

BEFORE THE PUBLIC UTILITIES COMMISSION OF OHIO

- - -

In the Matter of the 2018 :
Long-Term Forecast Report : Case No. 18-501-EL-FOR
of Ohio Power Company and :
Related Matters. :

In the Matter of the :
Application of Ohio Power :
Company for Approval to :
Enter Into Renewable : Case No. 18-1392-EL-RDR
Energy Purchase :
Agreements for Inclusion :
in the Renewable :
Generation Rider. :

In the Matter of the :
Application of Ohio Power : Case No. 18-1393-EL-ATA
Company for Approval to :
Amend its Tariffs. :

- - -

PROCEEDINGS

before Ms. Sarah Parrot and Ms. Greta See, 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 Wednesday, January 16,
2019.

- - -

VOLUME II

- - -

ARMSTRONG & OKEY, INC.
222 East Town Street, Second Floor
Columbus, Ohio 43215-5201
(614) 224-9481 - (800) 223-9481

- - -

1 APPEARANCES:

2 American Electric Power Service Corporation
3 By Mr. Steven T. Nourse
4 and Ms. Christen M. Blend
5 1 Riverside Plaza, 29th Floor
6 Columbus, Ohio 43215

7 Porter Wright Morris & Arthur, LLP
8 By Mr. Eric B. Gallon
9 and Mr. L. Bradfield Hughes
10 41 South High Street, 29th Floor
11 Columbus, Ohio 43215

12 Ice Miller, LLP
13 By Mr. Christopher L. Miller
14 250 West Street, Suite 700
15 Columbus, Ohio 43215

16 On behalf of Ohio Power Company.

17 Dave Yost, Ohio Attorney General
18 By Mr. John Jones, Assistant Section Chief
19 and Mr. Thomas W. McNamee,
20 Principal Assistant Attorney General
21 Public Utilities Section
22 30 East Broad Street, 16th Floor
23 Columbus, Ohio 43215

24 On behalf of the Staff of the Public
25 Utilities Commission of Ohio.

McNees Wallace & Nurick, LLC
By Mr. Frank P. Darr
and Mr. Matthew R. Pritchard
Fifth Third Center, Suite 1700
21 East State Street
Columbus, Ohio 43215

On behalf of Industrial Energy
Users-Ohio.

- - -

1 APPEARANCES: (Continued)

2 Ohio Partners for Affordable Energy
3 By Ms. Colleen L. Mooney
4 and Mr. Christopher J. Allwein
5 P.O. Box 12451
6 Columbus, Ohio 43215

7 On behalf of Ohio Partners for Affordable
8 Energy.

9 Carpenter Lipps & Leland LLP
10 By Ms. Kimberly W. Bojko
11 and Mr. Brian W. Dressel
12 280 North High Street, Suite 1300
13 Columbus, Ohio 43215

14 On behalf of Ohio Manufacturers'
15 Association Energy Group.

16 Interstate Gas Supply
17 By Mr. Joseph Olikier
18 and Mr. Michael A. Nugent
19 6100 Emerald Parkway
20 Dublin, Ohio 43016

21 On behalf of IGS Energy and IGS Solar,
22 LLC.

23 Bruce J. Weston, Ohio Consumers' Counsel
24 Office of the Ohio Consumers' Counsel
25 By Ms. Maureen R. Willis,
Senior Counsel,
Mr. William J. Michael,
and Mr. Christopher Healey,
Assistant Consumers' Counsel
65 East Street, 7th Floor
Columbus, Ohio 43215

On behalf of the Residential Utility
Consumers of Ohio Power Company.

Carpenter Lipps & Leland LLP
By Ms. Angela Paul Whitfield
and Mr. Stephen E. Dutton
280 North High Street, Suite 1300
Columbus, Ohio 43215

On behalf of The Kroger Company.

1 APPEARANCES: (Continued)

2 Ohio Environmental Council
3 By Ms. Miranda Leppla,
4 Mr. Trent A. Dougherty,
5 and Mr. Christopher D. Tavenor
6 1145 Chesapeake Avenue, Suite I
7 Columbus, Ohio 43212

8 On behalf of the Ohio Environmental
9 Council.

10 Kegler, Brown, Hill & Ritter, LPA
11 By Mr. Robert Dove
12 Capitol Square, Suite 1800
13 65 East State Street
14 Columbus, Ohio 43215-4294

15 On behalf of the Natural Resources
16 Defense Council.

17 Whitt Sturtevant, LLP
18 By Mr. Mark A. Whitt
19 and Ms. Rebekah J. Glover
20 The KeyBank Building, Suite 1590
21 88 East Broad Street
22 Columbus, Ohio 43215

23 On behalf of Direct Energy, LP and Retail
24 Energy Supply Association.

25 Benesch Friedlander Coplan & Aronoff, LLP
By Mr. John F. Stock
and Mr. Orla E. Collier, III
41 South High Street, Suite 2600
Columbus, Ohio 43215

On behalf of the Ohio Coal Association.

Dickinson Wright, PLLC
By Ms. Christine M.T. Pirik,
Mr. Terrence O'Donnell,
Mr. William V. Vorys,
and Ms. Cristina N. Luse
150 East Gay Street, Suite 2400
Columbus, Ohio 43215

On behalf of Mid-Atlantic Renewable
Energy Coalition.

1 APPEARANCES: (Continued)

2 Boehm, Kurtz & Lowry
3 By Mr. Michael L. Kurtz,
4 Ms. Jody Kyler Cohn,
5 and Mr. Kurt J. Boehm
6 36 East Seventh Street, Suite 1510
7 Cincinnati, Ohio 45202

8 On behalf of Ohio Energy Group.

9 Sierra Club
10 By Mr. Tony G. Mendoza
11 2101 Webster Street, 13th Floor
12 Oakland, California 94612

13 Richard Sahli Law Office, LLC
14 By Mr. Richard C. Sahli
15 981 Pinewood Lane
16 Columbus, Ohio 43230-3662

17 On behalf of the Sierra Club.

18 - - -

19
20
21
22
23
24
25

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

INDEX

- - -

WITNESS	PAGE
William A. Allen	
Cross-Examination (Continued) by Mr. Collier	262
Cross-Examination by Mr. Darr	292
Redirect Examination by Mr. Nourse	342
Recross-Examination by Mr. Oliker	353
Recross-Examination by Ms. Bojko	373
Recross-Examination by Mr. Collier	385
Recross-Examination by Mr. Darr	387
Examination by Examiner Parrot	394
Kamran Ali	
Direct Examination by Ms. Blend	402
Cross-Examination by Mr. Kurtz	408
Cross-Examination by Mr. Michael	416
Cross-Examination by Mr. Oliker	442
Cross-Examination by Ms. Bojko	462
Cross-Examination by Ms. Whitfield	494
Cross-Examination by Mr. Collier	501
Cross-Examination by Mr. Darr	520

- - -

COMPANY EXHIBITS	IDENTIFIED	ADMITTED
1 Long-Term Forecast Report of AEP Ohio Filed April 16, 2018	I-11	--
2 Amendment to the 2018 Long-Term Forecast Report of Ohio Power Company Filed September 19, 2018	I-12	--
3 Direct Testimony of William A. Allen on Behalf of Ohio Power Company	I-24	398
4 OCC-INT-1-004 Attachment 1 Excluding Crain Article	329	397
5 Direct Testimony of Kamran Ali on Behalf of Ohio Power Company	403	528

INDEX (Continued)			
1			
2		- - -	
3			
4	IGS/IGS SOLAR EXHIBITS	IDENTIFIED	ADMITTED
5	1 IGS-INT-2-004	I-115	399
6	2 PJM Renewable Integration Study, March 31, 2014	456	530
7		- - -	
8	OCC EXHIBITS	IDENTIFIED	ADMITTED
9	1 OCC-INT-10-116	I-158	399
10	2 Direct-INT-01-008	I-158	399
11		- - -	
12	IEU EXHIBITS	IDENTIFIED	ADMITTED
13	2 OCC-INT-09-090	294	399
14	3 Direct-INT-01-011	296	399
15	4 Apples to Apples Comparison Chart, American Electric Power, Residential	304	399
16			
17	5 Apples to Apples Comparison Chart, American Electric Power, Small Commercial, GS-1	306	399
18			
19	6 Apples to Apples Comparison Chart, American Electric Power, Small Commercial, GS-2	308	399
20			
21	7 Gap, Inc., Press Release	322	399
22	8 Notice 2018-59	338	--
23		- - -	
24	OMAEG EXHIBITS	IDENTIFIED	ADMITTED
25	1 Direct-INT-02-021	483	530

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

INDEX (Continued)

- - -

OMAEG EXHIBITS	IDENTIFIED	ADMITTED
2 Direct-INT-02-019	485	530
3 Direct-INT-02-017	485	530
4 IEU-INT-01-001	487	530

- - -

1 Wednesday Morning Session,
2 January 16, 2019.

3 - - -

4 EXAMINER PARROT: Let's go on the record.
5 This is a continuation of the hearing in
6 Case No. 18-501-EL-FOR, et al.

7 Let's start this morning with brief
8 appearances, names only and on whose behalf you are
9 appearing today, of course.

10 Mr. Nourse.

11 MR. NOURSE: Thank you, your Honor. On
12 behalf of Ohio Power Company, Steven T. Nourse,
13 Christen M. Blend, Christopher L. Miller, L. Bradford
14 Hughes, and Eric B. Gallon.

15 MS. WILLIS: Thank you, your Honor. On
16 behalf of the Ohio Consumers' Counsel, Maureen
17 Willis, William Michael, and Christopher Healey.

18 MR. McNAMEE: For the Staff of the PUCO,
19 Tom McNamee.

20 MR. OLIKER: Good morning, your Honors.
21 On behalf of IGS Energy and IGS Solar, LLC, Joseph
22 Oliker and Michael Nugent.

23 MR. KURTZ: For OEG, Mike Kurtz.

24 MS. BOJKO: Good morning, your Honors.
25 On behalf of Ohio Manufacturers' Association Energy

1 Group, Kimberly W. Bojko and Brian W. Dressel.

2 MS. WHITFIELD: Good morning, your
3 Honors. On behalf of The Kroger Company, Angela Paul
4 Whitfield and Stephen E. Dutton.

5 MR. STOCK: On behalf of the Ohio Coal
6 Association, John Stock and Orla Collier.

7 MS. LEPPLA: Good morning, your Honors.
8 On behalf of the Ohio Environmental Council, Miranda
9 Leppla.

10 MR. MENDOZA: Good morning, your Honors.
11 On behalf of the Sierra Club, Tony Mendoza.

12 MS. PIRIK: Good morning. On behalf of
13 Mid-Atlantic Renewable Energy Coalition, Christine
14 Pirik, Terrence O'Donnell, Will Vorys, and Cristina
15 Luse.

16 MR. DARR: On behalf of IEU-Ohio, Frank
17 Darr. Matt Pritchard will be joining us later today.

18 MS. GLOVER: On behalf of the Retail
19 Energy Supply Association and Direct Energy, Rebekah
20 Glover and Mark Whitt.

21 EXAMINER PARROT: Anyone else?

22 All right. Thank you.

23 Mr. Nourse, yesterday, you had raised a
24 few preliminary issues with the Bench. Let's go
25 ahead and address those one by one now.

1 Let's start with, first, the deposition
2 issues that you raised.

3 Mr. Oliker, I believe you mentioned, at
4 the end of the day yesterday --

5 MR. OLIKER: We did, and then we decided
6 that given that Mr. Torpey is going to testify today,
7 we probably were not going to file it. And we were
8 going to -- in the event that he flees the country,
9 we were going to address the issue at that point.

10 EXAMINER PARROT: Very good.

11 With that, I would just note that, to
12 your point, Mr. Nourse, yesterday, we fully agree,
13 depositions are not to be regarded as evidence. They
14 will not be so regarded in this -- in these
15 proceedings. I would just note that on the record.

16 MR. NOURSE: Thank you, your Honor.

17 EXAMINER PARROT: If we do reach a point
18 at which a party feels it needs to file a deposition,
19 we can discuss that at that point, but for now I
20 think we'll leave the issue there.

21 I think you had also proposed with
22 respect to the testimony of certain witnesses that
23 will be deferred to the second phase of these
24 proceedings that the parties may work together to try
25 to craft sort of a supplemental version of the

1 testimony, I guess I will describe it as, that would
2 sort of remove the deferred portions of the
3 testimony.

4 I think we've discussed that and feel
5 that that's not necessary. We're just going to work
6 with the prefiled testimony as it stands, much as we
7 would with motions to strike. Stricken testimony
8 stands in the filed document, but we just need to be
9 diligent about, you know, remembering, I guess, which
10 portions are at issue in this first phase.

11 If you wish, at the outset of the
12 witness's testimony on the stand, we can sort of
13 designate so that that's reflected in the transcript
14 which portions have been deferred. We can do that.
15 That might help aid things in terms of clarity.

16 MR. NOURSE: Yeah, I think that would
17 work, and obviously our motion had narrowly tailored
18 the proposed sections and, since that was granted, I
19 would use the same references, but, yeah, I think
20 that would be helpful to the record. Thank you.

21 EXAMINER PARROT: Okay. Any other
22 preliminary issues?

23 All right. Mr. Allen, I would just
24 remind you you are still under oath.

25 THE WITNESS: I understand that.

1 EXAMINER PARROT: Mr. Collier, go ahead.

2 MR. COLLIER: Thank you.

3 - - -

4 WILLIAM A. ALLEN

5 being previously duly sworn, as prescribed by law,
6 was examined and further testified as follows:

7 CROSS-EXAMINATION (CONTINUED)

8 By Mr. Collier:

9 Q. Mr. Allen, I want to ask a few more
10 questions about the Long-Term Forecast Report. Do
11 you have that before you?

12 EXAMINER SEE: Mr. Collier, if you could
13 cut your mic on. Go ahead and get started. Just
14 speak up.

15 Q. Do you have the Long-Term Forecast before
16 you, Exhibit 1?

17 A. I do not.

18 Q. Can you obtain it from your counsel or
19 the court reporter?

20 MR. NOURSE: We'll have to borrow the
21 court reporter's copy. I am not sure why you don't
22 have a copy if you want to ask him questions about
23 it.

24 Q. I would like to turn your attention, in
25 the Long-Term Forecast Report, to page 101 of 114.

1 That Form FE-R1 provides the monthly forecast of the
2 utility's area peak load and resources dedicated to
3 meet that peak load; is that correct?

4 A. Well, once again, I will mention this is
5 a document, these forms are sponsored by Company
6 witness Torpey, and you paraphrased what the title of
7 that report states.

8 Q. Okay. And that report provides, on a
9 monthly basis, both purchases as well as sales and
10 capacity and other -- other items; is that correct?

11 A. It has rows that state purchases in
12 megawatts by month for the current calendar year, and
13 it has load on a monthly basis for the current
14 calendar year.

15 Q. For purposes of procurement of capacity,
16 AEP Ohio procures capacity not only to meet peak load
17 but also to provide a reserve; is that correct?

18 A. I think that's a better question for
19 Company witness Torpey.

20 Q. I would like to turn your attention now
21 to page 103 of the Long-Term Forecast Report.

22 A. I'm there.

23 Q. Yes. You're there? Page FE-R3, page 103
24 provides a summary of existing generation facilities
25 for the system as of 12-31-2017; is that correct?

1 A. The title of Form FE-R3 that's sponsored
2 by Company witness Torpey is a "Summary of Existing
3 Electric Generation Facilities for the System (as of
4 12/31/2017)."

5 Q. And all of those resources listed are
6 contractual entitlements, are they not?

7 A. As indicated in the note on that form.

8 Q. Fowler Ridge II is a wind facility of
9 100-megawatt nameplate capacity?

10 A. That's what the document states.

11 Q. And where is that facility located?

12 A. I don't know.

13 Q. The term of the contract?

14 A. It's a 20-year REPA.

15 Q. When did it start?

16 A. That would be a question for Company
17 witness Torpey.

18 Q. Wyandot Solar, a solar facility of
19 10-megawatt nameplate capacity. Where is that
20 facility located?

21 A. My recollection is that facility is in
22 Ohio.

23 Q. Term of the contract?

24 A. I think that's a question for Company
25 witness Torpey.

1 Q. Timber Road, a wind generation facility
2 of 100-megawatt nameplate capacity?

3 A. That's what the document states.

4 Q. Where is that facility located?

5 A. I don't know.

6 Q. And do you know the term of the contract?

7 A. It's a 20-year REPA.

8 Q. All right. Now, if we turn to the next
9 page, page 104, none of the resources I just
10 mentioned are designated to meet Ohio peak load; is
11 that correct?

12 A. That's what the form indicates, yes.

13 Q. All right. Now, turning to your
14 testimony at page --

15 A. Are we done with this document so I can
16 return it to the court reporter?

17 Q. Sure.

18 A. I have my testimony.

19 Q. Page 8, you talk about the role of PJM
20 ensuring capacity. PJM, is AEP Ohio a participant in
21 the PJM market?

22 A. AEP Ohio -- the battery died on the
23 microphone. To answer your question, AEP Ohio
24 operates in the PJM market and participates in the
25 PJM market.

1 Q. Does AEP Ohio have capacity obligations
2 to PJM?

3 A. I'm not quite sure I follow your
4 question. Can you clarify what you mean by "capacity
5 obligations"?

6 Q. Does AEP Ohio participate in the base
7 residual auction conducted by PJM?

8 A. AEP Ohio bids certain units into the
9 base -- PJM base residual auction.

10 Q. What units does AEP Ohio bid in?

11 A. It would be the -- it should be the OVEC
12 entitlement and the three renewable REPAs we
13 previously discussed.

14 Q. All right. Otherwise, AEP Ohio procures
15 its capacity needs through the PJM competitive
16 market, correct?

17 A. CRES providers, that are serving load
18 from AEP Ohio, procure capacity from the PJM market;
19 and the auction winners, in the SSO, procure capacity
20 from the PJM market.

21 Q. The generation subsidiary or entity
22 within the AEP family is AEP Energy?

23 A. AEP has a number of subsidiaries.

24 Q. That engage in generation.

25 A. We have a number of entities that have

1 generation, including several regulated integrated
2 utilities in the Indiana Michigan Power Company,
3 Kentucky Power Company, Appalachian Power Company,
4 Wheeling Power Company.

5 Q. Those would be the regulated entities
6 that have a generation resource.

7 A. That would be some of them, yes.

8 Q. All right. And do those entities bid
9 into the PJM base residual auction?

10 A. I'm not sure that's relevant to what we
11 are talking about here today, but they have the
12 ability to.

13 Q. All right.

14 A. They are FR entities.

15 Q. The point being that the PJM capacity
16 market is a competitive market, is it not?

17 A. No. I wouldn't agree that it's a
18 competitive market. It's a regulated market.

19 Q. It's a market that is subject to
20 competitive bid, is it not?

21 A. It's a market that's subject to bids that
22 are administratively controlled. There are specific
23 rules about prices that entities bid into the
24 different capacity auctions or the day-ahead. It's
25 not a true market.

1 Q. All right. Now, PJM, as you point out,
2 includes vertically-integrated electric utilities,
3 correct?

4 A. Yes.

5 Q. It also includes merchant generators.

6 A. Yes.

7 Q. Does it include any other participants?

8 A. It includes loads. It includes
9 co-operative utilities. Any number of different
10 entities, municipal utilities.

11 Q. Okay. So there is a variety of diverse
12 participants in the capacity market.

13 A. I thought you were talking about PJM
14 before.

15 Q. I am talking about PJM's capacity market.

16 A. You were talking about PJM as a whole in
17 your prior question. Is your question now about the
18 capacity markets?

19 Q. It is about the capacity markets.

20 A. So you are going to have to rephrase the
21 question, please.

22 Q. All right. PJM conducts a base residual
23 auction and the participants could include not only
24 vertically-integrated electric utilities but also
25 merchant generators.

1 A. Yes.

2 Q. Okay. And you mentioned other co-ops and
3 municipalities. Okay. Now, that generation resource
4 mix for the capacity includes coal generation?

5 A. Yes.

6 Q. Nuclear?

7 A. Yes.

8 Q. Gas?

9 A. Natural gas, yes.

10 Q. Wind?

11 A. Yes.

12 Q. Solar?

13 A. As well as others, yes.

14 Q. Yes. Now, AEP Ohio does not dictate
15 PJM's regulations or how it runs its base residual
16 auction, does it?

17 A. That's a FERC-approved tariff.

18 Q. All right. AEP Ohio cannot dictate, to
19 any of the merchant generators or other participants,
20 what resource mix they are going to deploy; is that
21 correct?

22 A. Correct.

23 Q. And as you understand it, the Public
24 Utilities Commission doesn't regulate the PJM
25 capacity market, does it?

1 A. As I previously indicated, it's a
2 FERC-regulated tariff.

3 Q. All right. Now, besides capacity, is
4 there an energy market that PJM operates?

5 A. Similar to PJM's capacity auction, the
6 procurement of energy in PJM is done based upon a set
7 of administrative rules.

8 Q. PJM operates a day-ahead scheduling
9 reserve market, does it not?

10 A. I can't tell you which all -- what all
11 the names of the different procurements that PJM
12 does. They do a day-ahead procurement for energy and
13 they do a realtime procurement of energy. I can't
14 tell you the exact names of those procurements.

15 Q. All right. In -- earlier in your
16 testimony you talked about such things as
17 flexibility, fuel diversity, reliability maybe, those
18 kind of attributes, correct?

19 A. I did.

20 Q. Okay. Those attributes are controlled by
21 the PJM market, are they not?

22 A. Not for all utilities. The different
23 states have the ability to influence the type of
24 generation resources that are built within those
25 states to serve its customers and that's one of the

1 things that we're doing here is presenting a plan to
2 the PUCO to influence the type of resource mix that
3 serves the State of Ohio.

4 Q. All right. The states you are referring
5 to are regulated states?

6 A. Ohio is a regulated state.

7 Q. Generation -- regulation of generation.

8 A. Ohio does regulate generation, has the
9 ability to regulate generation. We have to remember
10 what the current construct is in Ohio today. We had
11 the Senate Bill 221 -- I'm sorry -- the Senate Bill 3
12 era that began in 2000, but then as we moved into the
13 2007 and '8 time frame, the legislature changed how
14 Ohio regulates utilities in the state and it created
15 a hybrid model where the PUCO has the ability to
16 regulate generation in the state, and there's
17 actually a provision in the law that allows utilities
18 to build or operate generating facilities subject to
19 the regulation of the PUCO.

20 Q. One of which is 4928.143(B)(2)(c), right?

21 A. Yes.

22 Q. All right. Now, do you know the
23 generation mix of the PJM market in 2018?

24 A. I've seen it. I couldn't recite it for
25 you.

1 Q. Approximately, coal, as of 2016,
2 installed capacity was 33 percent; natural gas,
3 30 percent -- 33 percent; nuclear, 18 percent; and
4 renewable, 6 percent.

5 A. You are going to have to show me a
6 document for me to confirm those facts.

7 Q. Do you have any better number?

8 MR. NOURSE: Your Honor, I object. If
9 he's just going to say things into the record without
10 showing him a document and then ask the witness to
11 disprove it, I think it lacks a foundation.

12 MR. COLLIER: No. I am asking if he has
13 independent personal knowledge what the PJM
14 generation resource mix is as of --

15 MR. NOURSE: He already answered that
16 question, your Honor.

17 MR. COLLIER: He said he doesn't know,
18 right? We'll move on if he doesn't know. Okay?

19 EXAMINER PARROT: Let's rephrase the
20 question that's pending.

21 Q. (By Mr. Collier) Do you know the
22 generation mix of PJM installed capacity as of 2018?

23 A. I can't recite the percentages as we sit
24 here today.

25 Q. All right. Do you know the capacity mix

1 of the AEP companies as of September 18, 2018?

