. So if there's an update, we would update that. So it is not something built into the algorithms, if you will, but it is a part they put into the model.
- Q. And the update you just spoke of, would that occur on an as-needed basis or would there be a number of, say, outages that might occur before an update would occur in the model? How does that work?
- A. It's been my experience that outage schedules and when outages are required for a long term duration typically do not change very often, very much because of all of that engineering operational, you have to do the same outage every three years, that kind of stuff.

So that stuff doesn't typically change. In the event that it was changed, that would have been an update that would have been done at some point in time into the model.

- Q. How about assumptions for forced outages?
- A. Forced outages through 2018, we have a very, pretty detailed level of forecasts and assumptions that I've come up with working with the

generation leadership teams, the sites, same type of people we talked about before. Beyond 2018, we had to come up with something new -- or I shouldn't say something new, something because it wasn't already available. So we worked with those same folks who come up with what we expect at the EFOR, forced outage rates beyond 2018.

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- Q. Okay. And a year has elapsed since the time that my understanding you were in the model, a gateway to the results that you have included in your testimony. Have any of your assumptions with regard to forced outages changed such that you changed that in the model today if you were to run it again?
- A. No, I do not recall any significant changes to the assumptions around EFOR for the Sammis units or for Davis-Besse, or OVEC, for that matter.
- Q. Thank you. And page 3, line 19, you testified that your cost forecasts for O&M and capital reflect the output of the fuel and variable O&M costs associated with the dispatch model. Can you explain that statement?
- A. Yes. So these items are costs that plants would incur based on their generation. If they generate more, they're going to consume more fuel, either coal, uranium, reagents, things like

that.

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So we have to come up with the costs associated with these type things. We have to rely on our dispatch model. Our dispatch model we talked about earlier has a variable component to it to determine how plants will dispatch.

An output of that model then is also what these fuel costs would be. So if the plant -- I take both extremes, if the plants run very, very hard, run a lot of megawatt hours and generate more megawatt-hours, there's going to be more of a fuel and variable O&M costs that the plant would incur. Likewise, if the plant runs less, that cost, the variable O&M cost would be lower.

Q. On the following page, page 4, you testify about OVEC costs and revenues were incorporated into your analysis, and that FES has provided for a 20-year forecast included in the cost projections for fuel, O&M and capital from OVEC.

To your knowledge -- I realize you answered a few questions about this previously -- but did the forecast break out cost by unit?

- A. No, it did not.
- Q. And to your knowledge, did FirstEnergy Solutions ask for that information, that kind of

broken-down information?

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- A. I personally have not asked for that. I do not know if anyone at FES has.
- Q. Did you direct anyone to ask for that information?
 - A. Not that I recall.
- Q. Okay. Thank you. So it's my understanding that you used OVEC's fuel and O&M and capital cost projections and put those values into FirstEnergy's Solutions dispatch modeling system, correct?
- A. The O&M and the capital component of the OVEC forecast would not have an impact on the dispatch model; however, the fuel costs would. And later in my testimony there on that same page and several lines below, 6 through 8, we talk about that because OVEC did not include a carbon projection in their forecast, we needed to layer that in using Mr. Rose's assumptions that you provided me.
- Q. Okay. But you did use OVEC's fuel projections rather than Mr. Rose's in the model?
- A. That's correct, and the fuel cost was on a variable cost basis, because, again, the fuel cost is dependent on the output of the units. So OVEC may be assuming the units run slightly different than how

we project using our dispatch model.

- Q. Page 5, line 8, you discuss ancillary revenues related to the plants. And you explain they were based on the actual historical revenues for the plants and then they were adjusted for inflation; is that correct?
 - A. Yes.

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- Q. Which year or years of actual historical ancillary services revenues did you use in making this calculation?
- A. I believe we went back about four years. We did exclude the ancillary revenues these plants earned during the polar vortex because those we felt were high in that year and we didn't want to overstate our ancillary revenue forecast, so we looked at kind of a more call it typical from what we saw over the last several years.
- I'll direct you, you can see the ancillary revenues are a separate line item in my attachments, that you can see what we projected there.
- Q. Thank you. You were talking with Mr. Soules earlier about the FES energy price forecast and capacity price forecast. Do you recollect that conversation?

A. Yes.

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- Q. Okay. And I believe you testified that you don't know who in FirstEnergy Solutions specifically develops the energy capacity price forecasts, but that the Business Development Group would have been involved somehow; is that correct?
- A. Not exactly. I believe what I stated earlier was there's a large number of individuals at FES that are involved in that. Additionally, Business Development is involved providing support to ensure what FES is assuming seems to be reasonable, if you will, to them, as well as their chief risk officer who also gets involved with that as well.
- Q. Okay. So Business Development provides support, I believe you just said, to kind of review and see if what the results were seemed reasonable to them? Could you just confirm that for me or correct me if I misstated what you said?
- A. Yes, the Business Development will get involved to assist FES in the creation of its long-term energy and capacity forecast, as well as their chief risk officer for FirstEnergy.
- Q. Okay. Do members of the Business

 Development Team have some special expertise in developing energy or capacity price forecasting?

A. I've never completed an assessment of those individuals and looked at their backgrounds individually to opine on that.

MS. HUSSEY: Okay. Thank you. I have no

EXAMINER PRICE: Thank you.

further questions in the public record.

MR. MICHAEL: OCC will go, your Honor.

EXAMINER PRICE: A volunteer, all right.

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CROSS-EXAMINATION

By Mr. Michael:

- Q. How are you, Mr. Lisowski?
- A. Very well. Thank you.
 - Q. Good. Is the 2006 deferred prosecution agreement between FENOC and United States one of the contracts included in the legacy costs?
 - A. I don't recall.
 - Q. So it may be one of the contracts included in the legacy costs?
 - A. If you have that contract on hand, I'd be more than happy to take a look at it and see if I am able to answer your question.
 - Q. But you were responsible, you testified earlier, for identifying contracts that would be included in the legacy costs, right?

1627 1 Α. That's correct. 2 Q. If you saw the contract, that would 3 refresh your recollection as to whether or not that 4 is one of the contracts included in the legacy costs, 5 right? I would need to see the contracts to make 6 7 that determination. 8 MR. MICHAEL: May we approach, your Honor? 9 10 EXAMINER PRICE: You may. MR. MICHAEL: I'd ask to have it marked, 11 12 your Honor, as OCC Exhibit 6. 13 EXAMINER PRICE: It will be so marked. (OCC EXHIBIT 6 MARKED FOR 14 IDENTIFICATION.) 15 16 MR. ALEXANDER: Your Honor, to clarify the record, are we marking or refreshing 17 recollection? 18 19 MR. MICHAEL: We're going to mark it. 2.0 THE WITNESS: May I have a minute to read 2.1 this document? 22 MR. MICHAEL: Of course. Take your time. 23 MR. ALEXANDER: Your Honor, is there a 24 question pending? 25 EXAMINER PRICE: He gave him time to

1628 familiarize himself with the document. 1 2 MR. MICHAEL: I'm sorry, your Honor? 3 EXAMINER PRICE: You were giving him time 4 to look at the document. 5 MR. MICHAEL: That's correct, your Honor, which he asked for. 6 7 MR. ALEXANDER: Your Honor, for purposes 8 of the record, I'm going to object. There is a 9 discovery response from Mr. Lisowski that has a 10 comprehensive list of all such contracts. I think 11 that would be a much fairer way of allowing 12 Mr. Lisowski to determine if any specific contract is 13 included in the legacy costs components, if you would 14 allow him to see that response. 15 MR. MICHAEL: If he would like to access, 16 he can, your Honor. I have no problem with that. 17 MR. ALEXANDER: The only issue with that 18 is that list is confidential. That would have to wait until the confidential session. 19 2.0 MR. MICHAEL: Could I reask my initial 2.1 question before he looks at the document? Perhaps he 22 recalls that is one of the contracts included in 23 the legacy costs. 24 EXAMINER PRICE: Yes.

MR. MICHAEL: Thank you your Honor.

- A. I would prefer to compare it to that list to ensure whether it is or is not the case.
- Q. As you sit here now, do recall whether or not the preferred prosecution agreement is one of the costs included in the legacy costs?
- A. I prefer not to speculate. I'd prefer to check since we do have the document here.

MR. MICHAEL: We will save that, I guess, your Honor, for the confidential portion.

Thank you, Mr. Lisowski.

- Q. Are the subcontracts associated with the \$426 Sammis retrofit included in the legacy cost?
- A. When you are referring to the \$426 million retrofit, are you referring to a specific document?
 - O. I am not.

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- A. The capital costs that Sammis incurred associated with the air quality control system is part of the capital cost reflected in my workpapers, which rolls into my forecast, so all of the capital costs associated with air quality control systems and everything else related to the Sammis plant is already included in my forecast, as well as projected future spend associated with those units.
 - Q. Okay. The full value of those retrofits

or the depreciated value?

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- A. It would be the depreciated value.
- Q. Mr. Lisowski, there were no customers of the companies on the EDU team, correct?
- A. I do not know the employer of each and every individual that was on the EDU team.
- Q. Okay. My question was, were there any customers of the companies that were a member of the EDU team?
- A. I do not know who the electric utility is of each of those individuals on the EDU team. There very well may have been.
- Q. Okay. You testified earlier as you went back and considered your involvement with the EDU team that one of the reasons for the EDU team was to negotiate contracts to make them advantageous to customers, correct?
 - A. That's correct.
- Q. Okay. And my question were there actually any customers on the EDU team that could represent what they felt was advantageous to them?
- MR. ALEXANDER: Objection, asked and answered.
- 24 EXAMINER PRICE: Overruled.
- 25 A. The members of the EDU team, they may

have been a customer of the utilities. I don't know that for a fact. I don't know where they each lived and who their electric utility service providers were.

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- Q. Okay. So the companies didn't ask Ohio Consumers' Counsel to participate in any way, shape, or form in negotiating that transaction, correct?
 - A. I don't know if they did or did not.
- Q. To your knowledge, they didn't, though, correct?
- A. To my knowledge I do not know if they did ask Ohio Consumers' Counsel to be involved or did not. I don't know either way.
- Q. So to your knowledge, they did not form any sort of collaborative to get input on the degree to which the proposed contract was advantageous to customers, correct?
- A. I was involved on the FES team, not the EDU team, so I do not know what discussions the EDU team had as they were preparing for those meetings or having outside of those meetings.
- Q. Okay. So to your knowledge they didn't form any sort of collaborative to see whether or not the proposed transaction was advantageous to customers, correct?

1632 1 MR. ALEXANDER: Objection, asked and 2 answered. 3 EXAMINER PRICE: Sustained. 4 You asserted earlier, Mr. Lisowski, that Q. 5 Mr. Rose was an expert, and you made that assertion 6 because you were told he was an expert, correct? 7 No, that's not correct. Α. 8 What did you do to evaluate whether he 0. 9 was an expert? I did a couple things. One is I looked 10 Α. at his background. I reviewed his resume. I 11 12 reviewed all of the data that he provided in his 13 testimony, his attachments and his workpapers. 14 Looking at all of those, it was my opinion that he 15 was an expert in his field. 16 You're not an expert on determining who 17 is an expert in his field, right? 18 MR. ALEXANDER: Objection, argumentative. 19 EXAMINER PRICE: Sustained. 2.0 Q. You said one of the things you looked at 2.1 to determine if he was an expert was his inputs that 22 he provided for purposes of the dispatch model, 23 correct? 24 That was one item that I looked at in Α. 25 addition to many, many other things that I looked at.

Q. Okay. But you testified earlier you can't say whether those inputs were reasonable, right?

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- A. I had no reason to believe that they were not reasonable based on his background and based on my opinion that he's an expert.
- Q. Okay. But you, yourself could not conclude that those inputs were reasonable, correct?
- A. I, myself, have never run a model to project what energy and capacity prices would be, so I did not do something like that to review his work. I had no reason to do that. I accepted what he provided me based on his background and based on his testimony, on is attachments and his workpapers.
- Q. Okay. What in his background leads you to believe that he's an expert on projecting energy prices?
- A. I looked at his resume. I looked at his background, and I looked at all of the various aspects that he considered and looked at his inputs, if you will, into him coming up with his energy and capacity forecasts.
- Q. Okay. What in his background did you look at to conclude that he was an expert on capacity prices?

- A. I looked at the varying educational background that he had. I looked at the responsibilities that he has had over his career. I looked at the various positions that he has held, as well as looking at the companies that he has also been involved with.
 - Q. As an expert witness?

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- A. I did not focus when I was looking at his background on which companies he was an expert witness for. I look at it in total, and I looked at all the different things that he has been involved with in his career.
 - Q. Okay. What's his educational background?
- A. I would prefer to have his testimony in front of me. I don't recall specifically where he went to college and the specific names of things like that.
 - Q. Okay. What companies did he work for?
 - A. ICF is one of them.
 - Q. His current employer?
- A. I believe that's correct.
- Q. Okay. So you're asserting that Judah
 Rose is an expert because, in part, he's employed by
 ICF: is that correct?
- 25 A. My personal opinion is that ICF is a

credible organization that is out there that can be relied on for its energy and capacity forecasts.

With him being involved with that company, I have no

reason to doubt that he is not credible or an expert.