2 MR. NOURSE: Objection. Can you clarify
3 which AEP companies you're talking about?

4 Q. The ones mentioned in your annual report
5 as of September 18, 2018; generation resources for
6 AEP.

7 A. We wouldn't have an annual report dated
8 September of 2018.

9 Q. All right. Your 2018 annual report.

10 A. We're on a calendar year annual report
11 cycle.

12 Q. When's your most-recent generation mix
13 number? For the AEP system?

14 A. I'm not sure I follow your question.

15 Q. What is the mix of the generation
16 resources of AEP as of the most-recent date?

17 A. I can't recite that mix for you as we sit
18 here today.

19 Q. You will agree that the generation mix of
20 AEP includes coal, gas, nuclear, renewable, and what
21 they call "energy-efficiency."

22 MR. NOURSE: Again, I would just object
23 and ask for a clarification if you are talking about
24 the regulated operating companies or unregulated
25 affiliates or some sort of composite of all the AEP

1 companies, east, west, there's a lot of variations
2 there.

3 Q. How about within the AEP generating unit,
4 operating within the PJM footprint.

5 A. I know that AEP has coal, gas, nuclear,
6 hydro, wind, and solar resources that operate within
7 the PJM footprint.

8 Q. All right. Is there any entity within
9 AEP that actually built a solar plant or has built a
10 solar plant?

11 A. I don't know.

12 Q. Is there any entity within AEP that has
13 built a wind facility?

14 A. My recollection is that one of the AEP
15 entities is repowering a wind facility.

16 MR. OLIKER: Could I have the question
17 read again, please? I'm sorry.

18 (Record read.)

19 Q. Are you thinking of your answer?

20 A. No. I already gave you an answer.

21 Q. All right. Now, is there an entity
22 within AEP that could build a solar facility within
23 the PJM footprint?

24 MR. NOURSE: I'm sorry, Mr. Collier. Can
25 you clarify? Are you asking whether AEP can do

1 activities in-house or are you asking about through
2 the use of a vendor, a contractor, an RFP winner?
3 Can you clarify what you are asking?

4 Q. I will open the question to either
5 constructing it yourself or contracting out for the
6 construction of a facility.

7 A. Various AEP utilities are capable of
8 contracting out for the construction of renewable
9 facilities within PJM and, in fact, our affiliate in
10 the Indiana Michigan Power Company contracted out the
11 construction of some solar facilities in Indiana, and
12 we own and operate several renewable facilities that
13 were built by AEP in past years.

14 Q. In your review of the generic solar
15 comparison, was it assumed, in any of the generic
16 solar REPAs, that there would be an option for AEP
17 Ohio to purchase or own the facility itself?

18 A. The analysis presented for the generic
19 facilities was based upon REPAs between AEP Ohio and
20 the owner of those facilities.

21 Q. And in your generic analysis, was it --
22 were there any kind of assumptions made about an
23 option for AEP Ohio to own or purchase the facility
24 itself?

25 A. The analysis was agnostic to the

1 ownership --

2 Q. Okay.

3 A. -- of those facilities.

4 Q. All right. Now, merchant generators,
5 operating within the PJM footprint, make their own
6 decisions as to what generation source they will
7 construct; isn't that correct?

8 A. Merchant generators make decisions about
9 the resources that they'll construct based upon the
10 market for customers that they plan to sell to. So
11 certain developers, if they are able to find willing
12 counterparties for renewable facilities or other
13 facilities, will build those types of facilities.

14 So part of the decision about the type of
15 facility that merchant generators are going to build
16 depends upon the willingness of counterparties to
17 enter into contracts for the output of those
18 facilities.

19 Q. It's also based on economics. If the
20 facility doesn't make economic sense, no merchant
21 generator is going to build it, right?

22 A. One of the considerations of economics
23 are those contracts that are signed with
24 counterparties, or reliance upon selling in the, you
25 know, RPM market or just in the day-ahead, but all of

1 those are different considerations that different
2 merchant generators evaluate as they determine what
3 they're going to build and the ultimate economics.

4 And some of those economics are dictated
5 significantly by the ability of counterparties to
6 sign those contracts because when you have a
7 creditworthy counterparty that's willing to sign a
8 long-term contract as a merchant generator, you are
9 able to obtain lower-cost financing for that facility
10 or to finance that facility with a lower equity layer
11 and a higher debt layer that allows you to have a
12 lower overall financing cost. So there are numerous
13 economic considerations, by merchant generators,
14 based upon the type of counterparties that they can
15 enter into a contract with.

16 Q. All right. In your generic model of cost
17 comparisons, do you make any assumption about the
18 creditworthiness of the market -- of the generator
19 itself?

20 A. The assumption in the analysis is that
21 the creditworthiness of the developer is largely
22 based upon the contract or REPA that would be entered
23 into with the utility for merchant generators that
24 are doing REPAs like these. Their creditworthiness
25 is based upon that contract, that REPA, that utilizes

1 the balance sheet of the utility that they are
2 signing with as support.

3 Q. All right. So it's based on the actual
4 contract.

5 A. The contract or the REPA would influence
6 the creditworthiness of that counterparty, yes.

7 Q. All right. And solar will compete with
8 other solar projects, will it not?

9 A. You're going to have to provide more
10 specificity on --

11 Q. A generic solar facility will compete
12 with other solar facilities that are available in the
13 market; isn't that correct?

14 A. Are you referring to in response to an
15 RFP?

16 Q. No. I am referring to the limits you put
17 on your own generic study.

18 A. The study that we performed compared the
19 cost of a resource portfolio that included generic
20 solar and generic wind to a resource portfolio that
21 didn't include those REPAs and determined that it was
22 a lower-cost portfolio to include those resources.

23 Q. Fine. You make the comparison between
24 solar -- generic solar, generic wind, other
25 resources, correct?

1 A. No. We are comparing the portfolio with
2 and without those resources.

3 Q. But the portfolio that exists in the real
4 world, Mr. Allen, will include generation -- a
5 diverse generation resource mix, including coal,
6 natural gas, renewables, and nuclear.

7 A. The comparison that was done was to the
8 pricing that would exist in the PJM market. The
9 prices that are determined in PJM are based upon
10 administratively-controlled bids by various
11 generating assets that have various fuel sources.

12 Q. Okay. Now, your break-even analysis
13 actually shows that the break-even point for solar is
14 higher than it is for wind; is that not correct?

15 A. First of all, it's Company witness
16 Torpey's analysis that we've presented. Do you have
17 a reference to a page that you're asking about?

18 Q. I'll find it. Page 6 of Mr. Torpey's
19 testimony finds a break-even for solar REPA costs
20 below \$56.82 a megawatt-hour and for wind REPA costs
21 below \$48.40 a megawatt-hour.

22 A. And what is your question?

23 Q. Break-even for wind is less than solar on
24 your own analysis with your own assumptions.

25 A. So let me explain, and Company witness

1 Torpey can --

2 Q. Is that not correct? Answer the question
3 first. Is the break-even price for wind less than it
4 is for solar?

5 A. The analysis shows that solar, with a
6 REPA price as high as \$56.82, would be break-even, as
7 compared to a REPA for wind that would have to be
8 priced at a lower cost of \$48.40 for break-even,
9 which shows that solar resources that were bid at the
10 same REPA price as wind resources are more economic.

11 Q. Solar, based on REPA prices, is more
12 economic than wind.

13 A. Yes. So if I had a solar REPA that had a
14 price of \$50 a megawatt-hour, it would be more
15 economic than a wind resource that had a REPA price
16 of \$50 a megawatt-hour.

17 And the way you can understand that, with
18 the example I just gave you, is that at \$50, it would
19 be lower than the break-even for solar which says
20 that's an economic solar contract to enter into, that
21 would provide net benefits to our customers from a
22 cost perspective. But for a wind resource, it would
23 be above that break-even analysis number and it
24 wouldn't show net savings over the life of the REPA
25 for our customers.

1 Q. You're proposing 900 megawatts generic
2 wind and solar, right?

3 A. Yes, we are showing there is a need for
4 that level of renewable resources and, as long as
5 those prices for those REPAs come in at a level below
6 the break-even price, they provide net cost savings,
7 as shown in Company witness Torpey's analysis, over
8 the life of the REPAs.

9 Q. Do you have a figure for actual REPA --
10 do you have a figure for generic REPA costs for a
11 wind facility embedded in your analysis?

12 A. So if you turn to Table 6 of Exhibit
13 JFT-1, it's page 22 of 47, the generic wind REPA
14 price that's assumed in that analysis is \$40 a
15 megawatt-hour. And it shows that at that cost that
16 there would be a present-worth change in the net
17 revenue requirement of \$54 million.

18 Q. And what would be the comparable figure
19 for solar?

20 A. You would refer to the prior table, Table
21 5, that shows the value of a generic solar REPA with
22 the REPA cost of \$45 a megawatt-hour.

23 Q. Comparing apples to apples, solar is more
24 expensive than wind.

25 A. No.

1 Q. We'll leave that. The figures there, you
2 gave it to us, \$45 and \$40, those are comparable
3 figures, right?

4 A. No. You have to look at the value that
5 the production of those facilities creates when sold
6 into the market; so it has to do with things like the
7 time of day that those resources are producing. But
8 what the analysis shows is that at these two values,
9 both solar and wind REPAs provides net benefits to
10 customers, from a resource perspective, over the life
11 of the REPAs.

12 Q. There are other factors that have to be
13 considered. Time of day is contribution to the peak
14 time of day, is it not? Time of day, what difference
15 does it make what time of day?

16 A. Throughout the day, the value that can be
17 obtained by selling energy into PJM changes; so at
18 certain times of the day, you can receive greater
19 margins than at other times of the day. So typically
20 in the afternoon, when solar facilities are generally
21 running or producing power, the price is greater than
22 the value you can obtain by selling power overnight
23 when solar facilities aren't running.

24 Q. And that's because a wind facility, its
25 generation depends on the wind velocity, correct?

1 A. Correct.

2 Q. And that wind velocity will depend on
3 time of day, day of week, season of the year.

4 A. It doesn't depend on the day of the week.

5 Q. Okay.

6 A. But wind patterns change based upon, you
7 know, hour, temperature, season, things of that
8 nature.

9 Q. And solar is intermittent to the extent
10 that it depends on when the sun is shining.

11 A. They're both intermittent resources.

12 Q. We can agree on that. Okay. So, but
13 they are intermittent in different ways.

14 A. Their production profiles are different.

15 Q. All right. And the energy cost that they
16 generate is going to vary by time of day.

17 A. I think you've misstated your question.
18 I can't answer the question you asked.

19 Q. The energy cost of wind generation and
20 solar generation will vary based on the factors you
21 mentioned, including time of day.

22 A. No. These are fixed price REPAs. The
23 cost of the energy doesn't change based upon the hour
24 of the day.

25 Q. Okay. But in terms of competition on the

1 energy market, PJM dispatches energy on literally an
2 hourly basis, does it not?

3 A. There's a lot more detail that goes into
4 it. But generally power is dispatched on a -- on an
5 hourly and realtime basis. It's dispatched on a very
6 tight time frame.

7 Q. All right. When we talk generic wind and
8 solar, you don't even have a generic wind in the
9 design phase, do you?

10 A. These are illustrative examples of what a
11 typical -- or what an expected REPA value would be
12 for wind and solar resources.

13 Q. Resources, not -- in here, not specific
14 projects.

15 A. These are -- this is a generic economic
16 analysis.

17 Q. All right.

18 A. Based upon locating renewable resources
19 at certain points within the AEP system.

20 Q. Is the assumption in your generic
21 analysis that the facilities will be located in Ohio
22 necessarily?

23 A. That's my understanding, yes.

24 Q. But again, there -- there isn't any
25 specific wind REPA project that's in the queue for

1 this 500 megawatts.

2 A. Which queue are you referring to?

3 Q. PJM queue.

4 MR. NOURSE: Your Honor, I am just going
5 to object. This apparently relates to a case we
6 haven't filed yet and, in any event, it would either
7 be Phase II, a matter for Phase II, or some other
8 case that we haven't filed yet.

9 MR. COLLIER: It goes to this whole issue
10 of phantom generic pricing, and price comparisons as
11 opposed to actual costs. Actual costs of a specific
12 generating facility.

13 MR. NOURSE: Well, I object to that term
14 and I don't think it is a valid criticism because we
15 are talking about the generic need phase of this
16 proceeding and I think that's been very clear
17 throughout the record and the rulings.

18 MR. COLLIER: No, Mr. Nourse. We are in
19 the need phase, not necessarily the generic need
20 phase. That's your position. Others may disagree.
21 And I'm -- I'm attempting here to explore what this
22 generic concept really entails and we know it doesn't
23 relate to a specific project, either wind or solar.

24 Q. Right, Mr. Allen?

25 EXAMINER PARROT: That question is fine.

1 Answer that one.

2 A. Can I have the question reread?

3 Q. The generic proposal does not relate to a
4 specific project wind or solar.

5 A. These are based on generic projects, not
6 an individual project.

7 Q. Okay. Now, in terms of timing, timing of
8 the construction of a wind or solar facility will
9 depend on the day of commencement of construction,
10 right?

11 A. Can you repeat that question?

12 Q. The timing of a facility coming online,
13 whether wind or solar, will depend on the date of
14 start of construction.

15 A. One of the items that would influence the
16 date a facility is completed is the date that
17 construction starts, yes.

18 Q. All right. Now, in Ohio, a wind facility
19 of this magnitude that you're talking about requires
20 Ohio Power Siting Board approval, does it not?

21 A. Yes.

22 Q. And a wind facility of this magnitude
23 would require Ohio Power Siting Board certification.

24 A. I think that's the same question you just
25 asked.

1 Q. Both -- both facilities, wind or solar,
2 require PJM approval in terms of entering the queue.

3 A. They require interconnection studies to
4 be performed. I don't think PJM has to approve the
5 specific projects.

6 Q. All right. Within your assumptions of
7 the generic model, do you make any assumption as to
8 how output would be dispatched into the PJM market?

9 A. That's a question for Company witness
10 Torpey that did the detailed analysis.

11 Q. Okay. But you would agree that the
12 output from the solar facility will not actually
13 necessarily serve a specific AEP utility customer.

14 A. You can't say that for any generating
15 unit. All generating units bid into the PJM market
16 and the electrons flow where the electrons flow.
17 There's never been a construct, once utilities
18 interconnected with each other, where you could
19 identify that electrons produced at a generating
20 facility served customers in that utility's
21 footprint.

22 Q. So when an AEP customer that wants green
23 energy flips the switch to light his house, that
24 electricity could actually come from coal, nuclear,
25 solar, wind, or any other source.

1 A. Yes.

2 Q. All right. And the construction of green
3 energy is not the actual electron flow but the
4 renewable energy credit, is it not?

5 A. No. The concept of renewable energy and
6 customers purchasing renewable energy is that they're
7 paying for energy that comes from renewable resources
8 and bringing that energy onto the grid. They're not
9 necessarily paying for that exact electron to make it
10 to their house but they are paying for that electron
11 to be on the generating grid. It's not just an
12 attribute. There is actually energy being produced
13 by renewable resources that's entering the
14 transmission grid. The question is which grid is it
15 entering in some cases, but it does have to be
16 produced.

17 Q. How many customers, residential, does AEP
18 Ohio have in total?

19 A. It's over a million.

20 Q. A million residential customers.

21 A. In excess of a million.

22 Q. Is that both SSO customers and shopping
23 customers?

24 A. Yeah. Approximately 35 percent of our
25 customers are shopping customers, and 65 percent are

1 SSO customers from a residential perspective.

2 Q. And the Navigant study, the response rate
3 for the residential class was 6 percent of the
4 surveys issued.

5 A. I don't know.

6 Q. 94 -- if that number is correct, then
7 94 percent of AEP's customers, those solicited, made
8 no determination one way or the other on the
9 desirability of renewable energy.

10 MR. NOURSE: Objection. I think this
11 builds on the prior question, that's better for the
12 Navigant witnesses, and Mr. Allen indicated he's not
13 able to recite those figures from memory.

14 Q. Then I am going into the charts that he
15 provides at page 12 of his testimony. Unless you
16 want to withdraw that testimony, then I'll ask you --

17 MR. NOURSE: No, that addresses a
18 different issue; so go ahead.

19 Q. All right. We'll address the issue.
20 Table 1, Desire for Renewable Energy. Residential,
21 86 percent believe it's moderately important to make
22 greater use of renewable energy. Do you see that
23 figure?

24 A. You paraphrased it, but that's -- it says
25 86 percent of residential customers, and on the top

1 of the column it says "Believe it is moderately
2 important/very important for AEP Ohio to make greater
3 use of renewable energy."

4 Q. The surveys, themselves, were responded
5 only by 6 percent of the people that were submitted
6 the survey.

7 MR. NOURSE: Objection. This is the same
8 question. It goes to -- you know, if he wants to ask
9 about the sampling validity, whether it is
10 representative of the general population, statistical
11 issues relating to the survey, Navigant is the --
12 witness Horner, witness Fry are the appropriate
13 witnesses to talk about that.

14 MR. COLLIER: Well, would you stipulate,
15 Mr. Nourse, that 86 percent of the total residential
16 customer base of AEP Ohio did not respond in the
17 fashion indicated?

18 MR. NOURSE: No. I would request that
19 you ask the Navigant witnesses those kind of
20 questions.

21 MR. COLLIER: Then I move to strike the
22 testimony at page 12.

23 MR. DARR: I join in the motion, your
24 Honor. If the witness cannot --

25 MR. COLLIER: -- and 13.

1 MR. DARR: If the witness is not aware of
2 this, then he can answer the question that he is not
3 aware. I think it's perfectly valid to explore the
4 understanding of this witness with regard to the
5 testimony that he's presented.

6 MR. NOURSE: Again, your Honor, we talked
7 about this yesterday.

8 EXAMINER PARROT: The question that's
9 pending has already been answered, so ask another
10 question, Mr. Collier.

11 MR. COLLIER: Could you read back the
12 last question that was already answered?

13 EXAMINER PARROT: He already said he
14 doesn't know what the rate of return on the survey
15 was. That was your question.

16 MR. COLLIER: We will leave it at that.
17 Would you grant my motion to strike or deny it?

18 EXAMINER PARROT: It's denied.

19 MR. COLLIER: I have no further
20 questions. Thank you.

21 EXAMINER PARROT: Mr. Darr.

22 MR. DARR: Thank you, your Honor.

23 - - -

1 CROSS-EXAMINATION

2 By Mr. Darr:

3 Q. Mr. Allen, I would like to turn to one of
4 the statements you made earlier in your testimony.
5 With regard to the assertion that competitive markets
6 would be -- or that it was far from evident that
7 competitive markets would be able to meet the
8 renewable needs of AEP customers. Now, you filed
9 this Application in 2018, correct?

10 A. That's correct.

11 Q. And as you indicated to Mr. Collier a
12 moment ago, the annual report with regard to
13 operations for 2018 is not currently available; is
14 that correct?

15 A. AEP's Annual Report?

16 Q. Correct.

17 A. That's correct.

18 Q. So the most-recent calendar year for
19 which AEP would have information would be calendar
20 year 2017, correct?

21 A. The Company's most-recent annual report
22 would be our 2017 annual report, that's correct.

23 Q. And for calendar year 2017, AEP does not
24 have information regarding retail sales and renewable
25 energy in competitive markets in Ohio showing

1 residential and nonresidential sales; is that
2 correct?

3 A. I'm sorry, that had a lot of things in
4 it. Can you repeat it?

5 Q. Certainly.

6 For calendar year 2017, AEP Ohio does not
7 have information regarding retail sales of renewable
8 energy and competitive markets in Ohio, showing
9 residential and nonresidential sales; that's correct,
10 is it not?

11 MR. NOURSE: Your Honor, I would object.
12 He's asking about a report that is hundreds of pages
13 and he's not putting it in front of the witness and
14 asking him whether something is not in that report,
15 so I would object to the form of that question.

16 EXAMINER PARROT: If you are able to,
17 Mr. Allen, go ahead and address the question.

18 A. I don't know all of the information that
19 was included in that report.

20 Q. Mr. Allen, you've provided answers to
21 interrogatories in this case, did you not?

22 A. Yes, I did.

23 MR. DARR: I would like to have marked as
24 IEU Exhibit No. 2 -- I am reserving No. 1 for
25 Mr. Murray -- an interrogatory identified as OCC

1 Interrogatory and Response 9-090.

2 EXAMINER PARROT: So marked.

3 (EXHIBIT MARKED FOR IDENTIFICATION.)

4 EXAMINER PARROT: Mr. Darr.

5 MR. DARR: Sorry, your Honor. My
6 apologies.

7 EXAMINER PARROT: I need two, please.

8 MR. DARR: Again, my apologies.

9 Q. Do you have in front of you what's been
10 marked as IEU Exhibit No. 2?

11 A. I do.

12 Q. This is an interrogatory and response by
13 AEP Ohio that you are the author of, correct?

14 A. Yes.

15 Q. And the interrogatory requests that you
16 "identify for calendar year 2017, the retail sales of
17 renewable energy (Million kWh) in competitive markets
18 in Ohio showing residential and non-residential
19 sales," correct?

20 A. Yes. And that type of information
21 wouldn't show up in the Company's annual report
22 because it -- the way I interpreted the question, I
23 think the way the question clearly reads is it's
24 addressing markets beyond AEP Ohio; so it would
25 include FirstEnergy, Dayton Power & Light, Duke.

1 Q. Yeah. And the bottom line is you didn't
2 provide it for AEP Ohio. You didn't provide it for
3 Duke. You didn't provide it for anyone, correct?

4 A. That's correct.

5 Q. And that's because the Company is not in
6 possession of that information, correct?

7 A. That's correct.

8 Q. Now, moving on, AEP Ohio also cannot
9 identify, for calendar year 2017, the retail sales of
10 renewable energy through the regulated markets in
11 Ohio, correct?

12 A. We can identify the amount sold within
13 the AEP Ohio service territory but not in the
14 territories -- for the other utilities in Ohio, the
15 information is obtainable but the Company doesn't
16 have that information.

17 Q. And you didn't provide that as part of
18 your application with regard to the need for these
19 facilities, correct?

20 A. Correct.

21 Q. Further, AEP Ohio does not currently
22 quantify the quantity of solar resources currently
23 deployed in Ohio, correct?

24 A. AEP Ohio can quantify the amount of solar
25 resources that are deployed within AEP Ohio's service

1 territory or those resources that are serving
2 wholesale for other areas within Ohio.

3 Q. That wasn't my question. My question
4 was: AEP has not quantified the megawatts of solar
5 resources currently deployed in Ohio, correct?

6 MR. NOURSE: Objection. Are you asking
7 about the -- in the filing?

8 MR. DARR: No. I am asking whether or
9 not AEP tracks this information.

10 Q. Mr. Allen, can you answer my question?

11 A. The information about solar resources
12 deployed in Ohio is publicly available through
13 sources such as EIA, and the Company has reviewed
14 that data -- I've reviewed that data personally in
15 the past.

16 Q. Mr. Allen --

17 MR. DARR: I would like to have marked as
18 IEU Exhibit No. 3 then, this being an answer to an
19 interrogatory, Direct Interrogatory 1-11.

20 EXAMINER PARROT: So marked.

21 (EXHIBIT MARKED FOR IDENTIFICATION.)

22 Q. I'm showing you what's been marked IEU
23 Exhibit No. 3.

24 Going back to my question, Mr. Allen.

25 Do you have in front of you what's been

1 marked as Direct Interrogatory 01-011 and your
2 response that's been identified as IEU Exhibit No. 3?

3 A. Yes. I think it's consistent with what
4 we just talked about.

5 Q. In that interrogatory you were asked to
6 identify the quantity, in megawatts, of solar
7 resources currently deployed in Ohio, correct?