- Q. Even if he is an expert, Mr. Lisowski, he can still be wrong, right?
- A. Yes. And I see no reason for me to believe that he would be wrong as I sit here today.
- Q. Okay. You're aware he was wrong when he projected the (redacted) energy and capacity,
- MR. ALEXANDER: Objection. Objection.
- 13 EXAMINER PRICE: Don't answer that.
- MR. ALEXANDER: Your Honor, I move to
- 15 strike that question from the record.
- 16 EXAMINER PRICE: Grounds?
- MR. ALEXANDER: It's confidential.
- 18 EXAMINER PRICE: I agree with that.
- 19 Don't answer that.

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- MR. MICHAEL: Your Honor, I apologize.
- 21 EXAMINER PRICE: Off the record.
- 22 (Discussion off record.)
- 23 EXAMINER PRICE: Let's go back on.
- Q. (By Mr. Michael) On your dispatch model,
- 25 Mr. Lisowski, did you run any sort of sensitivity

analysis on it?

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- A. No. I did not need to because of the reasons Mr. Rose discussed over the last two days, that his model is developed on a probability basis, so there was no reason to run it on a sensitivity. Additionally, he provided me one set of inputs that I used for the dispatch run.
- Q. Okay. But I'm asking about your dispatch model, not Mr. Rose's model. Okay? Did you perform a sensitivity analysis on your dispatch model?

MR. ALEXANDER: Objection, asked and answered.

EXAMINER PRICE: Overruled.

A. No. I did not need to run a sensitivity analysis for two reasons. One, I was only provided one set of inputs to be used in the dispatch, so there's no way to even run another scenario, sensitivity, to your point.

Third, I didn't believe it was necessary to run a sensitivity analysis additionally because of the reason that there was a sensitivity analysis through using probability basis of the inputs which are directly input into this dispatch model.

Q. But there are inputs into the dispatch model in addition to what Judah Rose provided to you,

1 correct?
2 A. Yes, there are additional inputs beyond
3 what Mr. Rose provided me for dispatch model, that's
4 correct.

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Q. Just to be clear, Mr. Lisowski, you did not run a sensitivity analysis as it relates to those inputs?

EXAMINER PRICE: Don't answer that.

MR. ALEXANDER: Objection.

EXAMINER PRICE: One at a time. I understand you have an objection.

MR. FISK: Your Honor, I wasn't able to cut in, but I wanted to go back to the question about whether he did a sensitivity and strike everything beyond "no" as unresponsive.

EXAMINER PRICE: Overruled.

What are your grounds for your objection?

MR. ALEXANDER: Asked and answered. For second, he started his answer "no" and then explained why the question didn't make sense.

EXAMINER PRICE: Let's have the question back.

(Record read.)

MR. ALEXANDER: Object.

EXAMINER PRICE: Sustained.

1 Ο. (By Mr. Michael) Mr. Lisowski, you 2 understand the dispatch model well enough to know 3 whether it is producing accurate results, right? 4 Α. Yes. 5 0. And in order to do that, you need to understand the inputs, correct? 6 7 Α. I would need to have a general 8 understanding of those inputs, and I can rely on the 9 person providing me these inputs when I run the dispatch model. 10 Okay. And you need to understand the 11 Ο. 12 assumptions, correct? 13 Α. Not in great detail would I need to 14 understand all of the detailed assumptions behind 15 coming up with the energy/capacity forecasts. 16 And you need to understand whether or not Ο. 17 the outputs fit with the inputs, correct? 18 Α. Could you clarify for me what you mean by 19 the "inputs fit with outputs"? 2.0 Q. Let's use your words during your recent 2.1 deposition, if we can, Mr. Lisowski. 22 MR. MICHAEL: May we approach, your Honor? 23 24 EXAMINER PRICE: You may. 25 MR. ALEXANDER: Your Honor, I don't

believe this is proper impeachment. If counsel wants to provide a definition, he's certainly able to do that. It is not proper to impeach when there's been no response to impeach.

MR. MICHAEL: Your Honor, I think once we put the testimony in front of him and the Q and A that I just went through, I think your Honor will see that his answer during the deposition is very different than the one he just gave.

EXAMINER PRICE: Go ahead.

- Q. (By Mr. Michael) You recall having your deposition taken in this matter, right, Mr. Lisowski?
 - A. Yes.
- Q. And you have a copy of the transcript of that deposition, correct?
 - A. Yes.
- Q. If I could draw your attention to page 22, please, line 21.
 - A. Okay. I'm there.
 - Q. Okay. I'm going to start at line 21.

"Okay. And would you -- would you understand how to evaluate the model itself in terms of whether it's producing good results?

"What do you mean by good results?

"Well, accurate results."

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Answer: "Accurate, yes."

Question: "Okay. What would you do to

3 verify?"

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Answer: "There's a number of steps that would be involved, understanding the inputs that are being included in there, understanding assumptions that are being included in there, and then understanding the outputs as they appear to fit with those inputs."

Did I read that correctly?

A. Yes, you read that correctly, and that's not inconsistent with the answer I just provided you.

EXAMINER PRICE: You should let your counsel argue the merits on the impeachment.

THE WITNESS: Yes, sir.

MR. ALEXANDER: Your Honor, I'd like to take that opportunity. The question which impeaches was, Can you provide what you mean by "fit with"? So there's no inconsistency between asking for a definition and what was provided in that response.

MR. MICHAEL: Your Honor, I was impeaching him on the three questions I asked him about understanding the inputs, understanding the assumptions, and then understanding the fit. And Mr. Lisowski hedged, to use a charitable word, on

whether he needed to understand the inputs, whether he needed to understand the assumptions. There's no hedging in his deposition testimony.

MR. MICHAEL: Thank you, your Honor.

- Q. (By Mr. Michael) Now, Mr. Lisowski, in order to understand the inputs to be able to come to some conclusion about their reasonableness, correct?
- A. There are a couple of things you would need to understand the inputs. One, you need to understand are the inputs energy prices for this plant at this node, or is it an energy price forecast for something on a completely different area of the country. That would be one way you need to understand the inputs.

You would need to understand there are the inputs being provided in a format that I can use for my dispatch model. That would be another way I would need to understand those inputs.

MR. MICHAEL: I move to strike that response. My question was, in order to understand the inputs is to be able to come to a conclusion about the reasonableness of the inputs.

MR. ALEXANDER: Can I have the question

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and answer back again.

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(Record read.)

EXAMINER PRICE: Overruled.

Q. (By Mr. Michael) So I can understand your answer, was that a long way of saying yes, to understand the inputs is to come to a conclusion about their reasonableness?

MR. ALEXANDER: Objection, asked and answered.

EXAMINER PRICE: Overruled.

THE WITNESS: May I have the question read back, please.

(Question read.)

- A. My point is merely there's varying degrees of how you need to understand these inputs.

 Do I need to understand every step of the process that Mr. Rose went through to come up with his energy and capacity forecasts, and the answer to that would be no. But there are other aspects that I would need to have an understanding of before I ran the dispatch model.
- Q. Okay. To follow up on that, my question is, given input, for example, energy prices, okay, do you need to understand -- in order to understand that given input is to come to some conclusion about the

reasonableness of that input, in this example, the energy price itself?

MR. ALEXANDER: Objection as to form, and asked and answered.

 $\label{eq:examiner_price} \mbox{EXAMINER PRICE:} \ \mbox{Go ahead and rephrase}$ the question.

MR. MICHAEL: Certainly, your Honor.

- Q. If I heard you correctly in your previous answer, you said you didn't need to understand the process that Judah Rose employed in order to get to a given input, correct?
 - A. That's correct.

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- Q. But you need to understand the output of his process, correct?
 - A. No, not necessarily.
- Q. Okay. So you don't have to -- so contrary to what you said in your deposition, you don't need to understand the inputs; is that correct?
- MR. ALEXANDER: Objection, improper impeachment.
- 21 EXAMINER PRICE: Rephrase your question.
- Q. Let me ask it this way, Mr. Lisowski.

 The dispatch model is only as good and produces only accurate results to the extent the inputs are accurate, correct?

A. Yes.

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- Q. Okay. And Judah Rose didn't run your dispatch model, did he?
 - A. Not that I'm aware of.
 - Q. So he can't testify that the output from your run of the dispatch model for this case is reasonable, correct?
 - A. No, I believe his testimony is around providing the inputs that were used in my dispatch.

 My testimony is on the results of the dispatch model.
 - Q. But you can't testify to the reasonableness of the inputs that Judah Rose gave you, right?
 - A. I have no reason to believe that his inputs that he provided to me are unreasonable.
- Q. So the Commission has before it no testimony that the outputs of your dispatch model are reasonable, does it?
- MR. ALEXANDER: Objection.
- 20 EXAMINER PRICE: Grounds?
- MR. ALEXANDER: I'm going to withdraw the objection.
- 23 EXAMINER PRICE: Okay.
- THE WITNESS: May I have the question
- 25 read back, please?

(Question read.)

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- A. I disagree with that statement completely.
- Q. Okay. Whether you disagree with it or not, Judah Rose didn't run your model, right?

 MR. ALEXANDER: Objection, asked and answered and argumentative.

EXAMINER PRICE: Sustained on both grounds.

- Q. Tell me why you disagree with that statement.
- A. I disagree with that statement for a couple reasons. One, Mr. Rose's testimony is on the energy/capacity and fuel forecasts as he laid out in his testimony in the last two days. His testimony is on why that is an appropriate forecast for me to use in this proceeding. That's his testimony.

My testimony is on what I did with the results of his testimony. So by using those inputs I can discuss and talk about why my dispatch model is accurate because I relied on him and his inputs that he provided me and he discussed why his inputs are appropriate or accurate.

So I disagree with that statement on the grounds that Mr. Rose talked about why his forecast

is accurate, and I'm here to talk about -- and my testimony talks about why my modeling is accurate.

- Q. You say in your direct testimony,
 Mr. Lisowski, that the starting point for your cost
 estimates is the categories of costs to be included
 in the proposed transaction, right?
- A. I'm sorry, sir, are you referring to a specific area?
 - Q. Sure.

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- 10 A. I want to make sure we're looking at the same.
- 12 Q. Look at your direct testimony, page 2, lines 8 and 9.
 - A. Yes, I'm there.
 - Q. So are there any categories of costs that are going to be included in the proposed transaction that you did not consider in writing your cost estimates?
 - A. Not that I'm aware of.
- Q. So to the degree there's costs that are going to be included in the proposed transaction, you considered them and run in your dispatch model,
- MR. ALEXANDER: Objection, misstates prior testimony.

EXAMINER PRICE: Read the question back.

(Question read.)

MR. ALEXANDER: Your Honor, I can provide

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more clarity if you want.

EXAMINER PRICE: State the grounds.

MR. ALEXANDER: The witness testified that not all categories of costs were included in the dispatch model.

MR. MICHAEL: I thought he said exactly the opposite, your Honor.

MR. ALEXANDER: There are fixed costs that are not relevant -- sorry, your Honor.

EXAMINER PRICE: Why don't you go ahead and answer the question to the best of your ability to provide some clarity on the situation.

MR. MICHAEL: Thank you, your Honor.

A. Sure, I'd be happy to. Not all cost components are costs that are part of the dispatch model. As I talked about earlier with Mr. Soules, for example, the dispatch model looks at specifically variable costs, fuel and other variable O&M. Those are costs that have an impact on the dispatch model. Other fixed operating costs, those are not costs that are part of the dispatch model.

Q. So all variable costs are included in the

dispatch model, correct?

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- A. That's correct.
- Q. Now, you believe -- let me say it this way. FES routinely uses the dispatch model, correct?
- A. Yes, they use it whenever they have a need for a long-term dispatch forecast.
- Q. Okay. And they're constantly updating the dispatch model, correct?
- A. They're updating it whenever there's a need to update it.
- 11 Q. And FES makes business decisions based on the dispatch model, correct?
 - A. They will use it as one item of many factors when making business decisions.
 - Q. Okay. And you believe that the dispatch model is reliable for the very reason that it's constantly used, it's constantly updated, FES is basing business decisions on it, right?
 - A. Yes.
 - Q. Okay. But you ran the dispatch model one time with a third party's numbers, correct?
 - A. Yes.
 - Q. So the basis for your belief that the dispatch model is accurate don't apply to using Judah Rose's numbers in it, does it?

1649 1 MR. ALEXANDER: Objection, argumentative. 2 EXAMINER PRICE: He can answer. 3 THE WITNESS: Can I have the question 4 read back, please. 5 (Ouestion read.) I don't know if I understand your 6 7 question. Are you asking me am I saying the dispatch 8 model is accurate because of the results or are you 9 asking questions around the accuracy of just the 10 dispatch model in general? Your asserted reasons for believing the 11 12 dispatch model is reliable is that FES routinely uses 13 it, right? That's a correct statement. 14 Α. It's constantly updating it, right? 15 Q. 16 That's correct. Α. 17 Q. It bases business decisions on it, right? 18 Α. That's correct. 19 But you ran it with Judah Rose's inputs Q. 2.0 for purpose of this case one and only one time, 2.1 correct? 22 Α. I only had a reason to run it one time. 23 MR. MICHAEL: I don't have any further 24 questions, your Honor, for the public section.

EXAMINER PRICE: Thank you.

1650 1 Mr. Stinson? 2 MR. STINSON: No questions, your Honor. 3 EXAMINER PRICE: Mr. Oliker, you look 4 ready to go. 5 MR. OLIKER: Sure thing, your Honor. 6 7 CROSS-EXAMINATION 8 By Mr. Oliker: 9 0. Good morning, Mr. Lisowski. 10 Α. Good morning. I want to talk about a few items we 11 Ο. touched on earlier about capacity first in the public 12 13 portion. For purposes of your projections, you have 14 some assumptions regarding different quantities of 15 capacity, correct? 16 Are you referring to the, like, for 17 example, the UCAP levels of these plants? 18 We'll get there, but that's one of the 0. 19 assumptions, correct? 2.0 Α. That's correct. 2.1 0. So when we're talking about capacity 22 first, could you give me your definition of nominal 23 capacity?

nominal capacity is, so I'm not sure I understand

I don't know what the definition of

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your question.

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- Q. Do you have a definition for installed capacity?
- A. I'm aware that PJM has a very specific definition on what they define as installed capacity or ICAP values.
- Q. So would you agree that the ICAP'd value of a generating unit is typically smaller than the nominal capacity of a generating unit?
- A. If you are defining nominal capacity as, for example, the net demonstrated capacity of a unit, I would agree with that.
- Q. Okay. And the unforced capacity level is an even smaller level than an installed capacity, correct?
- A. Generally speaking, I believe that's correct.
- Q. And the unforced capacity level I think we established earlier is the installed capacity reduced for equivalent forced out rate, correct?
- A. Generally speaking, PJM may have other adjustments perhaps as part of that, but generally speaking, I would agree with that.
- Q. Would you agree pretty much the formula for establishing the unforced capacity level is one

minus the forced outage rate multiplied by the installed capacity?

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- A. That's correct. I would add that the equivalent forced outage rate, the EFOR is an Efor'D. That's a definition that PJM comes up with which may be different than what a plant considered to be an EFOR, so it's an Efor'D type of value as part of that, but I would agree with your formula in that regard.
- Q. To follow up on that, I think you just mentioned this, the unforced outage rate or -- scratch that.

The unforced capacity level is a number that is determined by PJM interconnection, correct?

- A. My understanding is that the plant operator works with PJM, there's data that's provided in coming up with what that UCAP level would be.
- Q. Okay. And for purposes of bidding into the PJM capacity market, the unforced capacity level is the amount you can bid, correct?
- A. I believe the correct term is offering and that would be correct.
- Q. You can't clear a level that's higher than the unforced capacity rate, correct?
 - A. I believe that's correct.

Q. For purposes of your projections, I just want to be clear, you're not the individual within FirstEnergy or FirstEnergy Service Company that calculated the unforced capacity rate for Davis-Besse and Sammis, correct?

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- A. Are we talking about for the forecast period? Are you talking about the current period, recent auctions? If you can help me understand what context you're talking about.
- Q. Let's start with your last question. For purpose of bidding into PJM's auctions, you don't make that calculation, correct?
- A. No, as we just discussed, the plant operator, in this case FES, would work with PJM to determine that number.
- Q. And likewise for purposes of the unforced capacity ratings that were used in your exhibits,

 JJL-1 and 2, those calculations were performed by other people?
- A. I got those forecasts for beyond the year -- for the year '18-19 and beyond, I received all that information from FES who provided it to me. For all the other capacity forecast years, they were dependent on the auction results that had occurred at the time of filing my testimony.

- Q. Could you please identify the individual at FES that provided those calculations to you?
- A. There's a number of individuals that get involved with that. Mr. Moul would be someone that would have been involved with it.
- Q. To the extent that I had questions about the unforced capacity rate assumed in your projections, would those be better directed to you or Mr. Moul?
- A. Again, we're talking about the planning years '18-19 and beyond or are we talking about the planning years '15-16, '16-17 and '17-18?
- EXAMINER PRICE: Let's do them one at a time.
- MR. OLIKER: Thank you.

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- Q. (By Mr. Oliker) Can you start with '18-19, please, and beyond?
- A. '18-19, I'm familiar with how we came up with the forecast for the UCAP levels.
 - Q. So those questions could be directed to you in the confidential portion?
 - A. I believe so, yes.
- Q. And for beyond that, would they be directed to you or Mr. Moul?
- MR. ALEXANDER: Objection. Counsel, did

you mean prior to that?

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MR. OLIKER: No, I said beyond.

EXAMINER PRICE: He said '18-19 and

beyond in his first question, didn't you?

MR. OLIKER: Yes.

MR. ALEXANDER: Okay, I didn't hear the beyond. Thank you, your Honor.

- Q. For the calculations before that, they were based upon actual auctions, did you participate in the offering of the capacity in those auctions?
- A. No, I was not involved with the actual offer strategy that FES implemented, but I am aware of the results of those auctions as well as the results of the most recent transition in '18-19 BRA results.
- Q. Okay. Thank you. Just to do as much of this as possible in the public record, if we wanted to -- Let's turn to your workpaper attached to your testimony, JJL-1, understanding that it is all blacked out. We can't use real numbers, but for purposes of quantifying capacity revenue, you agree that the calculation is to take the level of unforced capacity, multiply it by the capacity revenue rate, then times that number by 365?
 - A. In a nonleap-year year, that would be

correct.

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Q. Thank you for that clarification. And all else being equal, if we reduced the unforced capacity rates based upon what's in your projection, then we also reduce the revenue?

THE WITNESS: Could I have that question read back, please?

(Ouestion read.)

- A. That's a -- that's a pretty stretched hypothetical to keep everything else equal. I think if the capacity rate was lower, you would need to take a look at a lot of other factors, what is the effect on the energy rate forecast? What's the impact, if any, on the UCAP? Is there any impact on the costs and what the plant is going to spend on the plant side. I think you need to look at the overall picture here in making that type of hypothetical.
- Q. I'm not sure you answered my question.

 Maybe I poorly articulated it. My question is, if

 you reduce the unforced capacity level for a unit,

 and if you keep all other variables constant, such as

 the capacity megawatt-day compensation level, then

 would you agree that the total revenue on your

 projection would decrease?
 - A. Again, from a forecast perspective, you

would need to take a look at what -- if a capacity rate was lower, it could potentially end clearing more megawatts of volume. I guess without looking -- I will agree, however that the calculation when you're multiplying one number times another, if you reduce either of those numbers you're going to end up with a result that's less.

MR. OLIKER: Can I have the question read back, please?

EXAMINER PRICE: You may.

(Question read.)

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MR. OLIKER: Your Honor, I would move to strike his answer which is completely unresponsive to my question which is about the impact of changing the unforced capacity level.

MR. ALEXANDER: Your Honor, I would disagree. The answer was clearly responsive. The clear part of his answer, as he said, if you just reduce one number in the series of multiplication, yes, the result is going to be lower. I believe the witness' first part of his answer, he never confused, he was addressing capacity rate rather than UCAP level. I think he may have misheard the question, but the second part of his answer was directly responsive.

1658 1 EXAMINER PRICE: We will just strike the 2 first sentence, and with that we will break for 3 lunch. 4 (At 12:03 a lunch recess was taken until 5 1:15.) EXAMINER CHILES: Mr. Oliker. 6 7 MR. OLIKER: Thank you, your Honor. 8 Could I have his last answer read back so I can know 9 where I am? 10 EXAMINER CHILES: Yes, you may. (Question read.) 11 12 MR. OLIKER: Thank you. 13 0. (By Mr. Oliker) To follow up on your 14 last answer with a hypothetical example, if the 15 capacity rate for a given delivery year is \$150 a 16 megawatt-day and you've assumed these aren't real 17 numbers -- 900 megawatts of unforced capacity, you 18 agree if you reduce the 900 down to 800 and leave all 19 the other variables the same, the total revenue will 2.0 decrease? 2.1 MR. ALEXANDER: Objection. 22 EXAMINER CHILES: Grounds? 23 MR. ALEXANDER: There's nothing to gain

stand when the witness already testified this is the

by asking the witness to do arithmetic live on the

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formula by which this calculation would take place.

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EXAMINER CHILES: Mr. Oliker.

MR. OLIKER: Your Honor, I'm just trying to use an example so I can understand. The last answer was a little unclear, and we're just talking about directional movements.

EXAMINER CHILES: I'm going to overrule the objection at this point. The witness needs additional time to answer the question. He can ask for it if he needs more time to verify.

THE WITNESS: Could I have that question read back, please?

EXAMINER CHILES: You may.

(Question read.)

- A. It depends. It depends on why is it that less megawatts cleared. Generally speaking, when less megawatts clear, you would actually see an increase in the rate. So while doing that math, the multiplication would produce a lower number, you really need to look at what's the impact of lower, fewer megawatts clearing in the capacity auction, what impact that has on the overall rate that the capacity market sets out.
- Q. Mr. Lisowski, did you understand that my hypothetical left all other variables the same,

including the capacity rate?

MR. ALEXANDER: Objection.

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EXAMINER CHILES: Grounds?

MR. ALEXANDER: The witness identified why that was not a reasonable assumption and then answered that the multiplication, yes, if you reduced one number would lead to a decreased lower number, so he did answer the question. He just identified why the hypothetical didn't make sense.

MR. OLIKER: Your Honor, I would just ask that he uses my hypothetical, not the one he wants to answer.

EXAMINER CHILES: Could I have the question read back, please.

(Question read.)

16 EXAMINER CHILES: Sustained.

MR. OLIKER: Thank you, your Honor.

Q. (By Mr. Oliker) Maybe I can come at this from a much more simple way. Assuming the megawatt-day rate is exactly the same, \$150 a megawatt-day, if the generation resource has 800 megawatts of unforced capacity, it will earn less revenue than a generation resource that has 900 megawatts of unforced capacity?

A. I would agree with that.

- Q. Thank you. Could you please turn to your workpaper, which is JJL-1 for the Sammis revenues?

 Actually, let me make sure this is correct. I believe it is JJL-1. And without getting into any of the numbers that are blacked out, would you agree that the debt rate that's listed on this page is public? That's on the top left-hand corner at 4.54 percent.
 - A. For clarification, I believe you said workpapers. Are you referring to workpapers or my exhibits?
 - Q. Your exhibits.
- THE WITNESS: May I have the question read back, please?
- 15 EXAMINER CHILES: You may.
- 16 (Question read.)

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- A. The debt rate that's listed on JJL-1, while it is public, that is not the actual debt rate of FES. In actuality, FES's debt rate is much lower than that which would actually provide -- this provides additional value to customers through a lower cost than if we use the actual true debt rate of FES.
- Q. Is that rate contained in anyone else's testimony?

You're asking me -- I'm not aware of Α. FES's actual debt rate being listed in anyone's testimony, but I believe you can get that from publicly available financial information from FES.

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- Okay. Now, you would agree that the debt rate that is on JJL-1 impacts the total amount of interest expense that is part of your exhibit? That's line 23 I'm referring to.
- I may not understand your question fully, but if you look at your bottom under the footnotes, you'll see specifically how line 23 is being calculated.
- 0. Okay. And we'll get to that in a second, but you would agree that the interest expense line on 23, that's related to the long-term debt that FES Solutions holds?
- Α. I wouldn't agree with that. As I mentioned earlier, the 50/50 cap structure that's on JJL-1, lines C and D, is using a 50/50 capital structure. In reality, the FES's capital structure is more along the lines of 35 to 40 percent debt, 60 percent or so equity, and so that -- this is what was determined to be used as part of the cost components under the calculation.
 - Q. Maybe there's another way to come at

this. If you look at the note that describes line 23, and would you agree that footnote -- line 23 describes how the interest expense calculation is performed?

A. Yes.

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- Q. And it says line C -- actually, it says first line 37, which is total seller's invested capital. Can you explain what that is?
- A. Yes. I would refer you to the term sheet associated with this proposed PPA. The seller's invested capital is a defined term in that agreement, and so I would refer you to the definition that's laid out in that document.
- Q. Would you agree it's similar to a rate base calculation? Let me rephrase it. Would you agree it's similar to things like includes all these other items, it's lines 31 through 36? Isn't that what line 37 says in the footnotes?
- A. Yes, and that's laid out in the footnote calculation definition at the bottom as well.
- Q. So going back to line 23, if we wanted to determine an interest expense, we would take line 37, which is the total sellers' invested capital, and we multiply by it line C, which is the assumed debt percent, correct, here we have a 50/50 capital

structure, right, that's been assumed?

A. That's correct.

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- Q. Okay. So to follow that up, you take the invested capital and then you multiply it by .5 which is our ratio, and then we multiply that number by the debt rate, right?
 - A. That's correct.
- Q. So am I correct that if the interest expense includes a 4.54 percent debt rate, if that number goes up over the long term, then the interest expense will also go up, all else being equal?
- A. That's correct, and likewise, if that row E, the cost of long term debt, increased, that would decrease the interest cost of that line.
- Q. And the reason for that is because I think we established this earlier, there is only a projection of the long-term debt of FirstEnergy Solutions, correct?
- A. I'm sorry, I don't understand your question.
- Q. So, for example, the return on equity,
 that is on line A, 11.15 percent. As part of this
 application, am I correct you would keep
 11.15 percent fixed in every year?
- A. That's correct.

- Q. But the debt rate would float or sink with FirstEnergy Solutions' actual debt rate, right?
 - A. That's correct.
- Q. So over this 15-year term, we don't know what that debt rate will be in any given year?
- A. That's correct. That's an item that I had to forecast for my testimony.
- Q. Who provided you the 4.54 percent number? Did you calculate it, or did somebody else?
- A. If you look at the footnotes of the attachment we're talking about here, you'll see at the bottom line E, that that was the weighted average cost of FES's long-term debt.
- Q. Did you just tell me a little while ago that FES's long-term debt cost is lower than 4.54 percent?
- A. No.