8 A. Yes.

9 Q. And your response to my question earlier
10 was that you had reviewed that, correct?

11 A. Reviewed this discovery response?

12 Q. Reviewed the information concerning solar
13 resources in Ohio.

14 A. Yes.

15 Q. The response to the interrogatory was
16 "the Company states that it does not track the
17 requested information," correct?

18 A. That's a portion of the response; and the
19 response goes on to state "Information regarding
20 utility-scale solar is readily available through
21 EIA's Electricity Data Browser."

22 Q. So the Company doesn't track it, but you
23 do, but, of course, you are a member of the Company,
24 correct?

25 MR. NOURSE: Your Honor, I object. You

1 know, Mr. Darr is skipping over the objections as
2 well here, and things like the fact that the question
3 doesn't mention a time frame or any kind of date, and
4 the fact that the information is available publicly
5 as a valid discovery response in accordance with the
6 Commission's discovery rules. So I think he's being
7 argumentative here, and there's no difference between
8 the discovery response and Mr. Allen's testimony.

9 MR. DARR: Oh, there clearly was a
10 difference between the two, your Honor.

11 EXAMINER PARROT: Rephrase your question,
12 Mr. Darr.

13 MR. DARR: I am not sure what the
14 objection is, your Honor, that I am supposed to
15 rephrase to.

16 EXAMINER PARROT: I agree it was
17 argumentative. Rephrase it.

18 Q. (By Mr. Darr) Mr. Allen, was your
19 response to the interrogatory as follows: Following
20 the objection, "the Company states that it does not
21 track the requested information"?

22 A. That's a portion of the Company's
23 interrogatory response.

24 Q. Thank you. Nothing further on that.

25 You've had some discussions, previously

1 today, with regard to the Navigant survey with
2 Mr. Collier. There was some discussion yesterday
3 with regard to this as well. Is it fair to say the
4 Company does not have access to the percentage of AEP
5 Ohio non-PIPP residential customers that are shopping
6 customers with rates that include greater than 0
7 percent of renewable content?

8 MR. NOURSE: Could I have the question
9 read back?

10 MR. DARR: Certainly.

11 Q. Is it true that the Company does not have
12 access to the percentage of AEP Ohio non-PIPP
13 residential customers that are shopping customers
14 with rates that include greater than 0 percent of
15 renewable content?

16 MR. NOURSE: I just object to the form.
17 I am not sure what "rates that include greater than 0
18 percent of renewable content" means.

19 EXAMINER PARROT: Go ahead, Mr. Allen, to
20 the extent you understand it, go ahead and respond.

21 A. First, all customers that are served by a
22 CRES need to have enough renewable energy in the
23 portfolio to meet the RPS standard. But the Company
24 doesn't have data on what percentage of those
25 customers receive power from a CRES that has

1 renewable attributes in excess of the minimum
2 required by Ohio statute.

3 Q. And that would be true with regard to
4 those customers that are taking in excess of the RPS
5 requirement as well, correct?

6 A. I think that was exactly what I just
7 answered.

8 Q. You answered -- your answer was that all
9 customers have to take at least an amount up to the
10 renewable requirement, right? The RPS requirement?

11 A. That's right; and then I went on to state
12 we don't have data identifying the percentage of
13 customers that take greater than that minimum.

14 Q. So any customer that's taking 50 percent
15 or more, you don't know what the percentage of
16 customers is that takes at that level, correct?

17 A. It's less than 35 percent, but I can't
18 tell you what the percentage is.

19 Q. And those that are taking at 100 percent,
20 you can't give us a percentage of that as well,
21 correct?

22 A. That's correct.

23 Q. And that's because you don't have access
24 to that information, correct?

25 A. That's information that the CRES

1 providers would have.

2 Q. So as it currently stands, other than
3 that generic response with regard to 35 percent that
4 you just gave, you can't tell us today how many
5 customers are taking 100 percent renewable, how many
6 are taking 50 percent renewable, or how many are
7 taking merely the RPS requirement, correct?

8 A. We can't identify it by customer count,
9 but an analysis could be performed based upon the
10 renewable portfolio standard compliance reports,
11 filed by the various CRES providers, identifying the
12 percentage of power served by renewable attributes.

13 Q. That's not part of your testimony, is it?

14 A. That's correct.

15 Q. And that's not part of any other party --
16 any other person that's testifying on behalf of AEP's
17 testimony, correct?

18 A. That's correct; none of the AEP Ohio
19 witnesses.

20 Q. Now, you've repeatedly said, over the
21 last day or so, that there are customers that have
22 been refused service by CRES providers due to credit
23 issues of the customer, correct?

24 A. That wasn't my testimony.

25 Q. Okay. Then let's get more specific. You

1 indicated that some customers may be refused service
2 because of their credit -- credit status, correct?

3 A. That's correct.

4 Q. But you've also said that you do not have
5 access to CRES marketing of products including that
6 of your own retail affiliates such as AEP Energy,
7 correct?

8 A. I don't have access to the marketing
9 materials and strategies of the nonaffiliates of AEP,
10 the other CRES providers in Ohio.

11 Q. And certainly you would not be part of
12 the decision-making process as to whether or not a
13 particular customer is granted or denied a contract
14 with a particular CRES, correct?

15 A. Correct.

16 Q. And it's fair to say that that is not
17 information that's shared by the CRES providers with
18 AEP Ohio, correct?

19 A. It's my understanding that CRES providers
20 do not provide AEP Ohio information on when they
21 decide or why they decide to not serve a customer.

22 Q. The testimony that you gave yesterday
23 made reference briefly to the Apples to Apples charts
24 that are available on the Commission website. Do you
25 recall that?

1 A. I do recall some of that discussion.

2 Q. And you are aware, based on your review
3 of the Apples to Apples website, that various CRES
4 providers provide renewable products that contain
5 renewable content up to 100 percent, correct?

6 A. There are offers that have 100 percent
7 renewable attributes, but the renewable attributes
8 may not be Ohio-sourced attributes.

9 Q. That wasn't my question.

10 You are aware of contracts that provide
11 renewable attributes up to 100 percent of the
12 generation being provided, correct?

13 A. Correct.

14 Q. Are you aware of how many residential
15 contracts currently are available or published on the
16 AEP -- on the Apples to Apples chart for residential
17 customers that contain 100-percent renewable content?

18 MR. NOURSE: Object -- object to the
19 form. He said "residential contracts." I think
20 you're talking about marketing offers on the Apples
21 to Apples.

22 Q. It would be an offer of a residential
23 contract but if that helps clarify the question,
24 fine.

25 MR. NOURSE: Thank you.

1 A. The number changes on a daily basis, but
2 there are a number of offers out there on the Apples
3 to Apples website.

4 Q. So you don't know what the number is
5 currently, correct?

6 A. I couldn't identify the number today. I
7 reviewed it fairly recently, but I didn't count the
8 number.

9 Q. Okay. So, as we sit here today, you
10 cannot identify that number, correct?

11 A. As I indicated, it changes daily, so if
12 you want to show me the Apples to Apples chart, I can
13 tell you how many are out there today.

14 Q. Fine.

15 MR. DARR: Let's have this marked as IEU
16 Exhibit 4, please. And I don't have multiple copies
17 for everyone in the room, but you can run the same
18 experiment I did.

19 (EXHIBIT MARKED FOR IDENTIFICATION.)

20 Q. Do you recognize this as the Apples to
21 Apples chart for residential customers?

22 A. Yes; for American Electric Power's
23 service territory, yes.

24 Q. And this would be for residential only,
25 correct?

1 A. That's correct.

2 Q. And if you look in the sixth column from
3 the left, do you see the column header that indicates
4 renewable content?

5 A. I do.

6 Q. And as you scale down through the pages
7 or roll through the pages, each one of those
8 represents that it's 100-percent renewable content,
9 correct, each offer?

10 EXAMINER PARROT: Mr. Darr, while he is
11 finding that, do you have a date reference or
12 something to help us, because he noted this does
13 change.

14 MR. DARR: Yesterday morning at
15 7 o'clock, your Honor.

16 EXAMINER PARROT: All right. Thank you.
17 This was printed as of January 15 and marked as IEU
18 Exhibit 4. Thank you for the clarification.

19 MR. DARR: That would be 7:00 a.m., not
20 7:00 p.m., if you really want to be specific about
21 it.

22 EXAMINER PARROT: All right. Thank you.

23 A. These offerings of various price and
24 terms are for -- are all for 100-percent renewable
25 content.

1 Q. And if you go to the first page, there is
2 a summary of the total number of offers available;
3 that is 36, correct?

4 A. Yes, that's correct.

5 MR. DARR: I would like to have marked as
6 IEU Exhibit No. 5.

7 Q. Mr. Allen, on the Apples to Apples for
8 AEP Ohio, you can also search contract offers for
9 GS-1 customers, correct?

10 EXAMINER PARROT: Mr. Darr, is this the
11 same time frame as the earlier exhibit?

12 MR. DARR: Yes, ma'am.

13 EXAMINER PARROT: Thank you. It's
14 marked.

15 MR. DARR: It might have been a minute or
16 two later.

17 EXAMINER PARROT: It's marked as IEU
18 Exhibit 5. Thank you.

19 (EXHIBIT MARKED FOR IDENTIFICATION.)

20 Q. (By Mr. Darr) Going back to my question,
21 you can search for contract offers based on
22 commercial class status, correct?

23 A. Yes, small commercial customers, yes.

24 Q. And specifically you can request
25 information with regard to GS-1, correct?

1 A. That's correct.

2 Q. And GS-1 is your small commercial
3 customer tariff?

4 A. Yes, that's correct.

5 Q. And do you have in front of you what's
6 been previously marked as IEU Exhibit 5?

7 A. I do.

8 Q. And would you agree that that IEU Exhibit
9 No. 5 is a reprint of the Apples to Apples chart for
10 GS-1 customers?

11 A. Yes.

12 Q. And if you go to the sixth column on this
13 document, would you agree with me that that sixth
14 column shows renewable content?

15 A. It does.

16 Q. And is the renewable content on each one
17 of those offers that's listed on IEU Exhibit No. 5,
18 100 percent?

19 A. Yes. The offerings are for various
20 prices and terms, and renewable content is
21 100 percent.

22 Q. And going back to the first page, would
23 you agree with me that the summary of the number of
24 offers that are currently available, as of 7 o'clock,
25 yesterday morning, is 13?

1 A. Yes.

2 Q. And that each one of those offerings is
3 for 100-percent renewable content?

4 A. Yes.

5 MR. DARR: I would like to have marked as
6 IEU Exhibit No. 6, another Apples to Apples chart.
7 Again, it was prepared yesterday morning around 7:00
8 a.m.

9 EXAMINER PARROT: Thank you. So marked.

10 (EXHIBIT MARKED FOR IDENTIFICATION.)

11 Q. Mr. Allen, AEP Ohio also has a customer
12 tariff listed as GS-2, correct?

13 A. Yes, we do.

14 Q. And that's provided for customers with
15 customer loads that are slightly larger than GS-1
16 customers, but smaller than the transmission or
17 primary customers on GS-3, correct?

18 A. Correct.

19 Q. Do you have in front of you what's been
20 marked as IEU Exhibit No. 6?

21 A. Yes.

22 Q. And would you agree with me that that
23 again is a printout of the Apples to Apples chart for
24 AEP for GS-2 customers?

25 A. Yes.

1 Q. And if we go to the sixth column, it
2 shows the renewable content for those offers,
3 correct?

4 A. For those two offers, yes.

5 Q. And you've anticipated my next question.
6 There are two offers available on that chart,
7 correct?

8 A. Of various price and terms, yes.

9 Q. And each one of those offers is for
10 100-percent renewable content, correct?

11 A. That's correct. And it's one supplier
12 I'll note.

13 Q. Mr. Allen, one of the ways to address the
14 customer desire for renewable energy is through these
15 CRES offers. Another would be through a green
16 tariff, correct?

17 A. Yes.

18 Q. AEP Ohio does not currently have a green
19 tariff, correct?

20 A. That's correct.

21 Q. You're familiar with the process used to
22 establish a new tariff, correct?

23 A. It varies by state, so I'm generally
24 familiar with the process.

25 Q. So let's stick with Ohio. You're

1 familiar with the process in Ohio for establishing a
2 new tariff, correct?

3 A. Not specifically, no. Generally, I'm
4 familiar.

5 Q. Well, you are familiar with the process
6 for amending or extending your current ESP, correct?

7 A. Yes.

8 Q. In fact, we just went through one of
9 those exercises.

10 A. We've done it several times, yes.

11 Q. And there's nothing preventing AEP Ohio
12 from including a request for a bypassable green
13 tariff as an amendment to your existing electric
14 security plan, is there?

15 A. It may be a lengthy process to amend the
16 ESP. I'm not sure of exactly the legal ability to
17 add a new tariff.

18 Q. So you don't know whether or not you
19 could do that; is that your testimony today?

20 A. Yeah. I haven't reviewed that option as
21 part of my preparation for this case.

22 Q. So is it fair to say that AEP Ohio has
23 not looked at an option of including a voluntary
24 green tariff or bypassable green tariff as part of
25 its electric security plan?

1 A. I don't know if AEP Ohio has considered
2 that. It's not part of this filing.

3 Q. No, I recognize it is not part of this
4 filing. But the question is if there's all this
5 demand, all this pent-up demand for green power, AEP
6 sees an opportunity to secure contracts for green
7 power and, as you said yesterday, feels that it's
8 incumbent upon the utility to meet the needs of its
9 customers, you are telling me AEP has not considered
10 the possibility of entering into a voluntary
11 bypassable green tariff?

12 MR. NOURSE: Objection.

13 A. Let me clarify.

14 MR. NOURSE: Asked and answered.

15 MR. DARR: It has not been asked and
16 answered, your Honor.

17 MR. NOURSE: He just said he doesn't know
18 if AEP Ohio considered that. It is not part of this
19 filing. That's his prior answer.

20 EXAMINER PARROT: Overruled.

21 Go ahead, Mr. Allen.

22 A. As part of the consolidated filing, the
23 Company has presented a voluntary green tariff. I
24 was trying to limit between what we have done in the
25 past and what we are doing in this separate Phase I

1 proceeding; but as part of the second phase of this
2 proceeding and part of the consolidated case, the
3 Company has presented a voluntary green tariff for
4 our customers.

5 Q. And that green tariff is predicated on
6 the approval of this application for a finding of
7 need for a nonbypassable rider, correct?

8 A. Yes. It would be utilizing the renewable
9 attributes of these facilities for that renewable --
10 or, for that green tariff as well as providing the
11 ability for our entire resource mix to have greater
12 renewables; but for customers that desired an even
13 greater percentage, they could participate in that
14 voluntary green tariff.

15 Q. I understand that. But the green tariff
16 is predicated on approval of the underlying
17 arrangement for a nonbypassable rider to cover the
18 risk associated with the generic renewable projects
19 or specific renewable projects depending on how you
20 want to answer that question.

21 MR. NOURSE: Objection. He just answered
22 that question, "Yes," with an additional explanation.

23 MR. DARR: I am --

24 MR. NOURSE: Asked and answered.

25 MR. DARR: I'll withdraw that.

1 Q. (By Mr. Darr) Going back to CRES offers;
2 fair to say AEP Ohio would -- AEP renewable -- excuse
3 me -- AEP Energy currently has an offer available to
4 both residential and nonresidential customers for a
5 100-percent inner match of RECs to the energy needs
6 of that customer?

7 THE WITNESS: Can I have the question
8 reread?

9 (Record read.)

10 A. So I've previously reviewed the offers of
11 the CRESs that are out there, including AEP Energy,
12 for 100-percent renewable power, and the product that
13 AEP Energy was offering in late December when I did
14 the review was a REC-based product that utilized
15 national RECs, not Ohio-based RECs, to meet that
16 need.

17 And as I look at IEU 4, the Apples to
18 Apples that you provided to me that's dated
19 yesterday, AEP Energy is still making such an offer
20 in the residential class. And when I review the
21 Apples to Apples that you provided for the small
22 commercial GS-1 which is IEU 5, and GS-2, IEU 6, I do
23 not see a current AEP Energy offer for commercial
24 customers.

25 Q. You are aware they were providing that

1 offer, correct?

2 A. I don't recall. When I did my review in
3 December, I was reviewing just residential offers.

4 MR. DARR: May I have a moment, your
5 Honor? I need about 5 minutes if we could. If this
6 would be an appropriate time to take a break.

7 EXAMINER PARROT: Are you okay? Do you
8 need a break?

9 THE WITNESS: I'm fine either way.

10 MR. DARR: Continue?

11 EXAMINER PARROT: Well, take some time.
12 I am not saying we are taking a break. Take some
13 time.

14 MR. NOURSE: You're -- if we're pausing,
15 can I take a look at the exhibits Mr. Darr didn't
16 have copies of for me?

17 EXAMINER PARROT: Yes.

18 MR. DARR: Thank you for your
19 consideration, your Honor. The access to the site I
20 need is very limited and very slow in responding.
21 Rather than delay everything, what I would suggest --
22 what I would request is I'll finish up the rest of my
23 cross-examination and then, if it's appropriate to
24 take a break at that time, fine. If not, I'll deal
25 with the problem at a later point in time.

1 EXAMINER PARROT: Okay.

2 MR. DARR: Thank you, your Honor.

3 Q. (By Mr. Darr) Mr. Allen, yesterday you
4 were asked a question with regard to whether or not
5 the competitive market had the ability to develop
6 renewable resources. Do you recall that question?

7 A. I recall questions along that line, yes.

8 Q. And your response was the competitive
9 market did have the ability to develop, but you had
10 concerns about the marketplace's ability to develop
11 larger projects which you referred to as
12 utility-scale projects, correct?

13 A. I don't recall my exact answer, but I
14 don't disagree that the competitive market may have
15 challenges in developing large-scale renewable
16 resources.

17 Q. And if we want to be specific, your
18 concern was whether or not that could occur here in
19 Ohio?

20 A. Say that again. I missed the question.

21 Q. Well, based on a couple of the answers
22 you just gave me, part of the concern is whether or
23 not the facilities would be based here in Ohio,
24 correct?

25 A. The same consideration for developers to

1 develop renewable resources exists in any number of
2 geographic areas, different states, and the need to
3 have counterparties to support development; but the
4 lack of counterparties in Ohio, the lack of utilities
5 being able to enter into REPAs, provides a -- an
6 additional challenge and it's -- while utilities do
7 have the ability to enter into REPAs, it's the lack
8 of historical REPAs in recent years.

9 Q. Well, the concern here is whether or not
10 there is a commercial market out there, right? A
11 nonutility counterparty that could enter into the
12 investment necessary for the construction of
13 utility-scale units? Isn't that what your concern
14 is?

15 A. There is a limited number of large
16 creditworthy counterparties to support this
17 development.

18 Q. Now, that should translate into a lack of
19 requests for siting of utility-scale projects,
20 correct?

21 A. No.

22 Q. Well, one of the requirements for a
23 utility-scale project would be that it receives
24 siting. You've already responded that that's true,
25 to Mr. Collier, correct?

1 A. One of the requirements to build a
2 facility is to get siting approval, but just because
3 you've asked for siting approval doesn't mean a
4 plant's actually going to be built. An entity could
5 seek siting approval, and then, after getting siting
6 approval, they could enter into a REPA prior to
7 commencing construction.

8 Q. Well, you are aware, are you not, that
9 the Power Siting Board maintains records of each and
10 every request for siting approval for a utility-scale
11 project in excess of 50 megawatts, correct?

12 A. I'm aware --

13 Q. It's actually 50 megawatts or greater,
14 but let's use 50 megawatts as a threshold.

15 A. I am aware that that information is
16 available.

17 Q. Did you review that information in
18 preparation -- did you review to see whether or not
19 there are utility-scale applications currently
20 pending or approved by the PUCO -- or, excuse me, by
21 the Power Siting Board over the last two years?

22 A. I have reviewed data from the Power
23 Siting Board on -- on projects. I think it looked at
24 a little longer period than that.

25 Q. Okay. So you are aware there were three

1 projects, 125 megawatts, 125 megawatts, and
2 150 megawatts, approved by the Power Siting Board for
3 solar facilities in applications that were filed in
4 2017, correct?

5 A. I can't recite -- recite the specific
6 size of those facilities without a document to
7 reference.

8 Q. And are you aware that -- and you would
9 be aware, then, that there are currently pending five
10 applications for solar facilities with 170, 75, 80,
11 89.9 and 100 megawatts, respectively, currently
12 pending before the Power Siting Commission, correct?

13 A. I don't know which ones are currently
14 pending. You will have to refer me to a document.

15 Q. Minimally, though, if, in fact, you had
16 reviewed the Power Siting Board record, you would
17 have identified eight projects in the last two years
18 that either were approved or currently pending before
19 the Power Siting Board for utility-scale projects,
20 that is projects that are in excess of 50 megawatts,
21 correct?

22 A. I can't tell you the number without
23 looking at a document. That's not a number I've
24 committed to memory.

25 Q. But you would be aware there are a number

1 of projects currently approved or pending before the
2 Power Siting Board based on your review, correct?

3 A. There are projects that have been
4 approved and there are projects that are pending.
5 That doesn't mean the projects will actually be
6 constructed.

7 Q. Well, the next important step would be a
8 request to PJM or a concurrent important step would
9 be a request to PJM to seek interconnection, correct?

10 A. Seeking interconnection is another step,
11 but it's also not a step that ensures that the
12 facility will actually be built.

13 Q. I don't disagree with you, but the next
14 relevant step would be a request for interconnection,
15 correct?

16 A. I don't recall if the steps are
17 sequential in that order, but it's another one of the
18 steps that facilities go through.

19 Q. And that would be another indicator of
20 the availability of that unit, assuming it gets
21 completed, correct?

22 A. Well, first, it's not an indication of
23 the availability of that unit. It's an indication
24 that someone has made such a filing, but it doesn't
25 indicate that the facility is going to be built.

1 There's still financing requirements that have to
2 happen where the facility has to get financing to
3 actually build that; and financing, in many cases,
4 needs a strong counterparty in order to secure that
5 financing.

6 Q. Mr. Allen, I would like to go back to a
7 line of cross-examination from Mrs. Willis concerning
8 the articles that you referred to to demonstrate this
9 pent-up desire for renewable power. One of the
10 articles that you've reviewed to support that
11 testimony was a -- an article concerning Gap, the
12 clothier, correct?

13 A. And to clarify, your question refers to
14 an article, but the Gap information comes from a
15 press release from Gap.

16 Q. Okay. And you said earlier that -- or at
17 least your counsel represented to the Bench, earlier,
18 that these press releases are a strong indication --
19 a reliable indication of where the Company is at with
20 regard to its renewable commitments, correct?

21 A. It's a public statement by these
22 companies about what their interests are from a
23 renewable perspective or an environmental
24 perspective.

25 Q. Now, if you turn to page 2 of the

1 document that I believe you have in front of me -- in
2 front of you, for Gap, that document represents a
3 sustainability web page. Do you see that?

4 A. It's page 2 of a press release from Gap.

5 Q. You seem to be making a distinction
6 between a press release and something else. Is there
7 a reason for that, Mr. Allen?

8 A. You said something about a sustainability
9 document. I am clarifying we haven't changed
10 documents. We're still looking at the press release
11 from Gap.

12 Q. That's correct. And the press release
13 references a sustainability document for Gap, does it
14 not, on page 2?

15 A. So you're referring to the second
16 paragraph on page 2?

17 Q. Right.

18 A. Where it states "The new report details
19 the company's most recent sustainability initiatives,
20 and covers data from fiscal years 2013 through '14."

21 Q. Did you go back and look at the Gap
22 website that you relied -- or, for additional
23 information concerning the sustainability program?

24 A. I did not review Gap's sustainability
25 report.

1 Q. Okay. So you are not aware that Gap is
2 installing, on-site, a solar set -- solar generation
3 facility that's set to begin generation in 2019?