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- Q. Now I'm confused. So 4.54 percent, is that FES's long term debt today?
 - A. I don't know if -- what it is today. It was -- what it was at the time that we prepared the forecast, I don't have any reason to believe it would be materially different at this point in time.
- What I said earlier is that the 50/50 debt cap structure is that FES has a lower debt

percentage in terms of its capital, and as a result of that, using a 50/50 debt cap structure reduces the cost to customers under my forecast.

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- Q. Thank you for that clarification. Now I think I understand it. Okay. Let's -- Did you take an actual projection of where interest rates were going when you filed your testimony or did you just use the existing debt rate?
- A. I used the existing debt rate as my forecast of what the debt rate would be over the 15 years. I had no reason to believe that it would change significantly for this forecast.

EXAMINER PRICE: Do you have a sense reaching backwards in time whether the interest rate materially changed in your time at the company?

THE WITNESS: I have worked in the treasury department before as an analyst. My understanding, most of FES's debt is in short term borrowings and a lot of that actually is with affiliates and provides FES a very, very low cost debt as opposed to going externally, so that's the reason why I think that's going to stay pretty low.

Additionally, there is a lot of tax-exempt bonds that FES holds, environmental control bonds. Since those are tax exempt, those

seem to have a very low interest rate. In my experience I have not seen significant huge increases or volatility with those types of instruments.

EXAMINER PRICE: To the best of your knowledge, it has stayed around 4.54 as long as you can remember.

THE WITNESS: I believe 4.54 is a reasonable estimate for my forecast.

EXAMINER PRICE: That's doesn't answer my question.

11 THE WITNESS: I apologize.

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EXAMINER PRICE: In your experience in the company, is it your belief that 4.54 is roughly what FES's long term cost of debt has been since 2004 when you joined the company? If you don't know, that's fine.

THE WITNESS: I'd prefer -- rather than to speculate, I believe so, but I would want to double-check to be sure.

EXAMINER PRICE: That will work.

- Q. (By Mr. Oliker) Would you agree that the debt rate a company can obtain is largely driven by their credit rating?
 - A. I don't know specifically.
 - Q. Have you negotiated debt instruments?

- A. Could you clarify for me what you mean by "negotiate it."
- Q. When FES needs to procure capital through debt, are you involved in those negotiations?
 - A. No, I'm not.
- Q. Would you agree that the distribution utility is viewed as less risky of an investment than a merchant generator?
- A. If you could clarify for me what type of context. Less risky from a financing perspective?
- 11 O. Yes.

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- 12 A. I don't know if I have an opinion on that.
 - Q. Is there a witness testifying for FirstEnergy that would be better with respect to that question, if you know?
 - A. I don't know.
 - Q. Would you agree the distribution utilities can typically obtain financing at a lower rate than a company in the wholesale generation business?
- A. I don't know if I would agree with that,

 for the point I just made earlier. FES has a

 number -- a large number of tax exempt environmental

 pollution control bonds. Those provide very, very

low cost interest as compared to other secured and unsecured. So based on the experience when I was in the treasury department, I don't think that's necessarily an accurate point.

EXAMINER PRICE: FES is also part of some sort of corporate money pool, aren't you?

THE WITNESS: That's correct.

EXAMINER PRICE: Where there's interaffiliate lending and borrowing.

THE WITNESS: That's correct, yes.

- Q. (By Mr. Oliker) Would you agree that the currently approved long-term debt rate for the FirstEnergy utilities in the state of Ohio is 6.54 percent?
 - A. I don't know.

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- Q. You have a copy of Eileen Mikkelson's testimony. Is that her direct testimony?
- A. Yes. Company Exhibit 7 we are talking about?
- 20 Q. Does it say direct testimony? I get the numbers messed up.
 - A. Yes, it does say direct testimony.
- Q. Can you turn to page 11? I believe it's line 10. Let me know when you're there.
 - A. Okay. I'm on page 11.

1 Would you agree that Ms. Mikkelson 0. 2 proposes a 6.54 percent long-term debt rate in their 3 distribution rider in this proceeding? 4 MR. ALEXANDER: Objection. 5 EXAMINER PRICE: Grounds. MR. ALEXANDER: Miss Mikkelson's 6 7 testimony speaks for itself. 8 EXAMINER PRICE: Rephrase it. 9 0. (By Mr. Oliker) Does that refresh your recollection to what the distribution long-term debt 10 recovery rate FirstEnergy's requesting in this 11 12 proceeding? 13 Α. I'm not directly familiar with this 14 aspect of Ms. Mikkelson's testimony. 15 Q. But you don't disagree with it 16 necessarily, do you? 17 I don't know if I agree or disagree. You Α. 18 read line 9 and 10 correctly. I believe 19 Ms. Mikkelson's testimony speaks for itself, and as I 2.0 stated before, I'm just not familiar with this aspect 2.1 of her testimony. 22 Ο. Now, earlier you indicated that you relied on Judah Rose's projections of long term 23 24 energy and capacity prices, correct?

That's correct.

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                  And in your opinion, Mr. Rose is an
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      expert in his field, correct?
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                  Yes.
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                  You did not rely on Mr. Rose's forecast
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      of long term debt rates, did you?
                  MR. ALEXANDER: Objection.
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                  EXAMINER PRICE: Grounds?
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                  MR. ALEXANDER: Mr. Rose's testimony
      doesn't include any such forecast.
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                  MR. OLIKER: But it does.
                  EXAMINER PRICE: Overruled.
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                  THE WITNESS: May I have the question
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      read back, please?
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                  (Question read.)
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             Α.
                  No.
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                  MR. OLIKER: Trevor, could you -- I don't
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      know exactly what is marked as the workpapers of
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      Judah Rose. Could you provide a copy of that to the
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      witness, or I can if you would like me to.
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                  MR. ALEXANDER: Go ahead.
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                  EXAMINER PRICE: Company Exhibit 20.
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                  (By Mr. Oliker) Mr. Lisowski, before you
             Q.
      filed your testimony, did you look at these
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      workpapers?
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                  MR. ALEXANDER: Your Honor, at this
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point, I'm going to object solely due to the fact these are confidential workpapers. To the extent counsel is not going to be referencing anything confidential in those workpapers, I'm happy to proceed. But if counsel is going to be asking about anything confidential, then I suggest we move this to the confidential portion.

MR. OLIKER: The page I will talk about is solely in the public record and is filed in the Commission's docket sheet. I'm referring to the page discussing debt rates and equity rates for plant construction. It's toward the back.

Are we waiting for your Honor?

MR. ALEXANDER: Note that clarification.

EXAMINER PRICE: We were both on board.

MR. OLIKER: Okay, thank you.

- Q. (By Mr. Oliker) My question was are you on the page that says ICF New Plant Proxy Assumptions for PJM-AEP/Dayton?
 - A. Yes, that's what it says at the very top.
- Q. And you understand these are the workpapers of Judah Rose?
 - A. Yes.

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Q. Now, do you understand that Mr. Rose forecasted that one of the reasons why prices are

going to rise in the long term is because long-term debt rates are going to rise?

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- A. I don't recall him specifically saying that, personally.
- Q. Do you disagree that long term debt rates will rise over the next 15 years?
- A. I've never done an assessment or analysis to project out what long-term debt interest rates would be for new plant financing assumptions for someone building a new power plant.
 - Q. Would you defer to Mr. Rose?
- A. I want to clarify, you're asking personally would I defer to him?
- Q. Would you defer to Mr. Rose's conclusions about long-term debt rates?

MR. ALEXANDER: Objection.

EXAMINER PRICE: Grounds.

MR. ALEXANDER: Mr. Lisowski's testimony
addresses the debt rates for FES. Mr. Rose's
testimony addresses the new plant debt rates.

EXAMINER PRICE: Can you clarify what type of debt you are asking him to defer to Mr. Rose on?

MR. OLIKER: Sure.

Q. (By Mr. Oliker) Would you defer to

Armstrong & Okey, Inc., Columbus, Ohio (614) 224-9481

Mr. Rose's conclusions about long-term debt rates for merchant generators?

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- A. If you -- you used the word defer. Do you mean would I take into consideration or look at what he produces? That is something I would look at.
- Q. Would you believe that his conclusions are reasonable?

MR. ALEXANDER: Objection.

EXAMINER PRICE: Grounds?

MR. ALEXANDER: Not asking whether hypothetical conclusions or hypothetical topic are reasonable.

EXAMINER PRICE: I don't think it is hypothetical. I mean, he has a workpaper here he's referring to.

MR. OLIKER: Yes.

EXAMINER PRICE: Why don't you rephrase your question more specifically in terms of workpaper.

- Q. (By Mr. Oliker) Okay. The workpaper that's in front of you regarding plant financing, do you believe Mr. Rose's conclusions are reasonable?
- A. Looking at the workpaper here, I do not believe necessarily that this would be reasonable for FES.

MR. OLIKER: Your Honor, that doesn't answer my question. The question relates to this workpaper.

Q. Do you believe this workpaper is reasonable, Mr. Lisowski?

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MR. ALEXANDER: Objection.

EXAMINER PRICE: Grounds?

MR. ALEXANDER: Mr. Lisowski has not offered any opinions as to the cost of constructing of a new plant. He's only offered opinions of FES's cost. So his opinions as to Mr. Rose's projection for new plant construction are irrelevant.

EXAMINER PRICE: Mr. Oliker?

MR. OLIKER: Your Honor, if you look at the workpaper, there are clearly two different rates. One applies to the utility and one applies to merchant generator. And I think it is illustrative of the rates viable in the market of a generator versus a utility over the long term.

EXAMINER PRICE: The part I'm not understanding about your cross-examination is he's presenting a lower cost of debt than the one that you're referring to. Doesn't that benefit customers?

MR. OLIKER: If that lower cost of debt is indeed accurate.

explained where he got it from and what is special about FES as to why he got that. I think what you're -- what I'm not understanding in your questioning is, yeah, this generally is for other merchant plants, but Mr. Rose apparently projected, which the witness has not looked at, percentage. But he's already explained why he thinks FES's circumstances are different.

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MR. OLIKER: He has said that, but he also said he hasn't looked at what they will be over the long term. He took a snapshot in time when we all know debt rates are at all-time lows.

EXAMINER PRICE: Well, why don't you ask him about the propensity for FES's debt rates to go up, then? I mean, it doesn't matter if interest rates are going up if they're tied into a bunch of 50-year control bonds. It might matter if tied into a bunch of three-month bonds, you know what I'm saying?

MR. OLIKER: I'll try to go that route and come back to this. I'm not sure he will know the answer to all those questions, but we'll find out.

EXAMINER PRICE: We'll find out.

Q. (By Mr. Oliker) Mr. Lisowski, do you

- have an idea what percentage of FirstEnergy Solutions debt is tied to short term debt?
- A. I do not have that number in front of me and I don't feel comfortable speculating.
- Q. Do you know how much of FirstEnergy Solutions' debt is tied to the long-term debt?
- A. That would be the same response on the short term side.
 - Q. Okay. And your 4.54 percent debt rate, do you know how that debt rate is influenced by current market conditions for debt, which are quite low?

MR. ALEXANDER: Objection.

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EXAMINER PRICE: Grounds?

MR. ALEXANDER: The characterization of current debt rates included in the question.

EXAMINER PRICE: Mr. Lisowski, federal short term borrowing is at zero balance, isn't it?

18 THE WITNESS: That is my understanding.

EXAMINER PRICE: Can't get any lower than zero, can it?

THE WITNESS: We have bigger issues if it is.

EXAMINER PRICE: Okay. I think we established they are low.

MR. OLIKER: Okay.

EXAMINER PRICE: You can answer the question.

THE WITNESS: May I have the question repeated, please?

(Question read.)

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- A. I would expect interest rates to have some effect on the overall debt borrowings, and I would add that it's been my experience especially since I worked in the treasury department back in 2009, at that point we thought debt rates were going to be going up very significantly and very quickly, and here we are in a position where they still continue to be very low.
- Q. Would you agree there is a potential for them to rise? By them, I mean debt rates.
- A. I think there's the potential for debt rates to rise, certainly. And that may or may not have an impact on FES's specific rate interest debt that is forecasted in my attachments.
- Q. If FES has to make new capital expenditures to maintain its generating fleet, those new expenditures will have a higher debt rate associated with them, correct?
- A. No, not necessarily. If FES uses its own cash that it has on hand and uses that cash to invest

in capital expenditures, that has zero impact on the overall borrowing rate, the interest rate for FES, it would have zero impact on my testimony.

- Q. And in what you described -- Is it your experience that FirstEnergy Solutions always uses cash on hand or retained earnings to fund their capital expenditures?
- A. Anytime FES makes a capital expenditure, it's going to, from a financing perspective, take a look and use a combination of both. It just depends on that particular period. There's a lot that goes into that decision making of how you finance a capital project.
- Q. So to give an example, Davis-Besse had, I think the public records indicated, somewhere in the \$600 million investment a few years ago, right?
 - A. Yes.

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- Q. So for that \$600 million, you would capitalize that, and under this structure, half of that would receive the return on equity rate of 11.15 and the other half would be applied the debt rate that exists at the time, correct?
- A. We would also, though, net against it any type of accumulative deferred taxes, and there may be other adjustments from a seller's invested capital.

Notwithstanding that, I would agree.

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Q. Thank you. And sticking with the example of a \$600 million investment, say five years down the road such an investment is required and interest rates are, in fact, 7.8 percent, you would agree that the long-term debt rate for FirstEnergy Solutions will rise for purposes of the rider you're requesting in this proceeding?

MR. ALEXANDER: Your Honor, I object.

EXAMINER PRICE: Grounds?

MR. ALEXANDER: The witness already testified that the debt rate would fluctuate with FES's debt rate. I don't understand what going through all these various hypotheticals does for the record. It is cumulative.

EXAMINER PRICE: We will continue to give Mr. Oliker leeway on this question. Please answer the question.

THE WITNESS: May have I have the question read, please?

(Question read.)

A. I would not agree with that hypothetical for a couple of reasons. One is there is no capital addition at Davis-Besse or Sammis of that magnitude.

My forecast lays out 15 years of capital forecast for

all of these plants, so that hypothetical has a significant flaw in it, so I would not agree with that.

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MR. OLIKER: Your Honor, I ask the witness answer the hypothetical he has been presented. Feel free to disagree with the hypothetical, but the witness should at least have to answer it.

EXAMINER PRICE: Why can't you ask the hypothetical grounded in capital projections that he's offered?

Here's the reason I ask, I just don't want a number floating around in the record that sounds like there could be, I don't know what it is, a \$30 million increase in interest that's not at least somewhat grounded in the record. So can you ask your hypothetical based upon the capital projections he's already given you?

MR. OLIKER: I could in the confidential record. I was just trying to use as example. I can use a smaller number if you would be more comfortable with that, your Honor.

EXAMINER PRICE: I would be more comfortable with a smaller number.

Q. (By Mr. Oliker) Mr. Lisowski, assume

there is a \$30 million capital expenditure that
FirstEnergy Solutions has to go out and make five
years from now. You would agree that if the debt
rate at the time is 7.8 percent in the market, that
could increase the weighted long-term debt rate for
FES?

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- A. That could have an impact on the interest rate, and you would also need to take a look, though, at what depreciation occurs during that period. As we talked about this morning, the depreciation reduces the sellers' invested capital number. So while the interest rate may go up, the sellers' invested capital during that period of time would reduce the overall investors' capital, which would reduce the base rate by that percentage off.
- Q. Okay. But functionally what you are talking about is the total number that shows up on the interest expense line, correct?
- A. Yes. I'm talking about the various components of what would impact that line.
- Q. But a higher long term debt rate -- never mind, scratch that.

EXAMINER PRICE: Just let me try.

If you make a capital investment five years down the line and we hypothetically have a

steadily increasing interest rate environment, that's going to put upward pressure on your long term cost of debt, isn't it?

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THE WITNESS: Looking only at that one single line item.

EXAMINER PRICE: One single line item.

THE WITNESS: Excluding any other impacts it would have which I would expect it to have on other aspects, that would be correct.

Q. (By Mr. Oliker) If you follow up on that, all else being equal if the long term debt rate rises over time, so will the amount of money that FirstEnergy Solutions plants need to earn in the market to keep your projections the same?

MR. ALEXANDER: Objection. Let's just clarify that it's impossible to keep all else equal in this situation. He explained why in great detail. This has been asked and answered.

EXAMINER PRICE: Assume that all other things are equal, answer the question. You can explain later why they won't be.

THE WITNESS: Can you read it back?

(Question taken.)

EXAMINER PRICE: You're in the market in order to ensure the impact of your projection also is

the same?

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THE WITNESS: That's a very speculative hypothetical. I really don't feel comfortable answering that because of all of the factors that you need to be taking a look at in terms of what it means for customers in this forecast.

EXAMINER PRICE: With that caveat, we will leave that caveat on the record, I will direct you to go ahead and answer the question.

THE WITNESS: If you would adjust the interest rate number that's in my workpapers up, it would have an increase in interest costs and require the plants to earn more higher revenues to offset.

MR. OLIKER: Thank you.

If I could have one minute, your Honor.

16 EXAMINER PRICE: Not on this topic,

17 right?

MR. OLIKER: I may be done.

EXAMINER PRICE: Okay.

20 MR. OLIKER: Those are all the questions

I have for the public record. Thank you,

22 Mr. Lisowski.

23 EXAMINER PRICE: Thank you.

NOPEC.

MR. BORCHERS: No questions, your Honor.

1685 1 EXAMINER PRICE: Mr. Borchers? 2 MR. BORCHERS: No questions. 3 EXAMINER PRICE: Ms. Fleisher? 4 MS. FLEISHER: Just a few questions. 5 EXAMINER PRICE: Let's go off the record real fast. 6 7 (Discussion off record.) 8 EXAMINER PRICE: Back on the record. 9 Ms. Fleisher. 10 CROSS-EXAMINATION 11 12 By Ms. Fleisher: 13 0. Mr. Lisowski, I'm Madeline Fleisher 14 representing the Environmental Law and Policy Center. Is it correct that late last year the companies 15 16 issued a revised JJL-3 exhibit to your testimony? 17 Α. Yes. 18 And is it correct that that was because 0. 19 the initial projections for OVEC had failed to 2.0 include the carbon price provided by Mr. Rose? 2.1 Α. Yes. 22 And I just want to follow up quick and make sure I understand on your discussion with 23 24 Mr. Soules about your dispatch model. I believe you 25 established with Mr. Soules that energy efficiency or

demand resources are not an input into the model.

And I just want to verify that energy efficiency would never be an output of the model; is that correct?

- A. I think there's a couple questions in there, so I'll try to address each one individually if that's okay.
 - Q. Sure, of course.

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A. Related to the first two inputs, that's correct, those are not something for the input because those are input inserted into Mr. Rose's forecasts when he provides me the energy and capacity forecast, so that's not part of mine.

On the energy efficiency, that is also not an input into my model. That's something that I rely on his assumptions, Mr. Rose's, and there's nothing that would come out of my model that would predict energy efficiency.

- Q. Okay. That answers my question. And do you have any familiarity with the PJM load forecasting process?
 - A. No.
- Q. So you would have no opinion as to whether the load projected by PJM would be an appropriate assumption to use in calculating market

prices?

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- A. That's correct.
- Q. And I believe you testified earlier that your calculation of capital costs or your projection of capital costs for Sammis would include the depreciated value of all air quality controls; is that correct?
- A. Can I have that question read back, please?
- 10 EXAMINER PRICE: Please.

11 (Question read.)

- Q. Actually, I'm sorry, I withdraw that. I
 meant to say your definition of legacy costs would
 include the depreciated costs for Sammis air quality
 controls?
 - A. Yes. Capital costs have already been spent as a component of legacy cost components.
 - Q. And that would include costs incurred in connection with the 2005 EPA consent decree relating to Sammis?
 - A. I'm sorry, I'm not familiar specifically with that document.
 - Q. Okay. With respect to the FES internal energy and capacity price projections, do you know whether those will be updated based on recent

capacity performance option results?

A. Yes.

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- Q. Do you know when that will happen?
- A. Just for clarity, are we talking based on the results that just came out, or are we talking about redoing -- We talked about the capacity price being 15 years. I want to make sure we're clear on which one.
- Q. I'm talked about the forecasted prices over the long term that you just discussed with Mr. Soules. I could take a step back to make sure we are talking about the same thing.
 - A. Yes, ma'am.
- Q. I believe you discussed with Mr. Soules that FES has long term projections of capacity prices; is that correct?
 - A. That's correct.
- Q. And will those long term projections be updated based on the results of the recent capacity performance options?
- A. Yes. I would expect FES to not only update just for the actual results of the last couple auctions that just came out, but also to reforecast the next 15 years. I do not, however, know when that will be done, necessarily.

- Q. Okay. And I think you mentioned to Mr. Oliker that you were involved in developing the EFOR assumption you used for your projections; is that correct?
- A. Yes. I worked with a number of individuals in FES and FEG to forecast that assumption.

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- Q. Am I correct in understanding that involves projecting an amount percentage-wise of forced outages?
- A. That's correct. The EFOR outage rate is a percentage.
 - Q. And is there also any projection as to when those outages will occur?
- A. Yes. FES has to make an internal decision as part of the dispatch model when those outages are going to occur. My experience, power plants don't know when power prices are \$100 or \$10. They trip when they trip. So to take into consideration all that, we allocate that across both on and off peak hours in the model. We feel that's a very accurate way to kind of capture both equally, that that occurs in very low, maybe even on uneconomic times or to cover for when the plant, if it trips during a higher-priced day.

- Q. So I understand correctly that it is basically spread proportionally across all hours?
- A. I wouldn't say it's proportionate across all hours. We take into consideration both on and off peak hours. As Mr. Rose talked about earlier, on and off peak hours are close to 50/50 but not exactly so we take into account a little bit of that tweaking if you will.
- Q. So let's say if we're 30 percent on peak, 70 percent off peak, your model would put 70 percent of the outages in off-peak time times and 30 percent in on peak; is that correct?
- A. Generally speaking, I would agree with that.
- Q. And do you have any knowledge as to for historical outages whether that had been the reality, that they've occurred across all on-peak and off-peak hours?
- A. I personally have never done an analysis to look at times when EFOR has occurred.
- Q. Do you know whether anyone at FES has done so?
- A. I don't know.

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Q. And I believe you describe the dispatch model as providing for dispatch of a plant if the VOM

costs are below the energy price; is that correct?

- A. Yes. You use VOM, VOM including also the fuel costs and those other fuel related costs we talked about earlier. I want to make sure that's very clear because when we get to the confidential, VOM is its own category of costs. So I want to make sure that's very clear.
- Q. Sure. And is that true regardless of how much or how little below the energy price those variable costs are?
- 11 A. May I have the question read back,
 12 please.
- 13 EXAMINER PRICE: You may.

14 (Question read.)

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- Q. (By Ms. Fleisher) I'm happy to phrase.
- 16 A. That would be helpful, please.
- Q. So is it correct that in your dispatch
 model if the variable costs were a dollar below the
 market energy price, the model would have the plant
 dispatch?
- 21 A. That's correct.
- Q. And it would be true if it were 50 cents below?
- A. That's correct.
- 25 Q. And one cent below?

1692 1 Α. That's correct. 2 Q. Okay. And when you're inputting costs 3 into the model, those costs are on a plant-wide 4 basis, correct, as opposed to a per-unit basis? 5 No, I wouldn't agree with that. We're 6 going to start to get into some of the inputs of the 7 models, so I'll try to stay in the public section 8 here, but there are certain types of variable costs 9 that are very unit specific. That's not plant-wide. 10 Q. Okay. I believe Mr. Rose testified to this but just to close the loop, you relied on his 11 12 forecast for emission allowance prices as an input to 13 your modeling? That's correct. 14 Α. MS. FLEISHER: That's all I have. 15 Thank 16 you. 17 EXAMINER PRICE: Thank you. 18 Mr. Settineri? 19 MR. SETTINERI: Thank you, your Honor. 2.0 2.1 CROSS-EXAMINATION 22

By Mr. Settineri:

- Ο. Good afternoon, Mr. Lisowski.
- Good afternoon. 24 Α.

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25 Q. Just to follow up on some questions from

Mr. Oliker to clarify for the record. When you refer to short term debt, is that debt less than one year?

- A. It would include that as well as any type of affiliated monies pool borrowings that we were also referring to earlier.
- Q. And I believe you mentioned earlier that FirstEnergy Solutions would have the ability to pay for capital investments out of cash on hand. Do you recall that answer?
 - A. I do.

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- Q. Okay. You're familiar with the consolidated balance sheet for FirstEnergy Solutions?
 - A. Generally speaking, yes.
 - Q. Are you involved in its preparation?
- A. If you mean preparation that I receive it, review it before we file it with the Securities and Exchange Commission, yes.
- Q. Okay. And on that balance sheet, where would cash on hand be reported?
- A. It could be located -- Really in two places. And I believe I need to explain this. One is the cash and cash equivalents line. That's pretty obvious.
- The second is that FES may have cash on hand that it had lent to affiliates through the money

pool. That would show up in either the account receivable with associated or maybe it says affiliated companies and/or the notes payable to associated or affiliated companies.

- Q. Thank you. And are you familiar as of the close of December 31, 2014 how you define cash on hand, what that amount would be -- was approximately for FES on a consolidated basis?
 - A. I don't recall.
- Q. Okay. If I told you it was slightly north of \$500 million, would you agree with me?
- 12 A. I'd prefer not to speculate. If you have a document, I'd be more than happy to look at it.

MR. SETTINERI: If I may, your Honor, I'd like to refresh his memory with a copy of the consolidated balance sheet.

EXAMINER PRICE: You may.

MR. SETTINERI: Thank you.

THE WITNESS: Is there a pending

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- 21 EXAMINER PRICE: No, I don't believe so.
- Q. (By Mr. Settineri) I'm asking you to look
 that document over and see if it refreshes your
 recollection. Then I can ask a question.
 - A. So the document you've provided me

appears to be FirstEnergy's annual report and this is actually not a financial statement for FirstEnergy Solutions Corp. This is a footnote to the FirstEnergy corporate consolidated financial statements if you refer to that a few pages before that. I want to make sure that's very clear. This is footnote 17, supplemental guarantor information, so this is not correct to say that this is FirstEnergy Solutions' consolidated balance sheet.