4 A. You'll have to refer me to a document.

5 Q. Certainly, sir.

6 MR. DARR: I would like to have marked as
7 IEU Exhibit No. 7 which is the basis -- the
8 sustainability web page for Gap, Inc.

9 EXAMINER PARROT: So marked.

10 (EXHIBIT MARKED FOR IDENTIFICATION.)

11 MR. NOURSE: Your Honor, if we are going
12 to mark that, I think we should mark the discovery
13 response that was used to develop this line of
14 questioning and Mr. Darr is launching from.

15 MR. DARR: I have no objection to that,
16 your Honor.

17 MS. WILLIS: I would object to that.

18 MR. NOURSE: Yeah, because we're going
19 pretty far afield here from what Mr. Allen has
20 indicated he's reviewed. So I would -- Mr. Darr is
21 marking this as an exhibit, it's an extension of an
22 attachment to a discovery response, I would like to
23 mark this entire set of documents as an AEP Exhibit.

24 MS. WILLIS: Your Honor --

25 MR. NOURSE: For purposes of clarity.

1 MS. WILLIS: Your Honor, if I might
2 address that, I would object. There were only
3 certain documents contained in that package of
4 announcements that were delved into on
5 cross-examination. That -- that packet contains even
6 worse hearsay than what we have in Mr. Allen's
7 testimony.

8 For instance, there is a Crain's business
9 report in there which I don't think we want to go
10 down that -- that path, that's why it was not marked
11 as an exhibit. And there were limited questions on
12 the articles or on the announcements related to
13 refreshing Mr. Allen's recollection on the
14 announcement that he testified on. So I would
15 object.

16 MR. NOURSE: Well, your Honor, you know,
17 I think that's ironic. I mean, Ms. Willis covered
18 many of the items in these attachments. She skipped
19 a couple and actually the Gap was one of them.

20 Now, Mr. Darr's asking questions and then
21 going -- launching from part of the, you know,
22 boilerplate in a press release to the company's
23 website that he wants to now look at. Mr. Allen has
24 already indicated that he hasn't seen this or hasn't
25 reviewed it.

1 And so, my point is if we are going to go
2 that far afield and rely on these documents, then we
3 should mark and admit the discovery response that
4 included -- that included the data that's being
5 extrapolated and questioned about.

6 MR. OLIKER: Your Honor, if there is
7 going to be any marking of AEP Ohio Exhibits, it
8 should be in the process of redirect, not in the
9 process of rehabilitating the witness in the middle
10 of someone else's cross-examination which would then
11 deprive any of the other attorneys of cross-examining
12 him on those documents which he may be seeking to
13 amend.

14 MR. NOURSE: Your Honor, I think all the
15 other attorneys had OCC's document, and I can mark an
16 exhibit whenever I want to. I explained the basis
17 for why I am doing it now.

18 MR. DARR: Your Honor, I think it's a
19 fair objection that Mr. Oliker has raised. I will
20 tell you I had fully intended to use the full
21 package. Following the lead of Ms. Willis, I decided
22 not to, but I also feel I am entitled to drill down
23 on what Mr. Allen did or didn't do in terms of his
24 research, and what he didn't do here is where we're
25 headed.

1 MR. NOURSE: And my limited objection to
2 where Mr. Darr is going is simply to have this
3 material that's being launched from, in the record,
4 as well, and there were extensive questions about the
5 vast majority of the attachments that were all
6 admitted as part of the same discovery response.

7 MR. DARR: And my response, your Honor,
8 is I'm not objecting to his request, but clearly
9 other parties are.

10 EXAMINER PARROT: Thank you.

11 MS. WILLIS: Very quickly, your Honor. I
12 have no problem with the information that's been
13 crossed on, that makes some sense, but there's been
14 no cross on this. For instance, this Cleveland
15 Business, Crain article, that deals with objections
16 to HB 114. I don't think that's quite germane to any
17 issue really here today, and it's not relevant, and
18 obviously there were no questions asked on that. So
19 with respect to any documents within that package
20 where there's no questions asked, I would clearly
21 believe that the -- there is no relevance to those.

22 EXAMINER PARROT: You are kind of getting
23 ahead of yourself. We are not talking about the
24 admissibility. We are talking about purely whether
25 we should mark it. And I do agree there was quite a

1 bit of questioning about it yesterday. And it's
2 rather frustrating to the Bench to be the only
3 parties in the room that don't have the benefit of
4 the document in front of them when you are doing
5 that.

6 So I do think we should -- we should mark
7 it. We can deal with the admissibility, and I will
8 hear your arguments on that when we get to that
9 point. Do we have copies of the document at least
10 for the Bench? And the court reporter?

11 MR. NOURSE: I only have the copy
12 Ms. Willis gave me.

13 MR. DARR: I could probably satisfy that,
14 your Honor.

15 EXAMINER PARROT: Thank you, Mr. Darr.

16 MR. DARR: Actually, I don't have, in
17 mine, the copy of the Crain's article which is
18 obviously one of the questions that Ms. Willis has
19 raised. Mine includes Ikea, Nestle, Campbell,
20 Whirlpool, and Owens Corning.

21 MR. NOURSE: Your Honor, again, I think
22 the parties all received it; apparently the Bench
23 didn't. We could -- we could pause to make copies
24 but, again, this is all part of the same discovery
25 response, and answers the question that was posed by

1 OCC and that OCC extensively questioned Mr. Allen
2 about. So I think, you know, you have to take
3 whatever she doesn't like in one page or one article
4 in a 50-page document, that's just the way it is.
5 It's all, you know --

6 EXAMINER PARROT: And again, we can get
7 to that.

8 MR. NOURSE: It's all in the same
9 category.

10 EXAMINER PARROT: We can get to that
11 issue later.

12 MR. NOURSE: I would mark this as AEP
13 Exhibit 4, and I guess I can try to look for a copy
14 to give the Bench.

15 EXAMINER SEE: We've --

16 MS. BOJKO: Are we off the record, your
17 Honor?

18 EXAMINER PARROT: No.

19 MR. NOURSE: Could we go off the record
20 for a moment?

21 EXAMINER PARROT: Hang on just a moment.

22 MS. BOJKO: Your Honor, if you give me
23 the number of the interrogatory response or if AEP
24 gives me the number, I have the document. I can find
25 it for you.

1 MR. DARR: It's 1-4.

2 MR. NOURSE: OCC.

3 MS. BLEND: Attachment 1.

4 EXAMINER SEE: Mr. Darr.

5 MR. DARR: Yes, ma'am.

6 MR. NOURSE: Your Honor, would it help to
7 e-mail it to you? Do you have your computers right
8 there?

9 MS. BOJKO: I have it.

10 EXAMINER PARROT: Ms. Bojko says she has
11 it.

12 MS. BOJKO: May I? I want to confirm
13 this is the right one. We don't have it stapled
14 together. We just didn't have them stapled together.

15 MS. WILLIS: Your Honor, that is my one
16 and only copy, so when the Bench does have some time,
17 if we could get a copy back of that, that would be
18 appreciated.

19 MS. BOJKO: Or I will put mine together.

20 MR. NOURSE: We are going to try to get a
21 couple copies of Attachment 1.

22 MS. WILLIS: Yes. That is Attachment 1.
23 I will say in my -- that version I included the
24 test -- the testimony.

25 MR. NOURSE: Yeah, and that's not part of

1 Attachment 1.

2 MS. WILLIS: Correct.

3 MR. NOURSE: Yeah.

4 EXAMINER PARROT: All right. Mr. Nourse,
5 go ahead and identify the document again for me for
6 the record, please.

7 MR. NOURSE: Your Honor, AEP Ohio would
8 like to mark as AEP Exhibit No. 4, OCC Interrogatory
9 1-004, Attachment 1, which is the same document that
10 was used during Ms. Willis's cross-examination and
11 that Mr. Darr is referring to when introducing his
12 next exhibit.

13 EXAMINER PARROT: Very good. So marked.
14 (EXHIBIT MARKED FOR IDENTIFICATION.)

15 EXAMINER PARROT: And IEU Exhibit 7 has
16 also been marked at this time.

17 MR. DARR: Right.

18 EXAMINER PARROT: Thank you, Mr. Darr.
19 Go ahead.

20 Q. (By Mr. Darr) Mr. Allen, I'm just going
21 to start over from the beginning on this.

22 You have in front of you what's been
23 marked as IEU Exhibit No. 7, and I will represent to
24 you that this is a printout from a page of the Gap,
25 Inc. website which is labeled "Global

1 Sustainability." Do you see that?

2 A. I have that document you marked as IEU
3 Exhibit 7.

4 Q. And in terms of preparing for your
5 testimony here today, did you review what's been
6 marked as IEU Exhibit 7?

7 A. I did not review the document previously,
8 but I've reviewed it as we have sat here today.

9 Q. So you're now aware that Gap was
10 reporting that in 2017, it began to explore possible
11 large-scale renewable solutions, correct?

12 A. That's on page -- would be the third page
13 of the document.

14 Q. And further, that it -- that Gap has
15 identified an opportunity to install an on-site solar
16 array at its Fresno, California distribution center,
17 correct?

18 A. What the document states is of the 3,000
19 sites that Gap has, that they've identified an
20 opportunity at one site, yes.

21 Q. Now, Mr. Allen, you provided the
22 information on the document that's been marked as AEP
23 Exhibit 4 that shows that Gap has already reduced,
24 through a variety of means, its energy emissions --
25 excuse me -- its emissions by 37 percent between 2008

1 and 2015, correct?

2 MR. NOURSE: Can you read that question
3 again?

4 Q. Well, let me try again.

5 The article that you provided in response
6 to discovery indicated that Gap was announcing it had
7 reduced its emissions 37 percent, from 2008 to the
8 2015 time frame, correct?

9 A. Once again, it's a press release, not an
10 article. The press release states that the company
11 is reporting, today, that total approximately
12 37-percent emissions reductions during the 2008 to
13 2015 time frame.

14 Q. And again, Mr. Allen, you continue to
15 make a distinction between press releases and
16 something else. Wasn't it your representation,
17 through counsel yesterday, that press releases and
18 website materials were a good way of identifying what
19 companies were doing?

20 A. I'm just trying to make sure that you
21 don't confuse the record. You keep calling a press
22 release an "article." It's a press release. If we
23 can use that term, I think it will simplify the
24 cross-examination.

25 Q. So the issue is my nomenclature, not the

1 accuracy of the underlying information; is that
2 correct?

3 A. I believe the accuracy of the information
4 in the press release. I believe it's accurate.
5 That's why I relied upon it.

6 Q. And so, you would rely on the fact that
7 The Gap is also engaged in doing large solar projects
8 at facilities in Fresno, California, correct?

9 A. What the document that you marked as
10 Exhibit IEU 7 states is that Gap is exploring ways to
11 purchase cleaner energy through various renewable
12 energy initiatives that will help us meet our goal.
13 One of those ways is to add on-site solar array at
14 one of their 3,000 facilities. The document also
15 states that the stores that Gap has are often housed
16 in buildings and malls owned by landlords which
17 indicates that they don't have control over that
18 facility to add renewable resources directly to that
19 facility.

20 Q. The landlord would, correct?

21 A. The landlord would have the ability to
22 add renewable resources, but the landlord may not
23 have the same sustainability or renewable energy
24 goals that the tenants in that facility have.

25 Q. And nonetheless, Gap, in this particular

1 instance, was able to report a 37-percent renewable
2 reduction for all its little baby Gaps, big Gaps, and
3 other stores, correct?

4 A. It states that, but it doesn't
5 describe -- it doesn't state anywhere that it made
6 that reduction through building on-site renewables
7 and, in fact, it appears from the document their
8 first on-site renewable array isn't even occurring
9 until 2019.

10 Q. Now, Mr. Allen -- well, I am not going to
11 argue with you. The article says what it says.

12 A. It's not an article.

13 Q. Would you turn to the Whirlpool
14 article -- I'm sorry? What was that?

15 A. It's not an article. It's a press
16 release. And the second document isn't an article;
17 it's Gap's sustainability report.

18 Q. Thank you for that clarification,
19 Mr. Allen.

20 Would you turn to the article or press
21 release or web page with regard to Whirlpool that's
22 found in AEP Exhibit No. 4. Have you located it?

23 A. I have.

24 Q. Now, yesterday, you discussed with --
25 excuse me? Are you ready?

1 A. Yes.

2 Q. Yesterday, with Ms. Willis, you discussed
3 the construction of the facility at the Greenville,
4 Ohio, Whirlpool plant, correct?

5 A. I don't recall exactly which projects we
6 discussed.

7 Q. Well, the document that you included in
8 your discovery response reports that Whirlpool was
9 announcing plans to build three wind turbines at the
10 Greenfield facility -- Greenville facility, correct?

11 A. That's what the document states.

12 Q. And it further noted that turbines were
13 already up and ruing at facilities owned by Whirlpool
14 in Findlay, Marion, and Ottawa, Ohio, correct?

15 A. Yes, that's what it states.

16 Q. And it further notes these projects were
17 built in coordination with One Energy, correct?

18 A. Yes.

19 Q. And are you familiar with the fact that
20 One Energy is an Ohio-based company that engages in
21 the development of renewable projects on sites of its
22 customers?

23 A. I am not.

24 Q. Would you turn to the article in AEP
25 Exhibit 4 concerning Owens Corning.

1 A. It's a news release from Owens Corning.

2 Q. Another press release, correct?

3 A. It's identified as a "News Release."

4 Q. So is there any distinction between a
5 press release or a web page or a news release with
6 regard to accuracy in your mind, Mr. Allen?

7 A. No. It's a statement of the company.

8 Q. And this news release indicates that
9 Owens Corning -- Corning is "Executing power supply
10 agreements of new installed capacity that represent
11 the largest wind power agreements reported by an
12 industrial company in the world," correct? And if
13 you need a reference, it's on the second page, first
14 bulleted item in the second paragraph.

15 A. It states that they're executing power
16 supply agreements, yes.

17 Q. And it further states that Owens Corning
18 is dedicating a 2.4 megawatt solar canopy to its
19 Toledo facilities, correct?

20 A. That is expected to supply approximately
21 30 percent of the facility's annual electricity
22 needs; so just a portion of their needs, yes.

23 Q. So the answer to my question is yes; is
24 that correct?

25 A. You've read a portion of their statement.

1 Q. And the portion of the statement is that
2 they are dedicating a 2.4 megawatt facility --
3 megawatt solar canopy at the company's headquarters
4 in Toledo, correct?

5 A. That's correct. And it goes on to
6 include additional information, that it's only
7 supplying a portion of their electricity needs.

8 Q. The articles that you provided in
9 response to that -- let me restart.

10 The articles that are contained in AEP
11 Exhibit 4 reference repeatedly what are called
12 "renewable energy power agreements" or REPAs as we
13 discussed, correct?

14 A. The documents provided in response to OCC
15 Interrogatory 1-004, which has been marked as AEP
16 Ohio Exhibit 4, do include reference to renewable
17 contracts being signed by certain large customers.

18 Q. And is it fair to say AEP Ohio currently
19 has no agreement between it and a retail customer
20 related to a filing under Revised Code Section
21 4905.31, the reasonable arrangement section, related
22 to the Renewable Generation Rider for the resources
23 that the proposed projects incorporated into this
24 filing?

25 A. That's correct.

1 Q. At the end of your testimony, I believe
2 it's pages 14, 15, you indicate -- it may go back as
3 far as page 13, you indicate the need for a decision
4 in this matter relatively rapidly because of the
5 value of investment and production tax credits,
6 correct?

7 A. Yes. For investment tax credits and
8 production tax credits, yes.

9 Q. And your current concern is that if
10 there's delay in the approval of the finding of need,
11 that the value of those investment tax credits or
12 production tax credits would be reduced because, over
13 time, they decline as a matter of tax law, correct?

14 A. That's correct. There's a window of
15 opportunity to take advantage of very favorable tax
16 laws to allow the Company to obtain low-cost
17 renewable resources to meet the needs of our
18 customers.

19 Q. Now, with regard to the investment tax
20 credit, are you familiar with an IRS Notice 2018-59
21 which defines the availability of -- defines what
22 constitutes construction for purposes of taking the
23 investment tax credit?

24 A. I'm not familiar with that document.

25 MR. DARR: For purposes of the record

1 then, your Honor, I would ask that the Commission
2 take administrative notice of IRS Notice 2018-59 and,
3 specifically on pages 11 and 14, the definition of
4 what constitutes construction for purposes of the
5 defining when construction has begun for the
6 investment -- for investment tax -- investment tax
7 credit purposes.

8 MR. NOURSE: Your Honor, could -- does
9 Mr. Darr have a copy of that document?

10 MR. DARR: I will provide you one in just
11 a second.

12 MR. NOURSE: Thank you.

13 MR. DARR: If you want, your Honor, we
14 can mark this as IEU 8, although I am asking for
15 administrative notice.

16 EXAMINER PARROT: Let's go ahead and mark
17 it as well. It will be marked as IEU Exhibit 8.

18 (EXHIBIT MARKED FOR IDENTIFICATION.)

19 MR. DARR: And, again, I am asking for
20 administrative notice because the witness is not
21 apparently aware of the definition of what
22 constitutes construction for purposes of the ITC
23 Code.

24 MR. NOURSE: I wouldn't agree with that
25 statement, but we're not objecting at this point to

1 the exhibit.

2 MS. WILLIS: It's -- just to be clear,
3 it's not an exhibit. Administrative notice has been
4 requested?

5 EXAMINER PARROT: It's been marked as an
6 exhibit just for clarity in the record.

7 MR. NOURSE: Sure. That's right.

8 EXAMINER PARROT: And we'll deal with the
9 request when we take up the exhibits.

10 MR. DARR: Understood.

11 EXAMINER PARROT: So we'll table that
12 request for now.

13 MR. DARR: Again, for the record, given
14 that it's an IRS notice, it's readily available and
15 easily determined whether or not this document is
16 accurate or not, so on that basis I am asking for
17 administrative notice of the document and the
18 contents of it.

19 MR. NOURSE: Yeah, again, your Honor --

20 MR. DARR: To avoid the problem I ran
21 into once before, I am asking for both the document
22 and the contents of the document, because I remember
23 you and I had a discussion about that once before.

24 MR. NOURSE: Okay. Your Honor, I just
25 want to make sure Mr. Darr is going to go through the

1 foundation with this witness and go through the
2 exhibit that he would like to take administrative
3 notice of.

4 MR. DARR: I am not. There is no
5 foundational basis necessary for this document. I am
6 asking for administrative notice of the contents of
7 this document and the document itself. The witness
8 has already testified he is not aware of it --

9 MR. NOURSE: I don't know --

10 MR. DARR: -- and hasn't reviewed it.

11 MR. NOURSE: Okay. Are you done? I
12 don't know that he said that, but I certainly have no
13 basis, at this point, to confirm that it's the
14 correct applicable ruling that governs, you know, the
15 types of projects that are being contemplated in this
16 case; so certainly I think Mr. Allen is capable of
17 looking at this and maybe responding to some
18 questions about it even though he hasn't seen it if
19 you are going to try to use it in that fashion.

20 MR. DARR: The only thing I would have
21 asked him with regard to this document is what's on
22 the face of the document, your Honor, and Mr. Nourse
23 has repeatedly objected to having witnesses read into
24 the record documents that are otherwise properly
25 admissible. If you would like to have him read into

1 the record the relative definition, I'm fine with
2 that, but I'm just trying to avoid exactly this kind
3 of objection.

4 MR. NOURSE: Well, your Honor, I mean,
5 Mr. Darr is saying he wants to move for
6 administrative notice without explaining anything
7 about the document or making a representation about
8 its applicability. I think we just don't take
9 administrative notice of any document in the universe
10 without some applicability and relevance to this
11 proceeding. That's all I am asking for.

12 MR. DARR: I laid the necessary
13 foundation, your Honor, when I indicated to you it's
14 an IRS notice concerning the definition of the ITC
15 construction requirements. I don't know what else I
16 could do.

17 MR. NOURSE: Well, I'll reserve my
18 comment on that. Okay.

19 EXAMINER PARROT: And as I already said,
20 we will table this issue for now in terms of the
21 request for administrative notice.

22 MR. DARR: With that, your Honor, that
23 concludes my cross-examination.

24 EXAMINER PARROT: Thank you, Mr. Darr.

25 Mr. McNamee.

1 MR. McNAMEE: No, thank you, your Honor.

2 EXAMINER PARROT: Let's go off the
3 record.

4 (Discussion off the record.)

5 EXAMINER PARROT: At this point, let's
6 take a 5-minute break. Off the record.

7 (Discussion off the record.)

8 EXAMINER PARROT: Let's go back on the
9 record.

10 Any redirect, Mr. Nourse?

11 MR. NOURSE: Yes, your Honor, a few
12 areas.

13 - - -

14 REDIRECT EXAMINATION

15 By Mr. Nourse:

16 Q. Mr. Allen, during your questioning
17 yesterday and today, you've been asked about rooftop
18 solar as an alternative to the Company's proposal or
19 to utility-scale solar. Can you address the
20 difference, the economic differences and practical
21 differences between rooftop solar, from a customer's
22 standpoint, and utility-scale solar?

23 A. Sure. Rooftop solar is a small-scale
24 solar facility that's installed on a customer's roof,
25 and it has very low economies of scale. There's

1 significant costs for rooftop solar for mobilization
2 and demobilization of the crews that would be
3 installing those panels. Those panels also aren't
4 able to be optimally pointed at the sun in all
5 instances; typically those facilities don't track the
6 sun. And so the economics of those facilities are
7 not as favorable as the economics that exist with a
8 utility-scale facility. And those same economies of
9 scale extend as you grow the size of a utility-scale
10 facility from 20 megawatts up to 100 megawatts or,
11 you know, 2- or 300 megawatts. As you grow the scale
12 of a facility, those costs such as, you know,
13 mobilization and demobilization, they are only
14 incurred once as you do those projects, and so the
15 cost effectiveness of larger projects is improved.

16 Q. Thank you.

17 And whether we talk about rooftop solar
18 or CRES renewable offerings or other alternatives
19 like behind-the-meter deployment by large, you know,
20 Fortune-500-type customers, companies, are any of
21 those options or alternatives that have -- that some
22 customers have access to, incompatible with or
23 conflict with the Company's proposal in this case?
24 Stated differently, does the Company's proposal
25 displace or prevent any of those other alternatives

1 from going forward?

2 A. No. The Company's proposal doesn't
3 preclude any of those options from going forward.
4 What the Company's proposal does is it provides
5 additional options for customers.

6 Customers will still have the ability to
7 put on rooftop solar if they have the economic
8 wherewithal to install rooftop solar or if they have
9 the right home to install rooftop solar; so those
10 customers will still have the ability to do that.

11 Nothing we are doing in this proceeding
12 will prevent competitive suppliers from offering
13 rooftop solar systems to those customers.

14 What our proposal does is allows
15 customers that don't have that ability to take
16 advantage of economic renewable power.

17 Also, for large industrial customers and
18 commercial customers, like those that we've been
19 discussing today that are putting behind-the-meter
20 renewable solutions in place, nothing in this filing
21 precludes those entities from doing that.

22 What it does do is provide them an
23 alternative option, and it also provides an option to
24 those commercial and industrial customers that,
25 either due to their ownership of the facilities that

1 they operate in or the specific location of their
2 facility, maybe access to adequate solar resources or
3 wind resources, those customers that may not be
4 situated perfectly or have the site control of the
5 places that they are operating in, this will give
6 those customers additional options.

7 This is not an "or" situation. It's not
8 "our project" or "our proposal" or "those
9 alternatives." It's an "and" situation. These can
10 all work together and provide additional benefits for
11 our customers, the economy of Ohio, and our
12 environment.