- Q. That's fine. I'm just asking you a question. Does it reflect cash on hand as you defined it at the end of December 31, 2014?
- A. That appears correct, 2 million in cash, 525 million in affiliated receivables.
- Q. Thank you. Mr. Lisowski, just to make clear for the record, at page 2, line 5 of your direct testimony, do you have that in front of you, sir?
 - A. I do.

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- Q. Thank you. Your reference on line 5 a proprietary modeling software. Do you see that reference?
 - A. I do.
- Q. Okay. Now, is that reference to the dispatch model we have been discussing today in your

testimony?

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- A. Yes.
- Q. Also earlier today we discussed I think what was phrased as an FES projection run that was done approximately in August 2014. Do you remember that discussion?
 - A. Yes.
- Q. All right. Did that FES projection run cover all the units in the FES fleet?
 - A. Yes, it would have.
- Q. And just to be clear, how far out was that -- how many years did that projection cover?

 Let me rephrase that. That was clunky.

How far out was that forecast that was run for the FES projection??

- A. It went out at least through the time period of the proposed PPA, so at least May 31 of 2031.
- Q. And how long have you been -- how long have you used that model? Let me rephrase that.

Since you've been working at FirstEnergy
Service Company, how long have you utilized this
model?

A. I'm aware that the model existed since I started with FirstEnergy back in 2004. Actually

using the model was when I entered my current role which was in 2012.

- Q. Okay. And since 2012, what is the longest forecast you've seen produced using this model?
 - A. Approximately 20 years.
- Q. Okay. And how often have you seen that type of forecast run?
 - A. Not very often.

- Q. Okay. Is it fair to say that most of the FirstEnergy Solutions' forecasts run using that model are in the range of four years?
- A. Yes, FES does more forecasts of a four-year period more routinely than something like 15 years or 20 years.
- Q. Thank you. Let me just ask a general principle question on modeling. Is it fair to say that the output model is only as accurate as the inputs for the model?
- A. May I have that question read back, please?
- (Question read.)
- A. I wouldn't say only. I would agree it's important, it has a very big impact on it. The inputs are a very, very important aspect of the

model, but I wouldn't say it's the only thing.

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- Q. Thank you. Earlier today, I think the discussion centered around FES's ownership of the units, and my question for you is, the Sammis unit, is that an asset owned by FirstEnergy Generation?
- A. All seven units of the Sammis, including the diesel, are owned by FirstEnergy Generation, LLC.
- Q. And the Davis-Besse unit, is that owned by FirstEnergy Nuclear Generation?
 - A. FirstEnergy Nuclear Generation, LLC.
- Q. Does FES incur charges from FirstEnergy Nuclear Generation?
- A. I'm sorry, I'm not understanding your question. Could you rephrase it for me?
- Q. Sure. Let me ask it a different way.

 How does FES account for any charges from FirstEnergy

 Generation?
 - A. Well, FirstEnergy Generation, LLC and FirstEnergy Nuclear Generation, LLC are both wholly owned subsidiaries of FES. FES, fully consolidates those entities, all the costs, all the revenues that those plants earn. So when FES prepares a consolidated financial statement, it would include all the revenues and costs associated with those companies who own the plants.

Q. Okay. Now, does the -- in regards to the FirstEnergy Solutions consolidated statement of income, does it reflect purchased power from affiliates?

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- A. If you have a document you're referring to, I'd be more than happy to take a look at it.
- Q. Let me tell you what I'm trying to understand. You have two separate LLCs that report up to a member LLC -- or I should say a member corporation, FirstEnergy Solutions. What I'm trying to understand, if there are any contracts, et cetera, where the output from the Sammis units, the output from Davis-Besse are sold to FirstEnergy Solutions? What I am trying to understand is how those book transfers are done? Is it done on a contractual basis?
- A. I'm aware of a transaction where because FES is the one that is actually dispatching these units, they're the ones that are going out and selling that power in the day ahead from a dispatch PJM interface position. FES is acting on behalf of both of those generation companies. I don't know if that answers your question. I believe because of that, there's some affiliated transactions between FES and the generation companies.

Q. Okay. And would those affiliated transactions be, as we say, papered up, meaning written as contracts between the two entities?

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- A. There may be. I don't know that for a fact.
- Q. And would -- recognizing you said you didn't know, but assume that those transactions are papered up subject to written contracts, would the costs -- would those costs be recovered through the proposed transaction that the generating affiliates would be charging to FES?

MR. ALEXANDER: Objection. Objecting to the hypothetical with regards or with regard to the assumed contracts that the witness didn't know about. I'm not sure how he could provide an opinion as to whether a hypothetical contract would or would not or how it would or would not pass through costs.

MR. SETTINERI: Your Honor, it's just a matter of accounting for the charge, and then also being a member of the FES team in negotiation, the question is whatever is recovered, would that type of charge be recovered under the proposed transaction?

EXAMINER PRICE: I'll allow it.

THE WITNESS: May I have the question read back, please?

(Question read.)

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- A. The proposed PPA term sheet is very specific on what costs would be charged to the companies. Those -- My understanding of a term sheet is that there's no additional costs that are out there for anything that is affiliated between FES and Generation whether some contract exists or doesn't exist. If there's hypothetically some costs associated with that, my understanding of the term sheets, those costs wouldn't be passed through. It would just be limited to the costs as defined in the term sheet.
- Q. And that cost includes the cost of the output from the plants, correct?
- A. Yes, it would include the operating costs associated with those plants.
- Q. And if that cost of the output from the generating affiliates increased to FES, that cost that increase would be captured under the proposed transaction, correct?
- A. I'm struggling understanding the cost to FES and the terms you're using. I would say I refer to the PPA term sheet as very specific around what costs the companies would incur under this proposed transaction. Those are costs that those plants

incur.

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Those are the costs and only those costs are those that would be transferred to the companies. So I'm -- I don't know if that helps. I'm confused by what this means with FES.

Q. Right. Let me just boil it down then.

Would there be an opportunity if there was a contractual relationship between the generation affiliates and FES for the price of the output in that contract to be inflated above the actual cost to create that output?

MR. ALEXANDER: Could I have that question read, please?

(Question read.)

MR. ALEXANDER: Objection. Calls for speculation as to what the hypothetical contract would or would not allow.

EXAMINER PRICE: He can answer if he knows.

A. In my current position, I'm responsible for the accounting associated with these plants. The way I'm understanding your question, sir, is, is there a way that FES could somehow overinflate these costs.

As being chiefly responsible for all

accounting matters for FES, FE Generation in these plants, I can tell you that you cannot account and recognize overly inflated expenses. The expenses these plants incur are the ones they incur and we recognize as their expenses. There's not some affiliated means that somehow can be overinflating these costs.

- Q. Who at FES would know the answer to whether contracts exist between FirstEnergy Generation and FirstEnergy Nuclear Generation and FES?
 - A. I would expect legal counsel.
- Q. Let me ask you this question: Do you believe that the Commission should have oversight over any charges between the generation affiliates and FES?

THE WITNESS: May I have that question read back, please?

(Ouestion read.)

- A. I don't know. I haven't given that much thought.
- Q. You were a member of the FES team that worked on developing the proposed transaction, correct?
- 25 A. Yes.

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Q. You were present during those discussions, correct?

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- A. I attended some of the meetings. I may not have been at every single one of them.
- Q. Did the companies ever request that the Commission have oversight over any charges that would be recoverable under the proposed transaction?
- A. I don't recall any discussions with the FES team on that matter.
- Q. To your knowledge, did the companies request that the Commission have oversight over those charges?
 - A. I don't know.

MR. SETTINERI: Excuse me, your Honor. Since a lot of questions have been asked, I'm going to jump around here, and I need to get my bearings.

EXAMINER PRICE: No problem.

- Q. (By Mr. Settineri) Mr. Lisowski, does FES have unfunded pension liability on its books?
- A. Could you define for me what you mean by "unfunded".
- Q. Let me rephrase that. Does FES have any pension liability on its books?
- 24 A. Yes.
- Q. And to the extent you know, are all of

the pension plans -- Let me start -- Let me keep going.

To the extent you know, are all pension plans in which any of the FE, nuclear FE generation or FE company employees participate fully funded?

A. I don't know.

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- Q. To the extent any of those plans are not fully funded or in the future lack -- or are not fully funded, would any obligations for funding those plans be recoverable under the proposed transaction?
- A. I don't believe a contribution made by the generation companies would be recoverable. There is a pension and OPEB costs that we have projected and is included as a separate line item in my attachments. My understanding of the term sheet is just that pension and OPEB costs that expensed and recognized as the only cost related to pension liabilities that would be paid for by the companies.
- Q. Okay. To clarify one point, are you familiar with multiemployer pension plans?
 - A. Not very familiar at all.
- Q. Are you familiar with multiemployer pension fund withdrawal liability?
- A. No.
 - Q. Okay. Thank you. Going back to some

earlier questions from today but a general question for you here is, would you agree that one reason the dispatch model inputs are updated is to improve the accuracy of the model?

- A. Yes, I would agree with that.
- Q. Has FES ever retained Judah Rose to provide forecasts on energy, capacity, and carbon pricing?
 - A. I don't know.

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- O. Who would know that?
- 11 A. I don't know. I know I personally never 12 have.
 - Q. Am I correct that when FES prepares its revenue forecasts for its generating units using the dispatch model, it's always going to use its own internal projections?
 - A. Yes, if FES is going to create its own forecasts, it will determine what assumptions to use in that forecast.
 - Q. And it will not use projections from third parties, correct?
 - A. It's always possible that FES could go get its third set of assumptions. I'm not aware of FES ever doing that.
 - Q. Thank you. To that extent, then you

wouldn't be aware whether FES would have ever retained Mr. Rose to provide forecasts on market pricing for capacity, energy, and carbon, correct?

MR. ALEXANDER: Objection.

EXAMINER PRICE: Grounds?

MR. ALEXANDER: Asked and answered.

EXAMINER PRICE: May I have the question

read back again?

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(Record read.)

EXAMINER PRICE: Mr. Settineri, response?

MR. SETTINERI: Your Honor, I think I'm just following up on the question just prior where he indicated that third parties are not utilized by FES. So I want to clarify for the record that FES has not retained Mr. Rose.

MR. ALEXANDER: The issue is the question before that where the witness said he didn't know if FES ever obtained Mr. Rose. The following question was did he know anyone that would know that, and the witness said he didn't know. The question and answer I'm referring to is my objection.

EXAMINER PRICE: Sustained.

Q. (By Mr. Settineri) The question on the model, when the model is run, is there only one push of the button, meaning you don't have to run the

spreadsheet for every year?

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- A. That's correct.
- Q. So the number of years for the forecast is an input to the model?
 - A. Yes. I agree with that.
- Q. We had some discussions earlier about how often FES prepared revenue forecasts. Does FES prepare a revenue forecast more than once a year?
- A. FES -- It depends. FES, if they have a requirement or a need to, they will. If they don't have a requirement or a need for one, they won't. So it really just depends on that year in particular.
- Q. Since 2012, have you seen a year where one was not prepared?
- A. Just to clarify your question, are you asking me are there any years where there was more than one done in the current year, or are you asking me am I aware of any energy forecasts?
- Q. Let's break it down. 2012, 2013, 2014, was the model used by FES to run forecasts in all those years at least once?
- A. I don't recall the specific dates, and I don't recall specifically in 2012 because I entered my position at the end of September, so there may have been one before I got there. I just don't know.

But I do recall one being run in each '13 and '14.

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- Q. And in '13 and '14, was it run more than once for FES to project revenues?
- A. No, in each of those years, it was only done once.
- Q. Thank you. You also indicated that the FES most recently ran revenue projections in approximately January to February of 2015 for the Sammis plant and the Davis-Besse unit. Do you recall that?
- A. There was a short-term illustration of plants that was run earlier this year that we provided through a second subpoena to the Sierra Club.
 - Q. No other -- Was there any other reason to run that forecast other than responding to the subpoena?
 - A. Well, actually that was something that FES had already done. It was not done something special. That forecast was used as really kind of some financial forecast that we were using with many of the plants. I don't know if I would necessarily call it a full-blown detailed forecast.

It was more of an illustration when we are discussing with some of the plants to show them

here's what your plant looks like on a fully -here's all of your revenues, here's all of your costs
across the entire fleet for them to have an
understanding of their contribution with low energy
prices we have seen this year.

Q. Was that forecast intended to be an accurate forecast for those plants?

MR. ALEXANDER: Objection,

Mischaracterizes his testimony.

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EXAMINER PRICE: Would you rephrase that?

- Q. (By Mr. Settineri) Was that run, the model that provided revenue projections, were the results of that intended to be accurate?
- A. Well, the set of inputs that were used in it was not using what FES -- the approved FES energy and capacity forecasts. We used something different in that forecast. I call it a forecast. I hesitate to call it a forecast because a forecast is something that the FES executive leadership, some person from corporate would come in. There's an approval process there.

That was something we took out, we looked at some energy prices. O&M and capital costs, those were forecast. Those were provided by the plants.

25 It was really used more as a tool to help explain to

generation plant employees, essentially management at the plant for them to understand not just their own end but a full financial picture of their plant giving where energy prices were at that time.

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- Q. And the key point you said given where energy prices were at that time. Let me go to why weren't the normal FES energy forecasts used for that model?
- A. We really -- There's a couple reasons.

 One was at that point in time, we just -- we pulled some energy forwards out of ICE. That was also part of the subpoena response to the Sierra Club. That was very convenient.