13 Q. Thank you.

14 Mr. Allen, yesterday --

15 MS. BOJKO: Your Honor, may I have the
16 answer read back? I know it was long, but.

17 Q. Yesterday --

18 EXAMINER PARROT: Sorry. Ms. Bojko.

19 MS. BOJKO: I said I know it was a long
20 response, but may I have the answer read back,
21 please?

22 (Record read.)

23 MR. NOURSE: All right. Thank you.

24 Q. (By Nourse) Mr. Allen, yesterday you were
25 asked some questions by Mr. Whitt, I believe, about a

1 scenario where an AEP affiliate would deploy or
2 pursue development of a renewable -- utility-scale
3 renewable project and that I believe you agreed in
4 that circumstance the risk would be borne by
5 shareholders. Do you recall that?

6 A. I do.

7 Q. And I wanted to clarify for the record,
8 is it your understanding that the PPA settlement
9 approved by the Commission, and as -- as updated in
10 the ESP IV settlement approved by the Commission,
11 allow for up to 50 percent ownership by AEP Ohio or
12 an affiliate for -- for the 500 of wind,
13 500 megawatts of wind on the one hand, and the 400
14 megawatts of solar on the other hand?

15 A. Yes. That settlement, as approved by the
16 Commission, did allow for AEP Ohio or an affiliate's
17 ownership of up to 50 percent of those resources.

18 Q. And so, while it's not a currently
19 pending case, you would agree it's possible AEP Ohio
20 could come back with a -- an additional RDR filing
21 or, depending on the outcome of the need case, an
22 additional incremental need relating to projects that
23 would be owned by an AEP affiliate but those costs
24 would be proposed to be recovered through the RGR,
25 correct?

1 A. That's correct.

2 Q. And under that circumstance, it would be
3 the identical risk allocation of the proposal that's,
4 in this case, in the Phase II rider case?

5 MS. BOJKO: Objection. Mr. Nourse is
6 leading the witness, telling him the conclusion of
7 the answer before he's allowed to respond.

8 MR. NOURSE: Well, it is redirect, your
9 Honor, but I am happy to rephrase.

10 MS. WILLIS: OCC would object on the
11 basis --

12 EXAMINER PARROT: He's already agreed to
13 rephrase.

14 Go ahead, Mr. Nourse.

15 Q. (By Mr. Nourse) Mr. Allen, under that
16 scenario of an AEP Ohio purchase from an affiliate
17 under a REPA, that's relating to a project owned by
18 an affiliate and proposed for recovery through the
19 RGR, would those -- would that circumstance present
20 the same situation of risk being borne by
21 shareholders of AEP?

22 MS. WILLIS: Objection. Relevance and
23 assumes facts not in evidence.

24 MS. BOJKO: I would just object, your
25 Honor. We weren't allowed to ask about the RGR or

1 cost recovery. I think it goes to the second phase
2 of the hearing.

3 MR. NOURSE: Your Honor, I think the
4 question -- I am just trying to clarify a question
5 that Mr. Whitt asked that was a different fact
6 pattern from the whole circumstance and context of
7 this case and so I just want to clarify that simple
8 clarification.

9 EXAMINER PARROT: Overruled.

10 A. If an affiliate of AEP Ohio owned a
11 renewable resource and had a REPA with AEP Ohio with
12 recovery through the RGR, the risk profile would be
13 the same.

14 Q. Thank you.

15 And, Mr. Allen, yesterday, you also
16 testified about or were asked about AEP affiliates,
17 other than AEP Ohio, that have developed
18 utility-scale renewable projects outside of Ohio. Do
19 you recall that?

20 A. I do.

21 Q. And with respect to those utility-scale
22 projects outside of Ohio, were those projects
23 supported by a REPA or a PPA?

24 A. Yes. I was able to go review data; and
25 those utility-scale projects, that AEP Renewables has

1 entered into, are supported by REPAs with
2 creditworthy counterparties including utilities and
3 co-operatives.

4 Q. Thank you.

5 And I next want to ask you about the IEU
6 exhibits that were used by Mr. Darr. I think it's
7 Exhibits 4 through 6 that had information from the
8 Apples to Apples website. Do you recall that?

9 A. I do.

10 Q. And -- and you indicated you had
11 investigated CRES renewable power offerings as part
12 of your preparation for this case as well, correct?

13 A. That's correct.

14 Q. And in that investigation, did you find
15 any CRES offering that is based on an Ohio renewable
16 project?

17 A. My review of the CRES offerings that
18 existed in -- didn't indicate that any of those were
19 sourced 100 percent by renewables located in Ohio.
20 The information that was presented in those offerings
21 indicated that the renewable -- the RECs that were
22 provided came from national RECs.

23 Q. Thank you, Mr. Allen. And on --

24 A. And to clarify, that was for the
25 residential class.

1 Q. Yes.

2 And on the same exhibits -- pardon me.

3 MS. WILLIS: I'm sorry. May I have his
4 answer reread? I didn't catch it all.

5 (Record read.)

6 MS. WILLIS: Thank you.

7 Q. (By Mr. Nourse) Mr. Allen, using those
8 same IEU Exhibits, have you had an opportunity to
9 review the rates, the actual cents per kWh rates that
10 are reflected in those offers?

11 MR. OLIKER: Objection. It's not clear
12 what exhibits he's referring to. And it's also, now
13 that I understand the line of cross, it's not clear
14 whether the questions even relate to what he did
15 before he filed his testimony or whether he is asking
16 him questions over the products that were listed on
17 the exhibits that Mr. Darr presented which were
18 pulled from the Commission's website yesterday. So I
19 think the record is very murky.

20 MR. NOURSE: Your Honor, I said the same
21 exhibits in the prior question. I listed them as IEU
22 Exhibits 4 through 6. And what I am asking Mr. Allen
23 is he has had an opportunity to review the rates, the
24 cents per kWh rates, that are reflected in those
25 offers as reflected in those exhibits.

1 EXAMINER PARROT: The objection is
2 overruled.

3 Go ahead, Mr. Allen.

4 A. I have reviewed those rates.

5 Q. And how do they compare with the
6 break-even price that's presented by the Company in
7 this need proceeding?

8 MR. OLIKER: Objection. Completely,
9 utterly, lacking any relevance given that the rates
10 on the Apples to Apples website relate to the supply
11 of capacity and energy to serve retail load; given
12 that the break-even analysis is completely different
13 based upon a PPA price and a market price; it doesn't
14 require the supplying of capacity or energy to a
15 customer, 24 hours a day, 7 days a week; and it is
16 unduly prejudicial and misleading for the record.

17 MR. NOURSE: Your Honor, it sounds like
18 Mr. Oliker may have some redirect questions, but I
19 think I am entitled to ask him this simple question.

20 EXAMINER PARROT: Overruled.

21 MR. DARR: The question is misleading,
22 your Honor.

23 EXAMINER PARROT: Overruled.

24 Go ahead, Mr. Allen.

25 A. I have reviewed those rates. And if we

1 look at IEU 4 for the residential class, those rates
2 all exceed the break-even price, with the exception
3 of the Indra Energy offer that's just a one month
4 offer.

5 Q. Thank you, Mr. Allen. Were you finished
6 with your answer?

7 A. There are two one-month Indra offers,
8 Indra Energy offers, that are at the same price that
9 are one-month offers. All the rest are above.

10 Q. Thank you, Mr. Allen.

11 Final question. Mr. Darr had asked you
12 about a green tariff, a bypassable green tariff
13 offering, and whether the Company had considered
14 advancing that by itself. Do you recall that
15 question?

16 A. I do.

17 Q. And would such a proposal have met the
18 Company's objectives or satisfied the need that's
19 being presented in the Company's testimony?

20 A. A bypassable green tariff would not have
21 advanced the development of new renewables in the
22 State of Ohio, new large-scale renewables.

23 MR. NOURSE: Thank you, your Honor.
24 That's all I have.

25 EXAMINER PARROT: Any recross, Ms. Pirik?

1 MS. PIRIK: No, your Honor.
2 EXAMINER PARROT: Mr. Dove.
3 MR. DOVE: No, your Honor.
4 EXAMINER PARROT: Mr. Mendoza.
5 MR. MENDOZA: No, your Honor.
6 EXAMINER PARROT: Ms. Leppla.
7 MS. LEPPLA: No, your Honor.
8 EXAMINER PARROT: Ms. Mooney.
9 MS. MOONEY: No, your Honor.
10 EXAMINER PARROT: Mr. Kurtz.
11 MR. KURTZ: I just want to clarify
12 recross is limited to the redirect?
13 EXAMINER PARROT: That's correct.
14 MR. KURTZ: No questions.
15 EXAMINER PARROT: Ms. Willis?
16 MS. WILLIS: Thank you, your Honor.
17 EXAMINER PARROT: I'm sorry. Hold on.
18 If we are sticking to our order, I skipped
19 Mr. Oliker.
20 MR. OLIKER: Thank you, your Honor.
21 - - -
22 RECROSS-EXAMINATION
23 By Mr. Oliker:
24 Q. Good afternoon, Mr. Allen.
25 A. Good afternoon.

1 Q. Just a few questions to follow-up on your
2 counsel. In discussing the economics of rooftop
3 solar relative to utility-scale solar, am I correct
4 that your answer is the same as it was yesterday that
5 you were deferring to witness Torpey on economics of
6 renewable energy? Or have you changed your answer?

7 MR. NOURSE: Your Honor, I am going to
8 object. I don't -- Mr. Oliker is not giving any
9 context or reference to, yes, Mr. Allen deferred many
10 questions to Mr. Torpey. But how it ties in with
11 this is not clear and then he's alleging he's
12 changing his answer.

13 MR. OLIKER: If Mr. Allen doesn't
14 remember the exchange, he is free to tell me that.
15 I'm sure he remembers it.

16 EXAMINER PARROT: Try to be a little more
17 specific, Mr. Oliker.

18 Q. (By Mr. Oliker) To be clear, Mr. Allen,
19 when you were discussing the economics of different
20 types of solar installations, am I correct that you
21 are not sponsoring any of the projections of solar
22 costs contained in the testimony of witness Torpey?

23 A. That's correct.

24 Q. And your testimony specifically states
25 that you are deferring to witness Torpey, regarding

1 the cost of renewable technologies in the future?

2 Does it not?

3 A. My testimony in the -- on page 16 of my
4 testimony talks about cost trends for renewable
5 energy, and my answer provides a reference that
6 Company witness Torpey has analysis about the cost
7 trends for renewable energy. As far as the economies
8 of scale associated with resources, I'm very aware of
9 the implications of those economies of scale.

10 Q. And have you read the Bloomberg New
11 Energy Finance H2 2017 U.S. Renewable Market Outlook?

12 A. I don't recall if I've reviewed that
13 document. I may have.

14 Q. Okay. So if that document is referred to
15 in witness Torpey's testimony, you would defer to
16 him?

17 A. If Company witness Torpey references it,
18 I am sure he can answer questions. It doesn't mean
19 that I am not capable of answering questions.

20 Q. Between you and witness Torpey, he has
21 more experience in the field of projecting the cost
22 of renewable energy technology; is that correct?

23 A. In his role preparing integrated resource
24 plans, that's one of his responsibilities, yes.

25 Q. Okay. But the answer is yes, Mr. Allen?

1 A. I would say Mr. Torpey has more
2 experience on cost trends in renewable energy than I
3 do, yes.

4 Q. Okay. And with respect to rooftop solar
5 installations, you agree that that can occur without
6 the establishment of a nonbypassable charge in this
7 proceeding?

8 A. Yes.

9 Q. Earlier, you had conversations with your
10 counsel about the Apples to Apples website.

11 A. Yes.

12 Q. And am I correct that you reviewed all of
13 the terms and conditions of each and every one of
14 those offers in the time period that Mr. Darr
15 presented them to you and now?

16 A. No. As I indicated in my testimony, I've
17 reviewed offerings in late December. I reviewed the
18 offerings that existed at that point in time. I
19 think it was December 31st. I reviewed the offerings
20 that were out there to identify what the source of
21 the renewable power was; and to the extent that it
22 was sourced with RECs, I looked to identify where
23 those RECs were sourced from.

24 And that was an update to a review that I
25 had done previously. It may have been in -- I don't

1 recall the month. It was several months before that.
2 I had done a similar review of CRES offerings, but I
3 wanted to make sure I did an updated review near to
4 the time of the hearing.

5 Q. When did you do the review near the
6 hearing?

7 A. I think it was December 31, but it was
8 one of the days between Christmas and New Year's.

9 Q. So are you aware that IGS Energy
10 currently offers a 100-percent renewable product,
11 sourced exclusively from Ohio renewables?

12 A. When I reviewed the data in late
13 December, I wasn't able to identify that IGS had a
14 product that was 100-percent sourced with renewable
15 energy. Earlier in the year, I think it was
16 around -- in October I had requested, from IGS,
17 whether or not their renewable product offering was
18 sourced from Ohio renewable resources and the
19 response that I received was that it was not.

20 Q. And you called the IGS call center?

21 A. I used the IGS -- they have an online
22 messaging system that provides responses to customer
23 inquiry.

24 Q. But before the hearing, you didn't do
25 anything in December to confirm that was the case?

1 At that point in time?

2 A. I did that back in October was the date
3 that I did that inquiry.

4 Q. So as you sit here today, you are not
5 disputing that there is an IGS renewable product
6 available that is sourced exclusively from Ohio-based
7 renewable resources?

8 A. It's possible that as of December or
9 today that that exists. I think that's just another
10 example of how CRES offerings come and go and, at
11 certain points in time, CRESs may be willing to make
12 certain offers and other times they are not to going
13 make certain offers; so it's not the same as a
14 utility offering that's available to all and it's
15 available to all for a long period of time.

16 Q. It's also an example that if there truly
17 is a desire for renewable energy sourced in Ohio,
18 there are people that are willing to provide it,
19 correct?

20 MR. NOURSE: Well, I object because
21 that's stating a fact that's not in the record.
22 Obviously Mr. Allen confirmed, as a very recent date,
23 that IGS's offer was not based on Ohio resources.
24 That's -- that's the fact that's in the record, your
25 Honor.

1 MR. OLIKER: Your Honor, we have the
2 Apples to Apples put in front of the witness and he
3 was making statements about it. Clearly, he does not
4 understand the document that he's testifying about so
5 dispositively.

6 MR. NOURSE: I don't know what that's
7 based on, your Honor, that statement.

8 MR. OLIKER: This gets to some of the
9 objections I was making earlier, where Mr. Allen was
10 conflating the analysis that he did prior to
11 testifying, back in October, with the analysis he did
12 to the documents Mr. Darr presented that were based
13 on yesterday. And he simply does not have the
14 capacity to answer those questions so emphatically as
15 he did earlier.

16 MR. NOURSE: Your Honor, I am not even
17 sure what --

18 EXAMINER PARROT: I don't want to get
19 into -- the objection is overruled, Mr. Allen. Go
20 ahead and answer the question.

21 THE WITNESS: Can I have it reread,
22 please?

23 EXAMINER PARROT: You may.

24 (Record read.)

25 A. The fact is we are 20 years into the

1 competitive markets in Ohio and only 35 percent of
2 AEP Ohio customers are choosing to be served by a
3 CRES provider; the other 65 percent are still served
4 by the utility. So the fact that one CRES provider
5 is willing to make an offer to those customers that
6 are willing to be served by a CRES provider and want
7 renewable energy, does not mean that that single
8 offering is meeting the needs of AEP Ohio's
9 customers.

10 Q. Well, Mr. Allen, the survey you presented
11 in this case is what, two, three months old?

12 A. It's a couple months old, yes. It's a
13 pretty current survey. It was prepared near to the
14 time of the filing of the case.

15 Q. And you would agree that if one CRES
16 provider has reacted to this survey in two to three
17 months, that it is possible that other CRES providers
18 could react too?

19 A. It's possible other CRES providers could
20 make new and different offerings. It's also possible
21 that those CRES may choose not to make those
22 offerings. The utility is the only entity that can
23 make an offering for all of AEP Ohio's customers and
24 that's what we're doing.

25 Q. To be clear, the offer that is on the

1 table here is one that a customer must accept,
2 correct?

3 A. There's two pieces of what the Company's
4 proposed in the consolidated case. One is the RGR
5 that provides increased renewable resources for all
6 of AEP Ohio's customers. And the second piece that's
7 in the second phase is a green power offering that
8 allows any of our customers the option of increasing
9 the amount of renewable energy that they procure on
10 their own behalf.

11 Q. To be clear, what you are representing in
12 this case is a finding of need, not for an offer, but
13 for a requirement that a customer take the product,
14 correct?

15 A. The finding of need that the Company is
16 seeking is that there's a need for increased
17 renewable resources to address the wants of our
18 customers; and the survey results indicated that our
19 customers wanted AEP Ohio to obtain greater renewable
20 resources.

21 MR. OLIKER: Could I have my question
22 read back, please?

23 (Record read.)

24 MR. OLIKER: I move to strike his answer
25 which he didn't even get close to my question.

1 MR. NOURSE: Your Honor, I think this
2 line of questioning, he just mentioned the survey and
3 the hypothetical that a CRES could respond to the
4 survey and offer, and make a renewable offer, and
5 that led to this question about the choice. So I
6 think Mr. Allen's giving an answer appropriate in the
7 context.

8 MR. OLIKER: Your Honor, I asked him if
9 he can avoid the nonbypassable charge.

10 EXAMINER PARROT: Then ask that question.
11 Motion to strike is denied.

12 MR. NOURSE: That's a different question.

13 EXAMINER PARROT: Try again.

14 MR. OLIKER: I'll move on. I think the
15 point's made.

16 Q. (By Mr. Oliker) Mr. Allen, you talked
17 about prices on the Apples to Apples website?

18 A. I did.

19 Q. And you're familiar with the way a retail
20 electric product that serves load has to be
21 structured, correct?

22 A. I'm familiar with the general elements
23 that would be included in the cost of serving a
24 retail customer, yes.

25 Q. And you would agree that CRES providers

1 are load-serving entities in PJM Interconnection?

2 A. Yes.

3 Q. Therefore, they receive a bill from PJM
4 with respect to capacity for the entirety of their
5 load within a specific transmission zone?

6 A. Yes.

7 Q. And each customer that they serve causes
8 an amount of capacity to be billed to a CRES
9 provider, correct?

10 A. Yes.

11 Q. And for a residential customer, that
12 amount is somewhere in the range of probably 3 to 7
13 kilowatts of demand?

14 A. I don't know.

15 Q. What is a typical residential customer
16 peak demand if you know?

17 A. I don't know.

18 Q. And with respect to -- also, would you
19 agree that the amount of capacity that is billed to
20 each load-serving entity or CRES provider must be
21 recovered by that CRES provider or they will lose
22 money?

23 A. Yes, that would be the calculus.

24 Q. And the way a CRES provider typically
25 recovers those costs is through kilowatt-hour-based

1 charges?

2 A. For residential customers, when I look at
3 what's on the Apples to Apples, they typically charge
4 on a per-kilowatt-hour basis and that rate includes
5 any number of cost elements.

6 Q. And would you agree that capacity is
7 typically anywhere from 20 to 40 percent of the
8 kilowatt-hour base charges? If you know, Mr. Allen.

9 A. It would be hard to make such a
10 conclusion based upon the data in the Apples to
11 Apples chart, because if you look at some of the data
12 that you are talking about, some companies, I'm
13 looking at LifeEnergy offers a product at 6.29 cents,
14 and Viridian Energy offers one at \$11 -- sorry --
15 11.39 cents. So there is a huge range in what those
16 prices are. So the percentage is going to vary
17 depending on what that price or what the -- yeah,
18 what the price that they are willing to provide that
19 to the customer is.

20 Q. Historically, would you agree that
21 capacity has made up somewhere from 20 to 30 percent
22 of a customer's energy bill on the generation side?
23 Or, if you disagree, you can provide your own view.

24 A. It's hard -- I can't identify it for CRES
25 offerings because they don't break out those two

1 charges. That information would be available from
2 the -- the SSO auction prices, that breaks that into
3 two components.

4 Q. And -- but you would agree that the
5 capacity is a significant cost within the rate
6 structure of the SSO?

7 A. At times it's a significant cost. We've
8 seen years where capacity was almost zero cost in
9 PJM.

10 Q. For residential customers, is it over 2
11 cents a kilowatt-hour?

12 A. I don't know.

13 Q. Do you have any understanding of how much
14 capacity has cost SSO customers on a kilowatt-hour
15 basis over the last five years?

16 A. I would have to look at the data. I
17 don't recall the specifics of the data.

18 Q. But, as you sit here today, you don't
19 know?

20 A. That's correct.

21 Q. And you would agree that when a CRES
22 provider elects to serve a customer, it must deliver
23 energy to serve that customer's needs, 24 hours a
24 day, 7 days a week, 365 days a year?

25 A. Yes.

1 Q. And the CRES provider gets a load profile
2 from AEP to meet -- to cover those requirements,
3 correct?

4 A. Yes.

5 Q. And, therefore, there is the volumetric
6 risk within every single hour of what that customer's
7 load may be, correct?

8 A. CRES providers experience volumetric
9 risk.

10 Q. Okay. Now, shifting to the projections
11 in this case of generic solar and wind resources, do
12 you first agree they don't serve load, right?

13 A. All generation ultimately serves load,
14 but under the construct here, as we are evaluating
15 those compared to other resources, other generation
16 resources.

17 Q. Okay. And so, therefore, these resources
18 would be different than any of the capacity resources
19 that AEP Ohio must pay for to serve the Standard
20 Service Offer?

21 A. These entities would be receiving
22 capacity -- these assets, resources, receiving
23 capacity revenues through the RPM construct, and the
24 load that AEP serves through the SSO would be buying
25 capacity resources from PJM.

1 Q. Okay. And that's -- whether or not this
2 transaction that has been proposed in this case is
3 finding if need occurs, AEP Ohio will still have to
4 go out and pay for capacity resources to cover all of
5 the SSO obligation, correct?

6 A. Yes. It procures those through the SSO
7 auction.

8 Q. Okay. And do you agree that the
9 capacity -- strike that.

10 The resources discussed in this case, the
11 generic solar and generic wind, are D-rated, correct,
12 in the capacity market? From 100-percent nameplate?

13 A. All resources in the PJM market or at
14 least the vast majority of resources have a capacity
15 value in the RPM market that's different than their
16 nameplate capacity.

17 Q. And renewable resources are D-rated more
18 than, for example, natural gas units and coal units
19 in most instances?

20 A. Depending upon the EFOR(d) of the coal
21 and gas units, generally compared to a coal or gas
22 unit that has a low forced-outage rate, the renewable
23 resources would have a lower ratio of their nameplate
24 capacity that would count as a capacity resource in
25 PJM.

1 MR. NOURSE: Your Honor, just for the
2 record, could we define EFOR(d) or spell it for the
3 court reporter? He used that term in his answer.

4 MR. OLIKER: I don't mind, that's fine.
5 Go ahead, Mr. Allen.

6 A. It's Equivalent Forced Outage Rate.

7 Q. And to be clear, if the resources in this
8 proceeding, described in this proceeding, were
9 serving load, from a capacity standpoint, we would
10 have to observe the unforced capacity amounts that
11 were identified on witness Torpey's testimony?

12 A. I don't follow your question, sorry.

13 Q. One second. Let me ask the question this
14 way.

15 Have you done any calculations for how
16 many solar and wind resources it would take to cover
17 all of the load obligations of all Ohio -- AEP Ohio
18 customers?

19 A. I have not.

20 Q. It would be a big number though, right?

21 A. It would be a number. I don't know if
22 you call it a big number, but it would be -- you
23 would have to add more than 400 megawatts of solar to
24 meet that need.

25 Q. Would it probably be close to the range

1 of 40,000 megawatts? Maybe 50,000 megawatts?