As you can imagine, as Mr. Rose talked about over the past few days, coming up with an energy and capacity forecast is very involved. We wanted to give the plants a sense of -- At that point energy forwards were very low. It's not liquid, but if you just look at the energy forwards, they're very low.

We wanted to drive some discussions with the plants that if those energy prices stay where they're at, here's what the plants would look like. That was the purpose for those illustrations, so I hope that helps.

Q. Yeah, thank you. Correct me if I am wrong here, but is it your opinion you believe the model is a reliable model?

A. Yes.

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- Q. Okay. To your knowledge, did the EDU team from the companies push for a guarantee on the revenue projections under this proposed transaction?
 - A. Could you elaborate more on "quarantee"?
- Q. Okay. In your negotiations or discussions on the proposed transaction, correct?
 - A. T was.
- Q. All right. And you performed a revenue forecast as part of those discussions to create the proposed transaction, correct?
 - A. That's correct.
- Q. Okay. And you believe the model is reliable, correct?
 - A. That's correct.
- Q. In those discussions with the EDU team, did they seek to cap, put a cap in place, on any of the under-recovery in the near term and a floor on the over-recovery going forward?
- A. There was a cap in terms of if there was an extended, unplanned outage especially related to good utility practice that I have to -- I believe

that's a cap where FES would have to give replacement power, capacity, ancillary services. I know that was an item that was discussed at length with the EDU team. They wanted to make sure there was some protection for customers in that regard, so that's why that section was added. So I would view that section or the term sheet to be a cap, if you will.

- Q. Okay. But that really wasn't my question. During the negotiations, that your model has projected a certain under-recovery and over-recovery, correct?
 - A. Correct.

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- Q. All right. And that really relates to Mr. Ruberto's summary here. During the negotiations, was there any attempt by the companies to cap the level of under-recovery at any point during the proposed transaction?
 - A. With that clarification, I don't recall.
- Q. You're not aware of any request by the companies to impose such a cap, correct?
- A. I don't know. I don't know if they are.

 I don't know if they're not.
- Q. The same with an over-recovery with the model being reliable, did the EDU team ever propose a minimum floor on the over-recoveries that would be

guaranteed by FES?

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- A. I don't recall that being any discussion point with the FES team.
- Q. Does it make economic sense from the EDU side to request such a cap?

MR. ALEXANDER: Objection. Calls for speculation. Mr. Lisowski was on the FES team, not EDU team.

EXAMINER PRICE: Sustained.

- Q. (By Mr. Settineri) In your role,
 Mr. Lisowski, on the FES team, was your role to
 ensure that the proposed transaction made economic
 sense to FES?
 - A. Generally speaking, that's correct.
- Q. If the rate of return was lowered to a percentage point less than 11.51 percent, do you think the proposed transaction still makes economic sense for FES?

THE WITNESS: Can I have that read back?

(Record read.)

MR. ALEXANDER: Objection. The term sheets are not before the Commission, only rider RRS is before the Commission at this point; therefore, it is beyond the scope of Mr. Lisowski's testimony.

MR. SETTINERI: Your Honor, if I may.

EXAMINER PRICE: You may.

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MR. SETTINERI: That objection, I believe it doesn't apply here. It's outside the scope of direct examination and cross and is allowed as to what's relevant and credibility.

EXAMINER PRICE: But the proposed transaction is not in front of us, that's the difficulty.

MR. SETTINERI: Okay. Let me rephrase my question, sir.

EXAMINER PRICE: Let me ask a question then, then you can rephrase yours.

MR. SETTINERI: Okay.

to limit the rate of return on equity contribution to what's being recovered by FirstEnergy, the operating utility, by one point, the operating utilities can recover no more than 10.15 percent, the equivalent return on equity, FirstEnergy Solutions would be indifferent to that; would it not?

THE WITNESS: Your Honor, I'm not here to negotiate the terms of the contract.

EXAMINER PRICE: I'm not asking if you are negotiating the terms of the contract. I'm asking whether you would be economically indifferent

if we limited the recovery of the operating units?

MR. ALEXANDER: Objection. Mr. Lisowski is also testifying here on behalf of the companies as stated in his direct testimony. His earlier question was with regard to the FES team. Right now your question is to the companies.

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EXAMINER PRICE: That's a good point.

I'll break my question up. As a member of the FES team, FES would be indifferent economically if the Commission limited the recovery of the utilities?

THE WITNESS: Well, I don't know. And the reason for that is I haven't run my projections using the lower ROE, so I don't know what that means to FES and whether FES would still be willing to do this transaction. I just don't know.

EXAMINER PRICE: I'm not sure what you mean, but that's okay.

Mr. Settineri?

- Q. (By Mr. Settineri) Based on your last answer, Mr. Lisowski, am I correct the return on equity was not a negotiated term in the term sheet?
- A. In the meetings I attended, I don't recall that specific item being discussed.
- Q. Well, am I correct that if a lower return on equity was presented by the EDU team, then you

would have run the calculations to see if it made economic sense to FES?

A. Probably, probably.

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- Q. Are you familiar with Mr. Ruberto's calculation of a net present value for the projected under and over-recovery from the three plants that are included in the attachment to his testimony?
- A. If your meaning of the word "familiar with" means did I take a look at his testimony, look at his workpapers, make sure he took my numbers correctly, I did do that.
- Q. Do you know what the net present value that is presented in his amended direct testimony is?
- A. I don't have his testimony in front of me. I don't recall what the net present value is. I know the undiscounted number is in excess of \$2 billion.
- Q. Do you believe that the net present value of the future under or over-recoveries is an indicator of whether this transaction makes economic sense to FES?

THE WITNESS: May I have the question read back, please?

24 EXAMINER PRICE: You may.

25 (Question read.)

A. I think that is an indicator, and the reason for that is FES is in a position with these plants where these plants are questionable on whether financially they're going to survive in the next couple of years based on the next several years.

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While the net present value is going to show positive, the issue at hand is while FES, with my belief, I would love to keep these plants around for 15 years to get all that value, they may not be in a financial position to continue to have earnings losses and maybe cash associated with these plants in the short term.

So while looking at that net present value number and saying, well, does that make economic sense to FES, I think it does make economic sense to FES, given the reasons I just spoke of.

Q. And I'm sorry, your Honor, if I could have the question reread to me, I'd appreciate it.

(Question and answer read.)

MR. SETTINERI: I'd like to move to strike everything in that answer after the first time he used the word "indicator".

MR. ALEXANDER: Your Honor, the net present value is, as you're aware, takes a whole series of future numbers and breaks it down to one

present number. And the witness was explaining why that one present number today is not in and of itself a full indicator and the timeframe is important. So the entirety of his answer was going different times which cost and revenues were being incurred and why that would matter to FES's transaction.

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EXAMINER PRICE: I think you asked a very broad question, and he kind of bounced around a little, but I think he was trying to answer your question, so your motion to strike will be denied.

MR. SETTINERI: Okay.

EXAMINER PRICE: While we are on this break, would it be a good time for a short break?

Let's go off the record.

(Discussion off record.)

EXAMINER PRICE: Back on the record.

Q. (By Mr. Settineri) Subject to check, if you assume Mr. Ruberto's projection of net present value is 770 million and then assume that the net present value doubles to \$1.54 billion, would you believe that the proposed transaction still makes economic sense to FES at that point?

EXAMINER PRICE: Read the question back again.

(Question read.)

A. Using your hypothetical and your use of the net present value number, I believe you would need to look at using the latter, 1.4 billion rough number, what was the earnings of cash flow in the near term associated with those plants. As I said in my prior response, it's not just about the net present value for 15 years, it's also what do these plants look like over the next couple years.

- Q. (By Mr. Settineri) And just looking beyond, let's say, 2020, assuming there's an over-recovery throughout those years, would you agree with me that as that net present value and that over-recovery increases, that this transaction may make less economic sense to FES?
- A. Can I have that question read back, please?
- 17 EXAMINER PRICE: You may.

18 (Question read.)

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- A. Sir, when you say over-recovery, you mean that the revenues are in excess of the expenses,
 - Q. Correct.
- A. I want to make sure we are on the same page. Thank you.
- I would say if the plants are expected to

have significantly over-recovery over the next several years and that number just continues, FES would be in a lower or lesser position to want to do this type of transaction.

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- Q. Okay. And assume then that the under-recovery stays as is going forward, and if an over-recovery increases in the out years, the net present value increases obviously, would that also make this transaction be of less economic sense for FES?
- A. A key aspect of that that would in my opinion decide whether it is or isn't is what do those cash flows and earnings look like over the next couple years. You have very, very high value in those last couple years that make the net present value look very, very good, but at the end of the day, it still may be FES not having an ability to contain or withstand earnings losses and negative cash flow in the near term.
- Q. I guess what I'm getting at, though, is assume, as listed in Mr. Ruberto's testimony, we show an under-recovery, 2016, '17 and '18, assume that for me. The over-recovery years start in 2019. If the over-recovery increases throughout that term, you would agree that would increase the net present value

calculation that he's presented, correct?

A. That's correct.

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- Q. Okay. As that net present value increases, would you agree with me that the proposed transaction may make less economic sense for FES?
- A. No, I would not agree with that for the many reasons I've talked about because the issue at hand with FES and these plants are the next several years and whether FES can continue has the ability to continue to experience losses and negative cash flow for those plants. To me, it's those next few years is what is critical for FES in how they look at these plants, not what it looks like it's going to be 15 years from now.

EXAMINER PRICE: I'm going to interpret you. Let's say the next several years passes and you're through your critical years, doesn't FES have the incentive then to seek to renegotiate the contract since you're through your danger zone and it's only downside from that point on?

THE WITNESS: I don't believe that FES has that ability based on the term sheet.

EXAMINER PRICE: You don't believe -they don't have the ability to even propose to seek
to renegotiate the contract? Where does it say that

in the term sheet?

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THE WITNESS: I guess my review of the term sheet, which I do believe speaks for itself, is that FES could not get out of the contract early.

You asked me could they try to renegotiate it?

EXAMINER PRICE: Sure. I mean -- Let me interrupt you, because let's be clear, the proposed transaction is not before the Commission for review; is that right?

THE WITNESS: That's my understanding.

EXAMINER PRICE: So FES would not need to seek the Commission's permission to renegotiate those transactions. It would simply be a negotiation between FES and the companies; isn't that right?

MR. ALEXANDER: Your Honor, objection.

Mr. Lisowski is not a lawyer. He may not know if

there are legal options that may or may not be

available.

EXAMINER PRICE: I asked him actually whether they had economic incentive to renegotiate. He response was I don't believe that we can. So if he would like to respond to my economic question and leave the legalities to the lawyers, I'm happy with that too. Let's go back to the original question.

Once you are through your critical years, assuming

your projections are 100 percent accurate, won't FES have an economic incentive to renegotiate the contract?

THE WITNESS: I'm sure FES would want to do that. I just don't know if they have the ability because of the fact that the companies would have to agree to that.

EXAMINER PRICE: I understand that, but you would agree the Commission would not have to agree to that because the proposed transaction was apparently not jurisdictional to the Commission?

THE WITNESS: That's where I'm not an attorney, so I don't know if I have an opinion on that.

EXAMINER PRICE: Fair enough.

Mr. Settineri.

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Q. (By Mr. Settineri) Mr. Lisowski, I believe you earlier, if you recall, had questions for in regards to cash on hand. And if I recall properly, I believe you indicated that cash on hand for FES was approximately just slightly north of \$500 million; do you recall that?

A. T do.

Q. Okay. Can that cash -- Let me rephrase that. Are you familiar with the level of

under-recovery that Mr. Ruberto has projected based on using your model results in his direct testimony?

A. No, I don't recall that.

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Q. Subject to check, 2016 NPV under-recovery 155 million, 2017, NPV under-recovery 167 million, and NPV 2018 of 82 million.

MR. ALEXANDER: Objection.

Q. If you can assume that for me, sir, I appreciate it. And my question to you, with that assumption, subject to check, that totals \$404 million. Could FES rely on its cash on hand to offset any under-recoveries in the near term?

EXAMINER PRICE: Don't answer that. Your counsel has had a pending objection. Grounds?

MR. ALEXANDER: The witness testified he's not familiar with Mr. Ruberto's projections, so if counsel would like to rephrase the question and ask the question with the hypothetical number only without reference to Mr. Ruberto, maybe we could proceed that way.

EXAMINER PRICE: Mr. Settineri?

MR. SETTINERI: Sure.

Q. (By Mr. Settineri) Assume for me,
Mr. Lisowski, that there will be an under-recovery in
the proposed transaction in 2016 of \$155 million,

there will be an under-recovery in the proposed transaction in 2017 of \$167 million and that there will be an under-recovery in 2018 of 82 .

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Subject to check, that totals

404 million. Would you agree with me that FES could
utilize its cash on hand to offset any under-recovery
in those three years?

A. First, I don't have a calculator in front of me, so I don't want to make a mistake with the math. I don't want try to do the math here on the spot or anything like that.

I will say regarding that, that each of FES's power plants financially needs to stand on its own, each and every one of them. FES needs — is not going to just take the total number. There may be other things that the number you provided me, sir, was as December 31 of 2014. We are sitting here nine months later and I don't recall what the balance sheet looks like currently.

- Q. That's not what I asked you, sir. I believe I asked you simply could FES absorb -- use its cash on hand to pay for any under-recoveries in those three years?
- A. I wouldn't agree with that assumption because that is a cash number that was out there nine

months ago. I do not know what FES has currently in terms of cash on hand.

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- Q. We'll assume it will have \$500 million cash on hand at the end of this year. Could it apply that cash on hand in 2016 to absorb an under-recovery of \$155 million?
- A. In that scenario, that would leave essentially no liquidity on hand at that point in time which would severely weaken FES's balance sheet. So I believe some of that cash could not be used to offset.
- Q. There's no prohibition against using that cash on hand to offset any under-recovery, correct?
- A. From a -- my opinion would be from a prudent financial perspective, a company needs to have liquidity on hand and is not going to deplete its cash reserves.
- Q. But, again, it's possible those cash reserves could be used to offset the under-recovery in 2016?
- MR. ALEXANDER: Objection, asked and answered.
- 23 EXAMINER PRICE: Sustained.
- MR. SETTINERI: Okay.
- Just one moment, your Honor, please.

1728 1 EXAMINER PRICE: Okay. 2 (By Mr. Settineri) Let me ask you a question here. Just assume if FES were to invest a 3 4 billion dollars to retrofit a coal plant to a gas 5 plant and did so with long-term debt and interest rate of 7 percent, would that financing impact the 6 7 debt rate that is used to calculate the rates for the 8 RRS? 9 MR. OLIKER: Could I ask for clarification? 10 11 EXAMINER PRICE: No. 12 MR. ALEXANDER: And your microphone went 13 out. 14 EXAMINER PRICE: First let's go and 15 reread that question. 16 (Question read.) MR. ALEXANDER: Objection to the 17 18 incomplete hypothetical. 19 EXAMINER PRICE: How is it incomplete? 2.0 MR. ALEXANDER: The hypothetical assumes 2.1 \$1 billion restructuring and does not provide the 22 year. I'm sorry, your Honor, did you want me to go 23 on? 24 EXAMINER PRICE: Yes, I'm listening. 25 MR. ALEXANDER: The hypothetical assumes

a \$1 billion capital restructure and doesn't define a year. The hypothetical assumes that dollars will be spent but didn't say where those dollars would come from. The hypothetical asks, okay, assume the dollars come from somewhere, how would that spending affect the long term debt rate which implies that the spending of that capital would, in fact, affect the long-term debt rate.

Here the witness has been very clear as to what goes into each of those characterizations is so I'm not sure what is gained going through the incomplete hypothetical or the speculative refurbishing of Sammis from coal to gas.

EXAMINER PRICE: Sustained.

MR. SETTINERI: No further questions at this time, your Honor.

17 EXAMINER PRICE: Thank you.

Mr. Dougherty?

20 | CROSS-EXAMINATION

21 By Mr. Dougherty:

Q. Good afternoon. My name is Trent

Dougherty and I'm representing Ohio Environmental

Council and Environmental Defense Fund. Hopefully I

have a very brief set of questions for you, but I

need to go back a little bit. Your title is assistant controller of FES/FEG. Is that close enough to your title?

A. That's correct.

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- Q. And on page 1 of your testimony, you lay out your responsibilities under that role as being responsible for all accounting and financial reporting related to matters associated with FES, its generation plants and generation business budgeting, correct?
 - A. That's correct.
- Q. And by its generation plants, so we're talking about the Sammis coal plant, Davis-Besse nuclear plant that we've been talking about, correct?
- A. That's correct, among the rest of FES's plants as well.
- Q. That's my next question. What other plants are under your purview -- excuse me, what general plants are under your purview?
- A. It would be all power plants that FES,
 Allegheny Energy Supply, LLC and Monongahela Power
 Company.
- EXAMINER PRICE: How many power plants is that?
- THE WITNESS: It's a lot. I have to

1 | write them down. I don't want to make a mistake.

2 It's three nuclear plants, a total of four units.

There are two supercritical coal plants under

Monongahela Power. There's a large number of smaller

5 hydro assets that are also regulated.

Under FES, we have got two additional super criticals other than the plants here. For Allegheny Energy Supply, there's a gas plant and a coal plant.

EXAMINER PRICE: Thank you. Thank you Mr. Dougherty.

- Q. (By Mr. Dougherty) I think we got all of that list, but just for a couple of specific examples, would one of those be the Bruce Mansfield plant?
- A. Yes.

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- Q. And would one of those nuclear plants be the Perry nuclear power plant?
 - A. Yes.
- Q. And you mentioned there are a number of others that we could look into, but I'll just stop right there on particular examples, but for those power plants, those generation power plants, as well as these other generation power plants that are under your purview, do those power plants like Davis-Besse

and Sammis routinely provide internal cost projections -- excuse me. Are internal cost projections done for each of these plants?

A. Yes.

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- Q. And those are done I believe as you say in your testimony, they are kept in the regular course of operations of the plants?
 - A. In the normal activities of FES, correct.
- Q. Okay. And the same can be said for dispatch modeling that's done for each of these plants?
 - A. That's correct.
- Q. And these -- each of these dispatch modeling and cost -- and cost projections that were done for and have been done for all of the plants, generation plants, under your purview, did you use those cost projections in comparing the cost projections -- excuse me, strike that.

Let's go back to a question that was asked just earlier, you were part of the team to develop the proposed transaction; is that correct?

- A. No, I wasn't involved in that aspect.
- 23 Q. Not in the development. Were you involved in the negotiations of the proposed transaction?

A. I was on the FES team that was negotiating the term sheet.

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- Q. And when you were negotiating that term sheet, did you compare the -- any of the costs or revenue projections for the other FES plants, generation plants under your purview with those of -- that you had done for Davis-Besse and Sammis?
- A. I was never a part of any discussions related to the other power plants and that was never a discussion item at least for the meetings I attended between the FES and the EDU team.
- Q. So no modeling was done utilizing those documents for the other power plants and any forecasting that was done by either witness Rose or someone else to develop the model that you speak of in your testimony for Sammis and Davis-Besse?

MR. ALEXANDER: Can that question be re-read?

(Question read.)

- Q. (By Mr. Dougherty) Was there forecasting done for those other power plants that was used for those negotiations?
 - A. No.
- Q. Did anyone on the EDU team ask you or any other member of the FES team for any cost or revenue

projections for the other plants in the fleet?

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- A. No one asked me. I can't speak for others on the FES team.
- Q. And under the proposed transaction or under the draft term sheet as we have been talking about, is there a requirement on FES to update the model under the life of the power purchase agreement?
- A. May I have that question read back, please?

EXAMINER PRICE: You may.

(Question read.)

- A. I'm not aware of that being a specific provision in the term sheet.
 - Q. If the companies at any point in time requested an updated model or updated forecast, could that be completed for them under this power purchase agreement?
 - A. Just to clarify your question, you're asking could the model be rerun again during the term of the PPA at any time for the companies?
 - O. Correct.
 - A. Thank you. While it's not a requirement under the term sheet, my personal opinion would be is that FES would do that for the companies if they needed it.

- Q. Thank you. One more -- or maybe one or two more questions here. Do you know whether the capacity projections for the Sammis model considered parasitic load for the Sammis plant?
- A. Could you define what you mean by "parasitic load"?

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- Q. The electricity generated that is used for, let's say, for example, you know, the other other parts of the plant not necessarily going towards electric generation to be, you know, delivered elsewhere, essentially used for the environmental retrofit equipment or any other equipment for the power plant.
- A. Thank you for that clarification. I do recall a similar question of this nature in my deposition. I believe I said I did not know. I did go back and confirm the model that it is the net generation, the net megawatt-hours and capacity that goes to the grid, net of any station use is what is being forecasted using my dispatch model. So I think the short answer to your question is yes.
- Q. Is yes. That would be the same -- I think I asked under the Sammis -- for the Sammis plant. Would that also be the case for the OVEC units as well; do you know?

Q. Yes, we do have an assumption in there for OVEC, and it's a net generation number, not a gross generation number. Same thing for Davis-Besse as well.

MR. DOUGHERTY: That's all I have for the public session.

EXAMINER PRICE: Thank you.

Mr. McNamee.

CROSS-EXAMINATION

By Mr. McNamee:

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- O. Good afternoon.
- 12 A. Good afternoon.
 - Q. Does FirstEnergy Solutions have a protocol or process for determining when and whether to close a power plant?
 - A. I'm not aware of a formal process that

 FES has to follow like a document or something like
 that. I'm not aware of something like that if that's
 your question.
 - Q. That was my question. Have you been involved in any of the companies' consideration of whether to close power plants or not?
 - A. I was never involved -- I've never been involved, I should say, in the actual decision making of closing the power plants. I have provided

financial information to both FES and FE Generation's executive management teams in leadership related to plants that ultimately did close.

- Q. Okay. Have you provided that sort of information for the plants involved in this case?
- A. Yes, I have provided a number of financial information relating to these plants to both FES and FE Generation leaders.
- Q. Okay. The sorts of analyses that would be used to make a determination as to whether to keep the plants open or close them?
- A. My opinion, there are a number of factors that would go into the decision of closing a plant.

 I think the financial aspect is one of them. I've provided financial information related to these plants to those decision makers.

(CONFIDENTIAL PORTION EXCERPTED.)

1738 1 2 3 4 5 6 7 8 9 (END OF CONFIDENTIAL.) 10 Q. Okay. In responding to some questions 11 from Mr. Settineri, you referred to losses being 12 experienced. Do you remember that? 13 Α. I do. 14 Okay. In that answer, by losses, you 15 indicated -- or you meant, I believe, that these 16 plants have a positive return but that return is too 17 low to be fully compensatory to the company; is that 18 correct? 19 No, that's not correct at all. Α. 2.0 Q. Okay. Then explain to me what you meant. 2.1 Α. I believe Mr. Moul's supplemental 22 testimony lays this out in much greater detail including the exact numbers. His numbers do show 23 24 that going back since 2009, these plants have 25 experienced significant earnings losses with no

assumption for any type of return on its investment, no return on equity and, in fact, no interest costs associated with those plants.

MR. McNAMEE: That's it. Thank you.

EXAMINER PRICE: Are you familiar with the balance sheets of all the plants that you have described to me earlier?

THE WITNESS: We don't do full consolidated balance sheets, but if you are talking like the net book value?

EXAMINER PRICE: No, what I'm saying is just very simply, you're familiar with the financial situation of these various power plants; is that correct?

THE WITNESS: I am.

EXAMINER PRICE: Do you believe that these two plants are the most likely to close in the FES fleet in the event that this transaction does not go forward?

THE WITNESS: I haven't done a comparative analysis looking at every single plant compared to these two. I would say these two plants, though, do have a financial need and these two plants are both at risk.

EXAMINER PRICE: If we do the proposed

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transaction, they'll no longer be at risk; is that right? If the proposed transaction moves forward, they will no longer be at risk?

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THE WITNESS: I believe that to be correct, and I believe the term sheet does have some provisions that protect the customers that in the event of something very, very unusual happens, there's parameters for that, but generally speaking, that I believe to be accurate.

EXAMINER PRICE: But is it the case then that two more plants will now be the most likely to close in the fleet? If these go to the end of the line, there will be two more that are at the top of the line; isn't that true?

THE WITNESS: I don't know that for a fact. Like I said, I don't recall exactly the financials.

EXAMINER PRICE: Are there any other

plants operated by FES that are in financial need?

Are there any other plants that have financial need?

THE WITNESS: I think there's many, many

plants that are in financial need right now based on

the low energy prices that we're seeing, so the short answer to that is yes.

25 EXAMINER PRICE: FES plants?

1741 1 Α. FES 34R56RBG9S your other plants. 2 EXAMINER PRICE: Okay. Thank you. 3 I just have one more question if you be answer it publicly say you can't answer it publicly I 4 5 can do I confidentially, if you can't answer it at I understand. It is odd question I can't find answer 6 7 to 0 on the record anywhere. 8 Using Mr. Rosies projections -- give you some background. You indicated thee should be 9 credits in the amount over time of \$2 billion to 10 11 customers; is that correct. 12 THE WITNESS: That's correct. 13 EXAMINER PRICE: And so my question is 14 out of what? If Mr. Rose's projections are correct, 15 do you know the total electric expenditure for all 16 the customers in the FE service territories over the 17 next 15 years. 18 I don't know the answer to that question. Α. 19 EXAMINER PRICE: Fair enough. Do you 2.0 know if anybody knows the answer to that question. 2.1 THE WITNESS: I don't know. 22 EXAMINER PRICE: Do you know who would be 23 the next proper person to ask if you don't know it to

THE WITNESS: I don't know. I could

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be true?

1742 1 think about it get back to you tomorrow if you like. EXAMINER PRICE: You don't have to. I'll 2 3 just keep asking a few witnesses until I get the 4 answer I'm looking for. 5 THE WITNESS: I would think maybe somewhere more in the rate design aspect of this 6 7 case. EXAMINER PRICE: At this time we will 8 9 take a 15-minute recess. When we come back, we will 10 go into the confidential session. Thank you. We are off the record. 11 12 (Recess taken.) 13 (CONFIDENTIAL PORTION.) 14 15 16 17 18 19 2.0 2.1 22 23 24 25

CERTIFICATE I do hereby certify that the foregoing is a true and correct transcript of the proceedings taken by me in this matter on Thursday, September 10, 2015, and carefully compared with my original stenographic notes. Rosemary F. Anderson, Registered Professional Reporter.

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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 (Revised Exhibit Index) hearing held on 09/10/15 - Volume VIII electronically filed by Mr. Ken Spencer on behalf of Armstrong & Okey, Inc. and Anderson, Rosemary Foster Mrs.