2 A. I haven't done that calculation.

3 Q. Do you know AEP Ohio's peak load? Native
4 load on the AEP Ohio zone?

5 MR. NOURSE: Your Honor, I am just going
6 to object to the scope of redirect. I don't know how
7 it relates.

8 MR. OLIKER: Your Honor, he is trying to
9 make a price comparison to products and these
10 resources, and I am trying to make the true
11 comparison that is really missing in the cross that
12 Mr. Nourse identified.

13 MR. NOURSE: Thank you.

14 EXAMINER PARROT: Go ahead, Mr. Allen.

15 THE WITNESS: I'm sorry, what was the
16 question again? Can you reread it, please?

17 (Record read.)

18 A. Not with specificity, no. It's in the
19 LTFR reports that Company witness Torpey is
20 sponsoring.

21 Q. Okay. And the way that -- if we wanted
22 to do that calculation of the amount of renewable
23 resources it would take to cover the capacity
24 obligation in AEP Ohio's footprint, we would have to
25 start with the peak load in the AEP Ohio zone, and

1 then we would look to achieve an unforced capacity
2 value that is greater than that, plus a reserve
3 margin?

4 MR. MENDOZA: Objection. It's outside
5 the scope of redirect. Mr. Oliker could have pursued
6 this question on cross if he had wished to do so, he
7 chose not to, and now he is trying to have a second
8 bite at the apple.

9 MR. OLIKER: Your Honor, they made a
10 comparison of CRES offers to these resources, and
11 this relates to the differences that were missed in
12 Mr. Nourse's cross [sic]. It's just an extension of
13 it.

14 MR. MENDOZA: Your Honor, the Company
15 made no attempt to show, you know, how much solar it
16 would take to serve the entire load of Ohio, which is
17 the direction that Mr. Oliker is going, and so this
18 is outside the scope. And if -- I would point out
19 that if we allow such broad questioning on recross
20 with counsel that we have at the table today, this
21 hearing will go on forever.

22 EXAMINER PARROT: Mr. Allen, go ahead and
23 answer the question that's pending. And I am going
24 to see where this is going, Mr. Oliker. Try to hone
25 this in, please.

1 MR. OLIKER: Last one, your Honor.

2 A. So the one piece you would look at is the
3 load obligation for AEP Ohio. And then if I look to
4 page 9 of Company witness Torpey's testimony, he
5 states that the capacity values for solar with
6 ground-mounted tracking that the capacity value is
7 60 percent.

8 Q. I'm sorry. There was a cough when you
9 were speaking, Mr. Allen. What was the value?

10 A. It states that the capacity value is
11 60 percent.

12 Q. Mr. Allen, that's -- that's not the
13 unforced capacity rating of the unit, is it? Or the
14 amount that would have been bid into the capacity
15 market that's identified in JFT page 23?

16 A. JFT-23 shows the capacity factor which is
17 the output of the unit over all hours of the day.
18 For a solar resource that produces during the day,
19 one would expect its capacity value, at the time of
20 the system peak, to be greater. And so -- and you
21 can follow-up with Company witness Torpey on the
22 exact values that you think are appropriate.

23 But what you would do is you would take
24 and identify a level of solar resources, times a
25 capacity percentage that you get credit for in PJM,

1 and let's just assume for sake that we use the 60
2 percent here, you would take some number of
3 megawatts, times 60 percent, and that would equal
4 the -- and then you would add a reserve margin on
5 that, and that would equal the load obligation of AEP
6 Ohio. And that's how you do the math. And you can
7 go through that with Company witness Torpey.

8 Q. And I'll do that, but just to be clear,
9 the amount of the solar resources that the Company
10 indicates it would bid into the capacity market,
11 under Column K, is 19 percent of the nameplate
12 capacity, correct? And you can see that in the
13 footnote where it shows they would bid 76 megawatts
14 out of 400?

15 A. Which footnote are you referring to?

16 Q. Footnote K. "Based on 5 percent (wind)
17 or 19 percent (solar) PJM Capacity Credit."

18 A. That's what Footnote K says.

19 MR. OLIKER: Okay. Thank you, your
20 Honor. Those are all the questions I have.

21 Thank you, Mr. Allen.

22 EXAMINER PARROT: Ms. Willis.

23 MS. WILLIS: No questions, your Honor.

24 EXAMINER PARROT: Ms. Glover.

25 MS. GLOVER: No questions.

1 EXAMINER PARROT: Ms. Bojko.

2 MS. BOJKO: Thank you, your Honor.

3 - - -

4 RE-CROSS-EXAMINATION

5 By Ms. Bojko:

6 Q. Good afternoon, Mr. Allen. In response
7 to your counsel's questions regarding solar and
8 customer preferences, you recall stating that solar
9 in Ohio can't typically track the sun and it's not
10 always able to be pointed at the sun; is that
11 correct?

12 MR. MENDOZA: Objection. Misstates his
13 answer.

14 EXAMINER PARROT: Overruled. Go ahead.

15 A. That was not my testimony.

16 Q. Well, do you know, sir, how many existing
17 solar installations in Ohio are not able to track the
18 sun?

19 A. Are you talking about utility-scale or
20 rooftop? When I was having that discussion about
21 tracking, the discussion was around rooftop solar.

22 Q. Okay. So you do recall making that
23 statement about rooftop solar, correct?

24 MR. NOURSE: Objection. It wasn't the
25 same statement Miss Bojko made. Mischaracterizes.

1 MS. BOJKO: Your Honor, the record stands
2 as it is. I had the question reread so I could
3 specifically write down quotes. He recalls the
4 discussion. I think he is able to answer my
5 question.

6 EXAMINER PARROT: Mr. Allen, go ahead.
7 To the extent you need --

8 MS. BOJKO: I'll rephrase.

9 EXAMINER PARROT: -- to point something
10 out, go ahead.

11 MS. BOJKO: I can rephrase, your Honor.

12 Q. How many existing solar installations,
13 rooftop installations in Ohio, are not able to track
14 the sun?

15 A. Typically, rooftop solar doesn't have
16 tracking on it. I can't identify the specific number
17 that may have tracking, but that's not the typical
18 installation.

19 Q. And it's your understanding that solar
20 systems -- rooftop solar systems typically are
21 installed on an angle, correct?

22 A. You need to install solar panels at an
23 angle to take advantage of the sun and, typically, a
24 residential rooftop is an angled rooftop to start
25 with.

1 Q. And the angled installation would be
2 angled toward the sun, as you just pointed out, to
3 take advantage of the sun.

4 A. One can attempt to angle a rooftop solar
5 array in the optimal direction to receive maximum
6 solar irradiation over a day, but not all homes are
7 oriented in a direction that allows those panels to
8 be pointed in that optimal direction.

9 Q. And how many customers in AEP's service
10 territory are not in a location that would
11 accommodate rooftop solar?

12 A. There would be large numbers of our
13 customers that aren't able to. Any of the customers
14 that rent homes or live in apartments aren't able to
15 install their own rooftop solar.

16 MS. BOJKO: Your Honor, that wasn't my
17 question. My question, Mr. Allen -- so I move to
18 strike his answer.

19 Q. My question was how many customers are
20 not in a location that would accommodate solar.

21 MR. NOURSE: Well, your Honor, I think
22 Ms. Bojko interrupted Mr. Allen, but he was
23 addressing categorically the types of customers that
24 wouldn't be able to accommodate rooftop which was the
25 question.

1 EXAMINER PARROT: And I think the
2 question was broad enough to encompass that type of
3 response. So if you want to be more narrow in your
4 question.

5 MS. BOJKO: Sure. Thank you, your Honor.
6 I didn't know that we had to --

7 MR. NOURSE: Could he finish the question
8 that was posed?

9 EXAMINER PARROT: Mr. Allen, were you
10 finished? I thought he was.

11 THE WITNESS: I may have been done.

12 MS. BOJKO: I thought he was. My
13 apologies.

14 EXAMINER PARROT: Go ahead, Ms. Bojko.

15 Q. (By Ms. Bojko) Sir, from the commercial
16 customers that you discussed today, Ikea was listed
17 as one of the largest rooftop installations in
18 Columbus and Cincinnati, correct?

19 A. I don't recall that specific discussion.

20 Q. Well, sir, do you know whether Ikea, one
21 of the largest rooftop installations in Columbus and
22 Cincinnati, do you know whether Ikea's installation
23 has a tracking system?

24 A. I do not.

25 Q. And do you know whether their panels,

1 solar panels on their rooftop, are optimally pointed
2 toward the sun, as you suggest is an important
3 factor?

4 A. And just to clarify, the response I was
5 providing when I was talking about rooftop solar,
6 that's residential rooftop solar.

7 When you move into commercial rooftop,
8 those are larger installations and you may have more
9 sophisticated systems that can go with those. And I
10 do not know whether or not the Ikea panels in -- for
11 Cincinnati, which isn't a customer of AEP Ohio, are
12 optimally pointed or whether those that are in
13 Columbus are.

14 Q. Well, that's a good point. When you were
15 responding to Mr. Nourse, talking about what
16 customers can and cannot do and what options they do
17 or do not have, I believe you used the word "in
18 Ohio." Were you specifically stating that you were
19 only referring to AEP Ohio's customers in AEP Ohio's
20 service territory?

21 A. What this case is about is AEP Ohio's
22 customers and what we're trying to provide to meet
23 their needs. So when I'm speaking of customer needs,
24 I'm speaking of the needs of AEP Ohio's customers.

25 Q. You also talked about economies of scale

1 with Mr. Nourse, did you not?

2 A. Yes.

3 Q. Did you know that Ikea now sells home
4 solar systems?

5 A. I'm not aware whether Ikea sells those or
6 not.

7 Q. And did you know that due to the
8 economies of scale, Ikea offers a 15-percent discount
9 off of the sales of those solar system sales to its
10 customers?

11 MR. NOURSE: Your Honor, I just object.
12 There is no factual basis for that foundation for
13 that in the record.

14 MS. BOJKO: Actually, your Honor, I think
15 that it's a fair question whether he knows. He came
16 on redirect and stated that he knows all of these
17 things about solar. I'm allowed to test that
18 knowledge.

19 EXAMINER PARROT: Overruled. Go ahead,
20 Mr. Allen.

21 A. The economies of scale I was discussing
22 were related to the installation of those facilities
23 and I specifically mentioned costs such as
24 mobilization costs, demobilization costs, for
25 installing residential solar systems, rooftop solar

1 systems.

2 Q. I did not -- so when you were talking
3 about all those things, I did not believe that your
4 response was confined to residential rooftop, but now
5 you are saying that it was. Is that right?

6 A. The questions you just asked me was about
7 residential rooftop. Commercial rooftop would have
8 some of the same diseconomies of scale due to the
9 alarm -- due to the small scale that they have as
10 compared to a large solar facility in the
11 100-megawatt size, plus.

12 Q. So can you please answer my question?
13 Are you aware that, due to the economies of scale,
14 Ikea is offering its customers a 15-percent discount
15 off of home solar systems?

16 A. I'm not aware of the discount that they
17 are providing.

18 Q. How many customers do not have site
19 control that you've referenced to Mr. Nourse and
20 again to me?

21 A. I don't have a specific value for that,
22 but the customers that do not have site control would
23 be commercial customers that rent or lease their
24 facilities.

25 Q. So how many customers? You are making

1 broad conclusions. I am asking what that knowledge
2 is based on how many customers do not have site
3 control?

4 MR. NOURSE: Your Honor, I think this is
5 asked and answered. It's the same question I asked
6 about a few minutes ago whether the answer was
7 complete.

8 EXAMINER PARROT: I agree.

9 MS. BOJKO: He didn't say how many
10 customers.

11 EXAMINER PARROT: He says he doesn't
12 know.

13 MS. BOJKO: Oh, I don't think he ever
14 said that. Thank you, your Honor.

15 Q. (By Ms. Bojko) How many customers do not
16 have availability to access economic solar as you
17 used the term earlier today?

18 MS. LEPPLA: Objection, your Honor, just
19 as to what "economic" means.

20 MS. BOJKO: He used the word. I am
21 asking as he used the term today.

22 MR. NOURSE: We need to be more specific
23 because I don't think this relates to redirect, your
24 Honor.

25 MS. BOJKO: Your Honor, this -- all of my

1 questions are directly related to Mr. Nourse's
2 question and Mr. Allen's 20-minute response about
3 customer options, rooftop solar, and how those solar
4 systems do or do not work in Ohio.

5 MR. MENDOZA: Your Honor, the questions
6 were about economies of scale for rooftop solar. I
7 think it was pretty narrow. And certainly it was not
8 a 20-minute discussion. Now we are trying -- we're
9 trying to redo a cross-examination. Again, it's the
10 "second bite of the apple" problem. All of these
11 questions could have been asked yesterday.

12 EXAMINER PARROT: Overruled.

13 To the extent you understood the
14 question, Mr. Allen, go ahead, and if you need to ask
15 for clarification, go ahead and do that as well.

16 A. I don't think I understand your question
17 exactly, Ms. Bojko.

18 Q. You didn't use the term, in response to
19 Mr. Nourse earlier, "economic solar"? You didn't --
20 you don't recall using that term?

21 A. I've talked about -- I've talked about
22 solar facilities and some of them being more economic
23 than others.

24 Q. Do you talk -- do you recall talking
25 about economic wherewithal of customers?

1 A. I do.

2 Q. Okay. How many customers do not have
3 economic wherewithal to install rooftop solar?

4 A. Those would generally be the Company's
5 low- and moderate-income customers that don't have
6 the twenty- to forty-thousand dollars it would cost
7 to install rooftop solar.

8 MS. BOJKO: Objection. First of all, I
9 move to strike his answer. That's a fact not in
10 evidence. And I think it's incorrect and misleading.
11 And secondly, he first started his question with
12 saying companies and then seemed to say middle- to
13 low-class customers.

14 MR. OLIKER: Your Honor, I'll join the
15 motion to strike. Yesterday, in response to a
16 question that I posed to the witness, he said he was
17 not familiar with the way that rooftop solar is
18 financed by a customer.

19 MR. NOURSE: Your Honor, she is asking
20 about economic wherewithal, so clearly his answer
21 relates directly to that concept and categorically
22 describes the customers that are lacking economic
23 wherewithal.

24 MS. LEPPLA: Just to Mr. Oliker's point,
25 he is talking about how much a system might cost, not

1 the financing, so I don't think that's relevant.

2 MR. MENDOZA: And I would add, to respond
3 to the point about it not being in evidence, the
4 witness just said it, the fact that it costs a
5 certain amount of money, that is evidence, and so
6 that objection has no bearing.

7 EXAMINER PARROT: I am going to grant the
8 motion to strike. I don't think it was a responsive
9 answer, so let's try it again. Repeat your question,
10 Ms. Bojko.

11 Q. (By Ms. Bojko) I asked how many customers
12 do not have economic wherewithal to install rooftop
13 solar.

14 A. I don't have a specific quantification of
15 that, but those would be our lower- to
16 moderate-income customers would be one category.

17 Q. And how many customers have you polled to
18 ask them if they have the economic wherewithal to
19 install solar?

20 A. I have not performed such a survey.

21 Q. Isn't it true -- you keep talking about
22 the customers' wherewithal to install these solar
23 projects or enter into the REPAs. Isn't it true that
24 AEP requires an establishment of creditworthiness of
25 security when a customer is signing up for service?

1 A. The Company does have certain credit and
2 deposit requirements.

3 Q. And you referenced the green tariff
4 earlier today. Would that green tariff -- signing up
5 for green tariff service would also require the same
6 creditworthiness requirements, correct?

7 A. To sign up for the green tariff, the
8 customer would have to be a customer of AEP Ohio so
9 they would have already established that. So the
10 only way a customer can obtain renewable power from a
11 CRES provider, also requires them to first be a
12 customer of AEP Ohio.

13 Q. So again, to be on the green service
14 tariff, the green tariff, a customer would have had
15 to establish creditworthiness to take service from
16 AEP.

17 A. It's not the same type of credit that
18 we're talking about previously for signing a REPA for
19 a solar -- to get power from a solar facility.

20 Q. And, again, how -- not again. Excuse me.
21 How many customers, that you know of,
22 cannot meet the credit requirements to sign a REPA?

23 A. I haven't done a calculation of that
24 number.

25 MS. BOJKO: Thank you, your Honor. I

1 have no further questions.

2 EXAMINER PARROT: Ms. Whitfield.

3 MS. WHITFIELD: No questions.

4 EXAMINER PARROT: Mr. Collier.

5 MR. COLLIER: Just a couple.

6 - - -

7 RECROSS-EXAMINATION

8 By Mr. Collier:

9 Q. Mr. Allen, you were asked about a
10 possible AEP affiliate ownership in the REPA
11 facilities. The fact of the matter is neither AEP
12 Ohio or any affiliate will have any ownership in the
13 two specific projects.

14 A. I think that's a matter for the second
15 phase but in those -- if you would like me to answer,
16 I can.

17 Q. That would be great. Answer.

18 EXAMINER PARROT: Yeah. Go ahead. Stop
19 there. Next question.

20 MR. COLLIER: Pardon me?

21 EXAMINER PARROT: Next question.

22 MR. COLLIER: Did he answer that
23 question?

24 EXAMINER PARROT: As he felt was
25 appropriate, yes. If you want to follow up, go

1 ahead.

2 MS. WHITFIELD: Excuse me. Could we have
3 the answer back? The only thing I heard was this
4 relates to Phase II and if you want me to answer, I
5 will.

6 EXAMINER PARROT: And I instructed him to
7 stop there. And if there is a follow-up to that, go
8 ahead.

9 Q. (By Mr. Collier) The fact of the matter
10 is, Mr. Allen, in two specific REPA agreements, AEP
11 declined to exercise an option of ownership in the
12 two facilities.

13 MR. NOURSE: Your Honor, I'll object. I
14 think, first of all, the use of the word "declined"
15 is not based on any AEP Ohio filing, but it also does
16 relate to the Phase II. The matter I covered in the
17 redirect was simply the scope of the PPA settlement
18 and the ESP order as it relates to questions that
19 Mr. Whitt had about a different scenario.

20 MR. COLLIER: What was the question on
21 redirect, your Honor? And that's what I am following
22 up on.

23 EXAMINER PARROT: I don't think it had to
24 do with the two specific REPAs that are proposed to
25 be considered in Phase II.

1 MR. COLLIER: All right.

2 Q. (By Mr. Collier) You were asked a
3 question about capacity costs. Isn't it a fact that
4 the capacity cost for the AEP load zone in PJM in the
5 2021 base residual auction was \$140 per megawatt of
6 capacity?

7 A. I don't recall the specific value but
8 that doesn't sound unreasonable.

9 MR. COLLIER: All right. No further
10 questions.

11 EXAMINER PARROT: Mr. Darr.

12 MR. DARR: Thank you, your Honor.

13 - - -

14 RE-CROSS-EXAMINATION

15 By Mr. Darr:

16 Q. In your response to a question from
17 Mr. Nourse concerning the Apples to Apples charts,
18 you indicated that you did a review. As part of that
19 review, you determined that some or all of the CRES
20 contracts were based on what you described as
21 national RECs. I never heard the term "national REC"
22 before. Could you explain to me what you meant by
23 that?

24 A. What I meant by that -- and the word
25 "national" is typically used on those documents if

1 you were to review them -- it means that those RECs
2 are sourced from anywhere in the country. They may
3 have been sources from west Texas where REC values
4 are very cheap because of the abundance of wind
5 resources is exist in that area. It means that the
6 supplier has sought the lowest-cost RECs nationally.

7 Q. Okay. And so, one of the -- they would
8 go to the individual REC system and purchase RECs out
9 of those systems, correct?

10 A. There's a -- I think it's the GATS system
11 that tracks RECs within PJM, and I assume there are
12 other systems that track RECs in other regions, but
13 you would procure those RECs.

14 Q. Okay. And you would procure them
15 depending on availability from the various suppliers,
16 correct?

17 A. Yes.

18 Q. And you just mentioned GATS. That's the
19 Generation Attributes Tracking System that's
20 maintained by PJM, correct?

21 A. That's my understanding, yes.

22 Q. And the PJM GATS system collects or
23 actually certifies RECs within the PJM system,
24 correct?

25 A. I don't know that it certifies the RECs.

1 I am not an expert on the GATS system, but that's the
2 tracking system for RECs in PJM.

3 Q. And that would include RECs that were
4 produced here in Ohio, correct?

5 A. Yes.

6 Q. And it would include RECs that are
7 produced in states that produce gen -- excuse me, let
8 me start again.

9 It would include RECs in states such as
10 Pennsylvania and Indiana that also operate in the PJM
11 system, correct?

12 A. That's my understanding.

13 Q. And those would be the same RECs that the
14 State of Ohio recognizes for purposes of satisfying
15 the renewable requirement under Section 4928.64,
16 correct?

17 A. That's my understanding, yes.

18 Q. Now, with regard to your comments
19 concerning rooftop solar, you clarified with
20 Ms. Bojko that what you were referring to were small
21 facilities on individual houses, basically
22 residential rooftop solar, correct?

23 A. When I was making the discussion about
24 tracking and the like, I was speaking of residential
25 rooftop solar, yes.

1 Q. And you were specifically distinguishing
2 small arrays like a rooftop solar from large arrays;
3 is that correct?

4 A. I was specifically speaking of small
5 arrays. You'll have to define what a large array is
6 in your question.

7 Q. Sure. Do you have in front of you what
8 was previously marked as AEP Exhibit 4?

9 A. I do.

10 Q. And I believe the top sheet of that was
11 the press release or website release or article
12 regarding Ikea, correct? And if it's not the top,
13 could you locate that, please.

14 A. Yeah. I have it.

15 Q. And the Ikea solar array is 213,000
16 square feet, correct?

17 A. That's what the document states, yes.

18 Q. Just for a point of reference so the
19 record is clear, what 213,000 square feet looks like,
20 a football field is 360-feet long and 160-feet wide.
21 Would you accept that subject to check?

22 A. I feel stupid. I don't know.

23 Q. Well, would you accept it subject to
24 check? That includes the end zones, by the way.

25 A. That helps me, okay. So we'll accept

1 that 360-feet long by --

2 Q. 160-feet wide.

3 A. Okay.

4 Q. Which works out to 57,600 square feet.

5 A. Okay.

6 Q. So just roughly speaking, the solar array
7 that's sitting on top of the Ikea building, north of
8 Columbus, would be the equivalent of 3.7 football
9 fields, correct?

10 A. Yeah. I think it's approximately
11 5 acres.

12 Q. Well, how many square feet is in an acre?

13 A. About 41,600.

14 Q. So about 5 acres -- not a middling piece
15 of property.

16 A. Sure.

17 Q. Finally, with regard to the green tariff,
18 your specific answer was that such a green tariff, on
19 a voluntary basis, would not satisfy the requirements
20 of AEP Ohio for economic development in Ohio or words
21 to that effect, correct?

22 A. I think what I said was that a voluntary
23 green tariff wouldn't support the development of
24 large-scale renewables, as we proposed here, that
25 provides economic development benefits to the state

1 as well as meeting the needs of our customers.

2 Q. And I think we've established, through
3 the examination over the last day and a half, that
4 the only difference between a renewable project
5 developed by a private marketer, not financed by AEP
6 Ohio, and one as proposed here, is a nonbypassable
7 rider that shifts the risks associated with that
8 project to all AEP Ohio customers, correct?

9 MR. NOURSE: I object to the
10 argumentative question, your Honor.

11 MR. DARR: It's not argumentative at all,
12 your Honor. It specifies the facts that have been
13 laid out over the last day and a half.

14 EXAMINER PARROT: Overruled. You can
15 answer than one, Mr. Allen. Go ahead.

16 A. So I think your question has a couple of
17 factual inaccuracies about what we've been talking
18 about. First, it's not a project financed by AEP
19 Ohio. It's a project or projects that have REPAs
20 with AEP Ohio.

21 Also, the financial risks associated with
22 building the facility and the actual cost of the
23 facility are borne by the developer. The customers
24 will have a fixed price REPA. There's no risk to the
25 customer about the cost of power that they will be

1 receiving from these facilities. That will be fixed.

2 Q. Mr. Allen, if the REPA cost is less than
3 the wholesale revenues that are generated by the
4 project, the difference would be passed on to the
5 customers of AEP Ohio on a nonbypassable charge,
6 correct?

7 A. That's a very different risk than what
8 you asked about previously. The only risk that
9 customers have is that if market prices are very low
10 and customer rates are low, that these projects will
11 result in a charge on customer bills.

12 Q. Anything further you want to add to that
13 answer?

14 A. No.

15 MR. DARR: Thank you. That's exactly my
16 point.

17 Nothing further, your Honor.

18 MS. LEPPLA: Objection, your Honor, just
19 to the commentary on the record.

20 MR. NOURSE: I object.

21 MR. DARR: I withdraw, your Honor.

22 EXAMINER PARROT: Mr. McNamee?

23 MR. McNAMEE: No questions. Thank you.

24 - - -

25

EXAMINATION

1
2 By Examiner Parrot:

3 Q. Mr. Allen, I have just a couple of
4 questions for you.

5 A. Okay.

6 Q. As I understand it in this 18-501-EL-FOR
7 case specifically, so the forecasting case.

8 MR. DARR: I'm sorry, your Honor. I
9 can't hear you.

10 Q. As I understand it, the Company in the
11 18-501-EL-FOR case, specifically in the amended
12 filing that was made in September of 2018, the
13 Company is requesting that the Commission issue an
14 order that would find that there is a need for at
15 least 900 megawatts of renewable resources located in
16 Ohio. I want to kind of probe that, at least part of
17 that. So the 900 megawatts, I guess from at least
18 the phrasing of that, I take that to mean the
19 900 megawatts is not, by any means, a cap?

20 A. It's not a cap, that's correct.

21 Q. So if the Commission, after weighing all
22 of the evidence and reading all of the briefs and
23 carefully deliberating, if the Commission finds there
24 is a need for more than 900 megawatts, is that
25 something that the Company is okay with, I guess? I

1 am trying to gauge the significance of the
2 900 megawatts from the Company's perspective. Can
3 you help me with that?

4 A. The Company would be fine with the
5 Commission determining a need for greater than
6 900 megawatts of economically-beneficial renewable
7 resources in Ohio. The 900 is a -- is a floor that
8 the Company wanted the Commission to agree to, so
9 that the Company could fully comply with the
10 settlement in the case, in the prior stipulation in
11 the ESP IV and the PPA cases.

12 And if the Commission determined, based
13 on the data, that there is additional resources
14 needed, the analysis demonstrates that adding more
15 renewables would also be economic if they were below
16 the break-even price in this analysis.

17 Q. Okay. So you just described the
18 900 megawatts as a floor and that's kind of my next
19 question is is that truly the floor? I understand
20 the Company has a commitment that was made in the PPA
21 rider case. But, again, after the Commission weighs
22 all of the evidence and carefully considers all of
23 the parties' arguments, is there a number below the
24 900 megawatts that's -- the Company would be amenable
25 to, I guess?

1 A. I mean --

2 Q. I am trying to gauge again, like, is the
3 900 sort of this is what, you know, the Company is
4 proposing and, you know, we don't recommend that the
5 Commission deviate up or down from that or not? So
6 again, I am just trying the gauge the significance --

7 A. So the Company --

8 Q. -- of that specific number.

9 A. -- is requesting that the Commission
10 approve at least 900 megawatts but it's ultimately
11 the Commission's decision if they think that at this
12 point in time that it's only appropriate to approve a
13 need for some level beneath that. And that would
14 afford the Company the right to come back, at a later
15 point in time, to show additional, need but our
16 request is that we have a finding of need for at
17 least 900 megawatts, but the Commission does have
18 discretion.

19 EXAMINER PARROT: Okay. Thank you very
20 much.

21 MR. NOURSE: Your Honor, are you ready
22 for the exhibits to be moved? Sorry.

23 EXAMINER PARROT: Let's go ahead and get
24 started. We will have to break shortly here for the
25 Commission meeting, but we'll start.

1 Mr. Nourse, I believe you have already
2 moved for the admission of company exhibits.

3 MR. NOURSE: Yes. I was going to renew
4 Exhibit 3, Mr. Allen's testimony, and then also move
5 for Exhibit 4, the discovery Attachment 1. And I
6 believe we -- we had a potential agreement on that
7 one if we remove the Crain's article that was a few
8 pages in that exhibit.

9 MS. WILLIS: That's correct, as far as
10 OCC is concerned.

11 MR. NOURSE: Yes. We would, you know,
12 adjust that attachment and that exhibit to exclude
13 those pages for that Crain's article.

14 EXAMINER PARROT: All right. So let's
15 start with that one, Company Exhibit 4. Is everyone
16 open to that plan? We would remove the Crain's
17 document and leave the rest of the exhibit?

18 MR. NOURSE: Yes. And I think I gave the
19 Bench a copy and maybe the reporter, so we can
20 physically remove those pages.

21 EXAMINER PARROT: Okay. So we will deal
22 with making sure we have the correct pages.

23 Okay. With that, Company Exhibit 4 is
24 admitted.

25 (EXHIBIT ADMITTED INTO EVIDENCE.)

1 EXAMINER PARROT: Any objection to
2 Company Exhibit 3?

3 MR. OLIKER: Can we go back for one
4 second, your Honor? Can AEP send an e-mail service
5 copy -- not service copy, but a copy to the service
6 list of the reduced exhibit?

7 MR. NOURSE: Sure.

8 MR. OLIKER: Okay. Thank you.

9 EXAMINER PARROT: Objections to Company
10 Exhibit 3? All right. Hearing none, Company --

11 MS. BOJKO: Oh, I'm sorry. Just to
12 preserve, your Honor. Company Exhibit 3 is
13 Mr. Allen's testimony, so I would just note for the
14 record that there were objections, so over those
15 objections.

16 MR. OLIKER: Renew.

17 EXAMINER PARROT: Noted.

18 Company Exhibit No. 3 is admitted.

19 (EXHIBIT ADMITTED INTO EVIDENCE.)

20 EXAMINER PARROT: Mr. Oliker, you're
21 next.

22 MR. OLIKER: IGS would move for the
23 admission of its exhibits, your Honor.

24 EXAMINER PARROT: That's IGS Exhibit 1.
25 Are there any objections?

1 MR. NOURSE: No, your Honor.

2 EXAMINER PARROT: All right. IGS Exhibit
3 1 is admitted.

4 (EXHIBIT ADMITTED INTO EVIDENCE.)

5 EXAMINER PARROT: Ms. Willis.

6 MS. WILLIS: Yes, thank you, your Honor.
7 OCC would move for the admission of Exhibits 1 and 2.

8 EXAMINER PARROT: Any objections?

9 MR. NOURSE: No, your Honor.

10 EXAMINER PARROT: OCC Exhibits 1 and 2
11 are admitted.

12 (EXHIBITS ADMITTED INTO EVIDENCE.)

13 EXAMINER PARROT: Mr. Darr.

14 MR. DARR: Thank you. IEU Exhibits 1
15 through 7 and request again administrative notice of
16 IEU 8.

17 EXAMINER PARROT: 2 through 7.

18 MR. DARR: 2 through 7, excuse me.

19 EXAMINER PARROT: Let's start with IEU
20 Exhibits 2 through 7. Any objections to those
21 exhibits?

22 MR. NOURSE: No, your Honor.

23 EXAMINER PARROT: All right. Exhibits 2
24 through 7 are admitted.

25 (EXHIBITS ADMITTED INTO EVIDENCE.)

1 Wednesday Afternoon Session,
2 January 16, 2019.

3 - - -

4 EXAMINER SEE: Let's go on the record.

5 Mr. Nourse, if you could represent what
6 you're going to be sending to myself and the parties,
7 to the Bench and the parties.

8 MR. NOURSE: Okay. Yes, your Honor, on
9 AEP Ohio Exhibit 4, we -- I think we are just
10 amending it back to what Ms. Willis had circulated
11 yesterday during her cross-examination with the
12 exception of the Crain's article that's been
13 excerpted. And so, page 1 is the Interrogatory --
14 OCC Interrogatory 1-004 and the Company's response.
15 The second page, that was inserted by Ms. Willis, is
16 in reference to the EL-RDR testimony of Mr. Allen.
17 That's what's referenced in the question and the
18 answer. And then the subsequent pages are Attachment
19 1 to that interrogatory which are all of the press
20 releases and such that were -- that all the
21 questioning and answers were about. So that will be
22 composite AEP Ohio Exhibit 4.

23 EXAMINER SEE: Okay. Thank you.

24 If AEP wants to call its next witness.

25 MS. BLEND: Thank you, your Honor. The

1 company calls Kamran Ali.

2 (Witness sworn.)

3 EXAMINER SEE: Thank you. Have a seat.

4 THE WITNESS: Thank you.

5 - - -

6 KAMRAN ALI

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

9 DIRECT EXAMINATION

10 By Ms. Blend:

11 Q. Good afternoon, Mr. Ali. Will you please
12 state and spell your name for the record.

13 A. Yes. My name is Kamran Ali. It's
14 spelled K-a-m-r-a-n and last name is A-l-i.

15 EXAMINER SEE: Mr. Ali, I need you to
16 speak into the microphone.

17 A. My name is, again, Kamran Ali.
18 K-a-m-r-a-n. Last name is A-l-i.

19 Q. Thank you.

20 Mr. Ali, by whom are you employed and in
21 what capacity?

22 A. I'm employed by American Electric Power
23 Service Corporation as the Managing Director of
24 Transmission Planning.

25 Q. Did you present prefiled written direct

1 testimony in this case?

2 A. Yes, I did.

3 MS. BLEND: Your Honor, I would like to
4 mark the September 19, 2018, direct testimony of
5 Kamran Ali as AEP Ohio Exhibit 5.

6 EXAMINER SEE: So marked.

7 (EXHIBIT MARKED FOR IDENTIFICATION.)

8 Q. Mr. Ali, do you have a copy of what has
9 been marked AEP Ohio Exhibit No. 5 in front of you?

10 A. Yes, I do.

11 Q. And is this the prefiled direct testimony
12 prepared by you or under your direction?

13 A. Yes, it is.

14 Q. Do you have any changes or corrections to
15 your testimony at this time?

16 A. Yes, I do have a couple of changes.

17 On page 1, line 7, need to add "Managing"
18 in front of "Director."

19 On page 2-4, need to add "Southwest Power
20 Pool and Electric Reliability Council of Texas" after
21 "PJM Interconnection, LLC."

22 And on line 2 --

23 EXAMINER SEE: I'm sorry, Mr. Ali. Page
24 2, line 4?

25 THE WITNESS: Yes, your Honor. Page 2,

1 line 4. After "PJM Interconnection, LLC," I need to
2 append "Southwest Power Pool and Electric Reliability
3 Council of Texas."

4 And, your Honor, on page 2, line 5, I
5 need to change "region" to "regions."

6 Q. Thank you, Mr. Ali.

7 With regard to your first correction on
8 page 1, line 7, adding the word "Managing" in front
9 of "Director" would that change also apply to the
10 question in your testimony that begins on page 2,
11 line 1?

12 A. Yes, that is correct.

13 Q. Thank you.

14 Mr. Ali, if I asked you the questions
15 contained in your prefiled testimony today, would
16 your answers be the same?

17 A. Yes, they will be.

18 MS. BLEND: Your Honors, the Company
19 moves for the admission of AEP Ohio Exhibit No. 5,
20 subject to cross-examination.

21 EXAMINER SEE: Okay. Let's -- okay.
22 Going in the same order as yesterday, Mr. Dove.

23 MR. DOVE: No questions at this time,
24 your Honor.

25 MS. BOJKO: Your Honor, I'm sorry, I do

1 have a brief motion to strike if you would like to
2 entertain that before questions.

3 EXAMINER SEE: Yes.

4 MS. BOJKO: Your Honor, OMAEG moves to
5 strike from Ali's testimony on page 6, lines 7 to 10.
6 Beginning with "Company" and ending at the end of the
7 paragraph. We move to strike based on lack of
8 personal knowledge and lack of foundation, and I
9 believe it mischaracterizes Mr. Torpey's testimony.

10 Under Rule 602 of the Ohio Rules of
11 Evidence, a witness may not testify to a matter
12 unless evidence is introduced sufficient to support a
13 finding that the witness has personal knowledge of
14 the matter.

15 Mr. Ali readily admits that Mr. Torpey is
16 the witness performing the impact analysis, not him.
17 And his testimony has not laid any foundation as to
18 Mr. Ali speaking to the analysis performed by
19 Mr. Torpey. He's not testified that he's assisted in
20 performing the analysis or that he has verified the
21 accuracy of the analysis or whether that he has
22 independent knowledge of the information asserted
23 therein.

24 Your Honor, I believe that the testimony
25 mischaracterizes Mr. Torpey's testimony. That's why

1 it is even more important that this provision be
2 struck as it will mislead the record and confuse the
3 record.

4 Additionally, to the extent that Mr. Ali
5 offers this testimony as information from Mr. Torpey,
6 it's clearly testimony that's an out-of-court
7 statement that's being offered by Mr. Ali to prove
8 the truth of the matter asserted therein and that is
9 hearsay. Thank you, your Honor.

10 MS. BLEND: Your Honor, if I may respond.

11 First, with regard to Ms. Bojko's
12 assertion that Rule 602 requires personal knowledge.
13 That rule is not applicable to expert testimony like
14 the expert testimony that Mr. Ali is providing in
15 this proceeding.

16 Beyond that, the testimony on page 6,
17 lines 7 through 10, simply provides a summary, which
18 is similar to the summaries that were the subject of
19 the motions to strike Mr. Allen's testimony
20 yesterday, where Mr. Ali summarizes how his analysis
21 was used by another Company witness to provide
22 context around the reason for his testimony and the
23 reason for his analysis and how his analysis fits
24 into the broader picture.

25 We disagree with Ms. Bojko's assertion

1 that Mr. Ali has misrepresented or mischaracterized
2 Mr. Torpey's analysis in any way and that also seems
3 like something that would be a topic that could be
4 explored through cross-examination.

5 But based on the Attorney Examiner's
6 previous rulings on the motions in limine and on the
7 motions to strike Mr. Allen's testimony, we believe
8 it's appropriate that Mr. Ali's testimony,
9 summarizing his understanding of how his analysis was
10 used by another Company witness, should stand. Thank
11 you.

12 MS. BOJKO: Your Honor, if I may briefly
13 respond. The whole point is he is not an expert on
14 Mr. Torpey's testimony. He is not an expert on
15 Mr. Torpey's contents of his testimony. And so, 602
16 does apply.

17 And secondly, he's not the overview
18 witness. Mr. Allen was the overview witness, so we
19 allowed summaries through Mr. Allen. Mr. Ali should
20 not be able to provide additional summaries. Now, we
21 are getting into duplicative testimony, which is also
22 disfavored by the civil rules, as to compound the
23 testimony with same or similar testimony.

24 But more importantly, your Honor, the
25 only reason I am moving to strike this testimony is

1 because it does mischaracterize Mr. Torpey.

2 And contrary to Ms. Blend's comment, I
3 have no ability to cross Mr. Torpey's analysis
4 through Mr. Ali, so that's the problem is that he's
5 summarizing Mr. Torpey's testimony in a fashion that
6 I believe is inaccurate and mischaracterizes the
7 record.

8 EXAMINER SEE: Is that your only motion
9 to strike, Ms. Bojko?

10 MS. BOJKO: Yes, it is.

11 EXAMINER SEE: The motion to strike is
12 denied.

13 MS. BOJKO: Thank you, your Honor.

14 EXAMINER SEE: Mr. Dove, I believe you
15 indicated you didn't have any cross-examination?

16 MR. DOVE: Correct, your Honor.

17 EXAMINER SEE: It looks like Mr. Kurtz is
18 the next one up.

19 MR. KURTZ: Thank you, your Honor.

20 - - -

21 CROSS-EXAMINATION

22 By Mr. Kurtz:

23 Q. Good afternoon, Mr. Ali.

24 A. Good afternoon.

25 Q. Can we turn to page 5 of your testimony,

1 please?

2 A. I'm there.

3 Q. Okay. What I would like to do is talk
4 about the 650-megawatt of generic renewable and you
5 modeled -- you modeled the effect on energy prices,
6 LMPs, in the AEP zone, assuming that those renewable
7 projects were brought online; is that correct?

8 A. Yes, that is correct, that I modeled the
9 impacts on LMP if these three projects were brought
10 online.

11 Q. Okay. Three, what are -- what are the
12 three?

13 A. One wind and two solar projects that are
14 mentioned on line 13 of page 5.

15 Q. Oh, good. Okay. All right. They add up
16 to the 600 megawatts, the same as the generic
17 analysis by Mr. Torpey; is that correct?

18 A. Can you please repeat that question?

19 Q. The 650 megawatts that you modeled, made
20 up of three projects, is equivalent to the
21 650 megawatts of generic renewables that Mr. Torpey
22 modeled, if you know?

23 A. Yes, that is correct. So Mr. Torpey used
24 the LMP analysis that I performed to show the
25 reduction in locational marginal prices to then

1 further forecast the long-term reductions in LMP and
2 the benefits to the customer.

3 Q. So he took your information and
4 forecasted a \$7 -- excuse me -- 7 cents per
5 megawatt-hour reduction levelized, or \$31 million net
6 present value benefit to consumers? If you know?

7 MS. BOJKO: Objection. May I have that
8 question reread, please?

9 MR. KURTZ: I'll rephrase.

10 Q. Mr. Torpey took your information and then
11 calculated the \$31 million net present value benefit
12 over 20 years?

13 MS. BOJKO: Objection.

14 MR. OLIKER: I would object too.

15 MS. WHITFIELD: As would I. Lack of
16 foundation. He is asking him what Mr. Torpey did.

17 Q. Do you know what Mr. Torpey did with your
18 information?

19 EXAMINER SEE: Okay.

20 THE WITNESS: Can I answer that question?

21 EXAMINER SEE: You can answer that
22 question.

23 A. Yes. So Mr. Torpey took the LMP
24 reductions that my analysis demonstrated in the PJM
25 region as a sort of modeling the renewable projects

1 and then he interpolated and extrapolated those LMP
2 price changes for the 20-year life of the projects.

3 Q. Do you know what conclusion he reached?

4 A. Yes, I do.

5 MS. BOJKO: Objection.

6 MR. KURTZ: It's in the record. It's in
7 Mr. Torpey's testimony.

8 MS. BOJKO: That's the whole problem here
9 is Mr. Torpey is not on the stand.

10 MR. KURTZ: I am not --

11 MS. BOJKO: He didn't conduct the
12 analysis. He can't speak to the conclusions drawn by
13 Mr. Torpey.

14 MR. KURTZ: He can say what's on
15 Mr. Torpey's testimony. We can all see it. It's in
16 the -- it's in the Application as well, I think.

17 MS. BOJKO: Your Honor, Mr. Torpey is
18 going to be on the stand. He can speak to -- he can
19 ask these questions of Mr. Torpey directly.

20 MR. KURTZ: I am asking this witness what
21 Mr. Torpey did on page -- it's in the long-term
22 forecast, page 19.

23 EXAMINER SEE: Thank you, Mr. Kurtz.

24 Mr. -- Mr. Ali, you can answer the
25 question.

1 THE WITNESS: Thank you, your Honor.

2 So, in essence, Mr. Torpey took the
3 analysis that I performed, and further extrapolated
4 and interpolated the LMP benefits, and his analysis
5 shows there was a 7 cents per megawatt-hour reduction
6 in the locational marginal prices throughout the AEP
7 zone, AEP Ohio, and that resulted in close to
8 \$31 million of impact in benefits to our customers.

9 Q. Okay. By way of background, energy
10 pricing in PJM is the same across all of the load
11 zones except for losses in congestion; is that
12 correct?

13 A. Yes, that is correct, but I would like to
14 elaborate on that, your Honor, if I may, because in
15 essence if there is congestion, you could have
16 different locational marginal prices throughout
17 the -- throughout the queue.

18 Q. Right. But the starting is the same.
19 It's the same marginal cost of energy adjusted for
20 losses and congestion for the particular load zone?

21 A. That is correct.

22 Q. Okay. And you modeled the effect on the
23 AEP load zone, correct?

24 A. That is correct.

25 Q. Now, as I understand the dynamic, you

1 tell me if this is correct, the intermittent
2 resources have a zero fuel cost; is that correct?

3 A. That is correct.

4 Q. Okay. So when the sun starts shining in
5 the morning or the wind is blowing, these renewables
6 are at the bottom of the dispatch order. They are
7 automatically dispatched by PJM because they have
8 zero fuel costs, they are the lowest fuel cost unit;
9 is that correct?

10 A. That is correct.

11 Q. Okay.

12 A. Provided there is no congestion on the
13 system.

14 Q. Okay. And so, the higher fuel cost
15 fossil units, coal and gas, are then, all else equal,
16 dispatched down to accommodate the zero fuel cost
17 renewable power.

18 A. That is correct.

19 Q. And that's how you derived your
20 calculated benefit.

21 A. That is correct.

22 Q. And then when the sun sets, the fossil
23 units ramp back up to where they otherwise would have
24 been.

25 A. It depends; because, as the sun sets, the

1 load probably drops as well, so it depends. But,
2 yes, that is -- that is the idea is that the
3 most-cost effective units are dispatched first and
4 you keep dispatching the units until such time that
5 the demand and the losses are met.

6 Q. Okay. Solar is more predictable than
7 wind; is that correct? For -- when PJM -- the guys
8 in the computer room are dispatching the system, it's
9 easier for them to forecast and deal with solar than
10 wind; is that right?

11 A. I'm not sure if I can answer that
12 question. I think there is definitely a lot of
13 variability that goes into it. It probably depends
14 on which area -- which areas you're in. You know, on
15 the face of it, yes, in areas that we have a lot of
16 sun exposure, you could say that there's more -- more
17 planning. You can do day-ahead versus realtime when
18 it comes to solar versus wind.

19 Q. But the PJM dispatchers don't -- don't
20 have a -- don't have a predictability as to wind; in
21 other words, it's more variable than solar; would you
22 agree? Or do you know?

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

25 Q. Okay. Do you agree that PJM, across 13

1 states, has about 178,000 megawatts of capacity? If
2 you know.

3 A. Can I please ask a clarifying question?
4 Are you referring to installed capacity?

5 Q. Yes.

6 A. Okay. My understanding, it is close to
7 195,000 based on the recent Market Monitor report
8 issued for 2018.

9 Q. Okay. So 195,000 megawatts of installed
10 capacity across the 13-state PJM region; is that --

11 A. And District of Columbia.

12 Q. Okay. Do you have an opinion as to
13 whether -- first of all, the 650 megawatts that you
14 modeled was 400 solar and 250 wind?

15 A. That is correct.

16 Q. Do you have an opinion as to whether or
17 not the 400 megawatts of generic solar would cause
18 rate volatility across the 195,000-megawatt, 13-state
19 PJM system?

20 MS. BOJKO: Objection. Your Honor, that
21 mischaracterizes the testimony. Mr. Ali said,
22 before, that it was specific projects, and his
23 testimony says specific projects. Now, Mr. Kurtz is
24 turning it to generic. It's mischaracterizing the
25 record.

1 MR. KURTZ: I'll rephrase.

2 Q. Of the 400 megawatts of solar that you
3 modeled in your analysis, do you have an opinion as
4 to whether that would cause undue rate instability or
5 volatility across all the load zones or across the
6 13-state PJM region?

7 A. It's extremely unlikely because that does
8 not even make half a percent of capacity within the
9 PJM zone.

10 Q. What about the same question as to the
11 250 megawatts of wind?

12 A. The same is true.

13 MR. KURTZ: Thank you, your Honor.

14 EXAMINER SEE: Mr. Oliker.

15 MR. OLIKER: I think we've decided, your
16 Honor, if the Bench is amenable, that the OCC would
17 go first, from the rest of the parties.

18 MR. MICHAEL: I'm happy to do that, your
19 Honor.

20 EXAMINER SEE: Go ahead.

21 - - -

22 CROSS-EXAMINATION

23 By Mr. Michael:

24 Q. Mr. Ali, you didn't model the impact of
25 the proposed projects on ancillary services costs,

1 correct?

2 A. That is correct.

3 Q. And you didn't model the impact of the
4 proposed projects on uplift costs, correct?

5 A. Can you please elaborate on uplift cost?
6 I do have an understanding of it. I want to make
7 sure our understanding is the same.

8 Q. Why don't you tell me your understanding
9 first, please?

10 A. In essence, it applies to units that are
11 deemed must-run units for reliability purposes. And
12 in cases those units are needed for reliability
13 purposes and you are not running them in the market
14 because you know they are not dispatched, there is
15 definitely some lost revenues for those units.

16 Q. And you didn't model the impact of the
17 proposed facility on uplift costs as you just defined
18 them, correct?

19 A. Yes. And that is because, in the AEP
20 zone, there are no reliability must-run units
21 identified by PJM.

22 Q. But if the renewable facilities were to
23 be integrated into the PJM market, certain
24 accommodations would have to be made for those
25 facilities, correct?

1 A. That's not necessary. If I may elaborate
2 on that. In essence, you know, the PJM market is
3 a -- is an efficient market where you -- the most
4 cost-effective units are dispatched first and the
5 more-costly units are dispatched down the road based
6 on the demand. And these units, at the end of the
7 day, if you look at the output, it's so minuscule in
8 the overall scheme of things, that these particular
9 projects are not displacing a plant. They may be
10 reducing some output of marketable plants that are
11 out there, but these units are not displacing what is
12 resulting in a complete shut down of plants.

13 Q. But you discussed with Mr. Kurtz the fact
14 that you would have to have some generating units
15 with a fast -- fast-ramping resources, correct, so
16 they could provide the energy and capacity when the
17 winter solar facilities weren't operating, correct?

18 A. I don't recall having that conversation
19 with Mr. Kurtz.

20 Q. Okay. Isn't it true, though, that you
21 would have to have fast-ramping resources that would
22 be able to provide the energy and capacity when the
23 renewables weren't available?

24 A. That is correct, but those spinning
25 reserves that you are referring to are needed to meet

1 how much demand you got on the system; so, in
2 essence, your demand is X megawatt and you need
3 certain spinning reserves to account for any outages
4 of units. In essence, as the market is running, some
5 units can go offline and the spinning reserves are
6 there to make up for that so the system stays stable.

7 We are not changing the X megawatt of
8 demand. All we are doing is adding more
9 cost-effective generation to that. So the spinning
10 reserve requirements that you have for a scenario
11 where you have renewables and not renewables is
12 pretty similar.

13 Q. But you are adding generation, namely
14 renewables, that have more variable output than
15 compared to, for example, a coal-fired plant,
16 correct?

17 A. That is correct.

18 Q. Or, for example, compared to a gas-fired
19 plant, correct?

20 A. That is correct. But I think I need to
21 elaborate on that because the spinning reserves are
22 determined based on the biggest unit that you got on
23 the system, because what the RTO is planning to do is
24 if that biggest unit goes offline, how much I need in
25 spinning reserves to make up for it, and these plants

1 are nowhere close to the biggest unit on the system.
2 The biggest unit in PJM is close to 1,600 megawatt.
3 So you will need 1,600 megawatt of spinning reserves
4 to account for the outage of that particular plant.

5 Q. Thank you, Mr. Ali.

6 Isn't it true that the incremental
7 ancillary services cost could exceed any decrease in
8 LMP, were the renewables to be integrated into the
9 PJM market?

10 A. Can you please repeat that?

11 Q. Certainly.

12 Isn't it true that an incremental
13 increase in the cost of ancillary services could
14 exceed any decrease in the LMP, were these renewables
15 to be integrated on a PJM market?

16 A. I haven't really performed that analysis
17 to answer that question. What I can -- what I can
18 tell you based on my experience, like I said earlier,
19 is that is a function of the ancillary services. Of
20 course, there are so many different ancillary
21 services market; you've got frequency calculation;
22 you have voltage regulation. I don't expect, you
23 know, these renewables to impact any of those
24 ancillary markets.

25 I think what we are talking about are the

1 ancillary markets concerning outage; if a unit goes
2 out. In those cases, like I mentioned earlier,
3 this -- this -- these particular projects are so
4 small that they won't be the ones setting up the need
5 for that. But again, I haven't performed any
6 analysis to -- to deny your statement.

7 MR. MICHAEL: Your Honor, I move to
8 strike everything after his statement that he
9 performed no analysis about that.

10 MS. BLEND: Your Honor, may I respond?

11 Mr. Michael asked Mr. Ali isn't it true
12 that an incremental increase in the cost of ancillary
13 services could exceed a decrease in LMPs.

14 Mr. Ali testified although he hadn't done
15 that analysis and then he further testified based on
16 his experience and expertise what he would expect.
17 It's a fair answer to the question asked.

18 MR. MICHAEL: But he also concluded, your
19 Honor, with saying he can't deny what I said; so I
20 think the witness was admitting -- the record will
21 say what the record says, Steve, all right? And I am
22 happy to read it.

23 EXAMINER SEE: I am going to allow the
24 answer to stand. Go ahead, Mr. Michael.

25 MR. MICHAEL: Thank you.

1 Q. Mr. Ali, the model assumes the proposed
2 projects will clear the RPM, correct?

3 A. I did not perform a capacity analysis. I
4 only performed an energy analysis.

5 Q. Okay. So -- all right. So in your
6 energy analysis, would the fact that these renewables
7 were participating in the energy market, that would
8 displace other generation, correct?

9 A. Can you please elaborate on the word
10 "displacement" because do you mean shutting down? Do
11 you mean turning off? Do you mean redispatching?

12 Q. Yes, the last one.

13 A. Yes. So in essence, definitely, any
14 resources that are not cost-effective, that
15 already -- that already at the high end of the cost,
16 those are the resources that will be dispatched down
17 to allow these renewable resources that are more
18 cost-effective because they are zero-dollars
19 per-megawatt-hour cost resources. However, the
20 impact is spread out across multiple units that are
21 at the margin, and the impact to a given unit is
22 miniscule.

23 Q. And isn't it true, Mr. Ali, that the
24 displaced generation would likely be either coal or
25 natural gas fired?

1 A. Again, the generation that is
2 redispatched depends on what is available at a given
3 time. I mean, this analysis is focusing on 8,760
4 hours. Hour by hour there is a different dispatch.
5 I really can't tell you which resources were
6 redispatched on a given hour, but it is fair to
7 assume that those resources will be the resources
8 that are at the high end on the cost side and those
9 are typically oil plants as well as coal plants.

10 Q. And isn't it true, Mr. Ali, such
11 displaced generation would likely have a higher
12 capacity factor than either wind or solar?

13 A. I really can't answer without looking at
14 the details of what gets displaced because there are
15 a lot of capacity plants out there that do not offer
16 capacity into the PJM market. As a matter of fact,
17 PJM imports 4,000-some megawatt of capacity from
18 Midwest ISO, so I really can't answer that question.

19 Q. Okay. Let's talk about PJM, Mr. Ali, and
20 just so I understand your testimony, you're denying
21 the fact that coal-fired plants and natural-gas-fired
22 plants have higher capacity factors than either wind
23 or solar?

24 MS. BLEND: Objection, your Honor. That
25 mischaracterizes Mr. Ali's previous testimony.

1 Q. I asked him a question.

2 MR. DOVE: I second the motion. He has
3 twice now said "you deny" when the witness has not
4 denied anything.

5 MR. MICHAEL: I asked him if he did deny.
6 It's a question.

7 EXAMINER SEE: Mr. Ali, you can answer
8 the question, along with any clarification you
9 believe necessary.

10 THE WITNESS: Thank you, your Honor.

11 MR. MICHAEL: Thank you, your Honor.

12 A. Can you please repeat the question?

13 Q. Certainly. Do you deny that the -- that
14 coal- and gas-fired generation has a higher capacity
15 factor than either wind or solar?

16 A. No, I do not deny that.

17 Q. Okay. And to the extent that either
18 coal- or gas-fired generation were displaced by the
19 renewables, wouldn't that tend to raise LMPs in many
20 hours?

21 A. Actually, the opposite is true. When you
22 introduce a zero-dollars-per-megawatt-hour resource,
23 it's -- it's displacing more costly generation. And
24 as table -- Figure 1 on page 5 of my testimony will
25 show, that we have close to 62 -- .062 dollars per

1 megawatt-hour saving in year 2027 based on average
2 LMPs as a result of introducing renewable resources.

3 Q. But given the variability of renewable
4 generation resources output, wouldn't PJM have to
5 accommodate and account for that variability by
6 lining up more either coal- or gas-fired generation?

7 A. Can you repeat that question?

8 MR. MICHAEL: Could the court reporter
9 read it back, please?

10 EXAMINER SEE: Mr. Michael, can you read
11 the question back, please?

12 MR. MICHAEL: I did ask the court
13 reporter.

14 EXAMINER SEE: I know.

15 MR. MICHAEL: Maybe I'll do the best I
16 can to repeat question. Would that suffice?

17 EXAMINER SEE: Please do.

18 MR. MICHAEL: Okay. Thank you.

19 Q. (By Mr. Michael) Mr. Ali, the question
20 was: Given the fact that coal and natural gas have
21 higher capacity factors, wouldn't renewable
22 displacement of coal or natural gas generation tend
23 to raise LMPs in many hours?

24 A. Not at all. LMPs are a function of the
25 energy market. LMPs are based on the energy market,

1 day-ahead energy market and realtime energy market.
2 And, in essence, introduction of renewable resources
3 will reduce the LMP prices because you have more
4 energy available at a much, much lower cost.

5 Q. Okay. And then my follow-up question to
6 that, Mr. Ali, which is where I believe we left off,
7 was wouldn't PJM have to make certain accommodations,
8 were these renewables to be integrated into the PJM
9 market, given the fact that the renewables output is
10 volatile?

11 A. Can you elaborate on what types of
12 accommodations you are thinking about?

13 Q. Certainly. Wouldn't either coal- or
14 natural gas-fired plants, with higher capacity
15 factors, have to be lined up to provide the energy
16 when either solar or renewable -- or wind were not
17 providing energy?

18 A. And I guess what I am getting at, those
19 energy resources are already available, they are
20 already in the market, and what we are doing is
21 introducing lower-cost energy resources, and that
22 impact of those lower-cost energy resources is that
23 the LMPs go down during the hours that wind resources
24 and the solar resources are available. And during
25 hours those resources are not available, then the

1 demand is met through other energy within the PJM
2 market.

3 PJM market is one of the markets where
4 you have a lot more energy available. Like I
5 mentioned earlier, there is 195,000-megawatt of
6 installed capacity when the demand is only
7 168,000-megawatt.

8 Q. So is that another way of saying,
9 Mr. Ali, that these renewables aren't needed to meet
10 the energy demands of customers in the PJM market?

11 A. Not at all. The renewables are lowering
12 the LMP prices for the customers. So introducing
13 these prices will ensure that the LMP prices are
14 lower for the customers during the times that these
15 resources are available.

16 MR. MICHAEL: I move to strike, your
17 Honor, and it's not responsive to the question that I
18 asked. I didn't ask him about lowering prices. I
19 asked him about meeting the need for the demand of
20 customers in PJM.

21 MS. BLEND: And, your Honor, Mr. Michael
22 actually asked whether these were needed to meet
23 energy demands, and Mr. Ali provided a fair answer to
24 that question, which is broader than what Mr. Michael
25 just articulated in his motion to strike.

1 MR. MICHAEL: I agree the answer was way
2 broader than the question I asked, so broad that it
3 didn't --

4 MS. BLEND: Based on his motion to
5 strike; not the question he asked.

6 EXAMINER SEE: I'll let the answer stand.
7 If you want to ask another one, Mr. Michael, go
8 ahead.

9 MR. MICHAEL: Thank you, your Honor.

10 Q. (By Mr. Michael) Mr. Ali, isn't it true
11 that the renewable resources that you evaluated
12 aren't needed to meet the energy demand for consumers
13 in the PJM market including the State of Ohio?

14 A. Yes, these resources are not needed to
15 meet any sort of liability criteria violation that is
16 out there. These resources are purely helping reduce
17 the energy prices, among other benefits that I know
18 witness Torpey -- witness Torpey will talk about.

19 Q. Are you familiar with the reliability
20 pricing model, Mr. Ali?

21 A. Yes, generally, not specifically.

22 Q. Okay. And is your general knowledge
23 about the reliability pricing model the fact that the
24 price parameter is equal to net CONE? Are you
25 familiar with those concepts?

1 A. Yes.

2 Q. And do you know how net CONE is
3 calculated, Mr. Ali?

4 A. If you want to look at the PJM manual, I
5 can refresh my memory. I can't do that calculation
6 up here on the stand, but I have a general idea.

7 Q. Okay. Let me ask you about your general
8 idea. Do you agree that net CONE is calculated as
9 administrative CONE net of three-year historical
10 estimate of energy and ancillary services revenues
11 for a reference resource?

12 THE WITNESS: Can I have that question
13 read back to me, your Honor?

14 EXAMINER SEE: Certainly.

15 (Record read.)

16 A. I really cannot confirm or deny that it
17 is true.

18 Q. Okay. Would you agree though, Mr. Ali,
19 that there is an offset to CONE for energy and
20 ancillary services revenue, in arriving at the net
21 CONE value?

22 A. I can't confirm that.

23 Q. Okay. Can you confirm that you have --
24 CONE stands for "cost of new entry," correct? And
25 then arriving at net CONE, that cost of new entry is

1 offset by revenues that can -- estimates of revenues
2 that can be obtained in the PJM market? Can you
3 confirm that?

4 A. That is correct. But if you are
5 referring to capacity revenues, I mean, I'm there
6 with you. But I think when you talk about energy and
7 ancillary revenues, that's where I cannot confirm. I
8 can't deny but I can't confirm that either.

9 Q. Okay. And I am sorry, Mr. Ali, I didn't
10 understand the word that you said. Did you say "past
11 revenues"?

12 A. I'm sorry. Capacity revenues.

13 Q. Capacity revenues, okay, okay. And can
14 you describe for me anything in particular that in my
15 description that leads you to be neither able to
16 confirm or deny as it relates to energy and ancillary
17 services? Is it simply because you don't know?

18 A. Yeah. I just . . .

19 Q. Okay. Assume, for the purpose of my
20 question, Mr. Ali, that energy and ancillary services
21 revenue does offset cost of new entry for reaching
22 the price parameter, okay? Are you with me so far?

23 MS. BLEND: Your Honor --

24 A. Is it a hypothetical?

25 Q. Yes, it is.

1 A. We are getting into a hypothetical?

2 Q. Yes, we are. And we are allowed to do
3 that with expert witnesses before the PUCO.

4 MS. BLEND: At this point, I'll object.
5 Mr. Ali has testified he doesn't have a specific
6 understanding of whether net CONE includes offsets of
7 energy and ancillary services revenues and that he
8 has only a general understanding of how net CONE is
9 calculated, so he is not purporting to be an expert
10 with respect to net CONE or how it's calculated in
11 this case, and Mr. Michael questioning on this issue
12 is beyond the scope of his testimony.

13 MR. MICHAEL: Well, I haven't completed
14 the cross-examination on this subject matter, your
15 Honor, so I would request that you withhold judgment
16 on the last point that Ms. Blend tried to make, but I
17 am asking a hypothetical question of the Managing
18 Director of Transmission Planning.

19 You know, Commission precedent is ripe
20 with the ability of parties to ask hypothetical
21 questions of purported expert witnesses and that's
22 what I am trying to do. We can show later, through
23 other witness if need be, that energy and ancillary
24 services revenue is, in fact, an offset.

25 MS. BLEND: And your Honor -- go ahead,

1 I'm sorry.

2 EXAMINER SEE: Did you wish to respond,
3 Ms. Blend?

4 MS. BLEND: I was going to respond, your
5 Honor, as Mr. Michael apparently now acknowledges
6 there may be other witnesses who will be testifying
7 later in this proceeding who could better answer his
8 questions about net CONE and how it's calculated than
9 Mr. Ali, who, as Managing Director of Transmission
10 Planning, has testified he is only generally familiar
11 with how the capacity market is priced.

12 MR. MICHAEL: Your Honor, I will show
13 that this -- the answer to this hypothetical has a
14 direct impact on LMP which Mr. Ali is testifying to.

15 EXAMINER SEE: And Mr. Ali can answer the
16 question to the extent that he is able to.

17 MR. MICHAEL: Thank you.

18 Q. (By Mr. Michael) Mr. Ali, I am going to
19 start over just to make sure you're comfortable with
20 my hypothetical and the record is clear. This is my
21 hypothetical question, and I would like you to
22 assume, for the purpose of the hypothetical, that
23 energy and ancillary services revenue are an offset
24 in calculating net CONE. Okay?

25 A. Sure.

1 Q. Okay. And if that is true, then
2 energy -- the energy and ancillary services revenue
3 offset would decrease and net CONE would increase if
4 LMPs were lower, correct?

5 A. I think the assumption that you're making
6 there, which I'm concerned with, is you're assuming
7 that in the market going forward, the only resources
8 that are getting added are the ones that are at the
9 higher end of the net CONE which are your natural gas
10 plants and more expensive units. And I think that
11 assumption is flawed because it could be that more
12 resources that get added are in a state of flux, you
13 know, claiming of units from outside the region which
14 is historically ticking up, and it could also be more
15 renewable resources that participate in those
16 auctions going forward.

17 So I really -- really, your Honor, I
18 really can't answer that hypothetical question
19 without having some parameters around what are we
20 assuming the generation mix to be that is
21 participating in that auction.

22 EXAMINER SEE: And if that is your
23 answer, so state it.

24 Q. Thank you, thank you.

25 Mr. Ali, let's assume it's the generation

1 mix comparable that has been the generation mix for
2 the past five years for the purpose of the
3 hypothetical, okay? So you have a mixture of coal,
4 natural gas.

5 A. Sure.

6 Q. So, again, adding to the hypothetical
7 that the general -- there is no material change in
8 the generation mix from the past five years. Isn't
9 it true that the energy and ancillary services
10 revenue offset would decrease and net CONE would
11 increase if LMP -- LMP prices were lower?

12 A. Again, the challenge is I think you're
13 trying to separate and look at a given unit, so let
14 me elaborate on that a little bit.

15 So let's say you are the unit. I'm the
16 unit that is sitting on a margin and as a result of
17 renewables getting integrated on the system, I am
18 getting impacted every time. And as a result, my
19 revenues are decreasing even though, at least in my
20 analysis, that impact is spread out throughout the
21 RTO, so it's not a single unit that sees that impact.

22 But let's hypothetically assume that it's
23 a single unit that is seeing that impact every time a
24 renewable gets dispatched. That unit, of course, to
25 make up that revenue, would probably bid in a higher

1 capacity price. But that does not mean that that
2 unit will clear that capacity price because there are
3 thousands of other units that are participating in
4 the capacity market.

5 Q. And all of those thousands of other
6 units, Mr. Ali, under your analysis would be
7 receiving a lower LMP price, correct?

8 A. The LMP prices, once they are set,
9 everybody in the market gets paid that price. So it
10 doesn't matter, at the end of the day, if you bid
11 zero dollars or you bid \$10 or you bid \$20, whatever
12 the clearing price is and how many ever generation
13 units are needed to meet that demand, they get the
14 same clearing price.

15 So the calculations that I have performed
16 and the results that I have shown is looking at that
17 clearing price difference. It's not looking at zero
18 dollars and somebody bidding 20. It's looking at
19 what got cleared at the market as a result of these
20 renewables getting added.

21 Q. Okay. My question, Mr. Ali, going back
22 to it, was that all of those thousands of units that
23 you reference would all be getting the lower -- lower
24 LMP price that you forecast in your testimony?

25 A. Yes.

1 Q. Correct?

2 A. Again, we were talking a hypothetical, so
3 I threw the "thousand" word out there, but assuming
4 that all of those units that are clearing are in an
5 area where there is no congestion, and I can speak
6 for at least the AEP zone, in the AEP zone there is
7 no congestion, so all the units clearing in the AEP
8 zone will get that reduction in LMPs.

9 Q. Mr. Ali, in your experience, do potential
10 market entrants for generation in the PJM market,
11 consider LMPs as a factor in whether or not to enter
12 the generation market?

13 A. I cannot answer that question. I'm not a
14 transmission planning expert. I don't know how the
15 generation planning works.

16 Q. Wouldn't it -- wouldn't it stand to
17 reason that lower LMPs would deter new entry, given
18 the fact that the new entrant would obtain less money
19 for providing the electricity to meet the LMP need?

20 A. I really can't answer that question
21 because, I mean, if you look at just PJM, you know,
22 the PJM LMP prices and you compare PJM LMP prices to
23 Midwest ISO LMP prices, Midwest ISO LMP prices are
24 lower than PJM LMP prices. But even in Midwest ISO,
25 generation is getting developed. So I -- I really --

1 I really don't know, I mean, I guess what you are
2 trying to say is that we would have less generation
3 getting developed as LMP prices go down? I think the
4 facts are if you look at these different regional
5 transmission organizations like PJM, New York,
6 California, that in all those markets, generation is
7 getting developed regardless of the LMP prices.

8 Q. But the generation being developed in the
9 Midwest ISO is being developed at a much less rapid
10 rate than it is in PJM, correct?

11 A. I don't have those stats, so I can't
12 confirm that.

13 Q. If we could go to page 3 of your
14 testimony, please, Mr. Ali.

15 A. Mr. Michael, I'm there.

16 Q. Thank you. You reference in there that
17 the transmission system may need to be modified. And
18 I'm specifically referring to your Q and A
19 beginning on page -- or line 15 on page 3.

20 A. Yes, I state that adding new generation
21 can result in potentially more -- potentially
22 impacting the transmission system and, thus, can
23 require modification.

24 Q. And were the renewables to be integrated
25 into PJM, and the transmission system had to be

1 modified, who would pay the costs of those
2 modifications?

3 A. As per the PJM tariff, the generation
4 owners are responsible for all costs associated with
5 interconnection including upgrades.

6 Q. And how -- how are those costs recovered,
7 are they passed on to consumers?

8 A. Like I said, the generation owner is
9 responsible for it. I think it would depend on their
10 financial makeup as to who pays for it. I can't
11 answer that question.

12 Q. It would be reflected in price, wouldn't
13 it?

14 A. I really can't answer that.

15 Q. Have you determined whether or not these
16 particular renewables would require modifications to
17 the transmission system?

18 A. PJM has made that determination and it's
19 publicly available as part of the visibility and
20 impact studies for these particular units.

21 Q. PJM has determined that there would need
22 to be a modification in the transmission system for
23 AEP's proposed 900 megawatts of renewable energy?

24 A. I'm sorry, I need to clarify that. I
25 thought you were referring to the 650-megawatt of

1 generation that I modeled to come up with the
2 locational marginal price changes. If you are
3 referring to those particular units, then, yes, the
4 answer is the -- the requirements for the
5 interconnection facilities and those are the
6 facilities you really need to physically connect
7 those units to the grid, that requirement has already
8 been determined by PJM as part of the analysis and so
9 would be the case for any other generation that
10 connects to the PJM.

11 Q. But the application for -- is for
12 900 megawatts, not 650, right?

13 A. That is correct.

14 Q. Turn to page 5 of your testimony, please,
15 Mr. Ali.

16 A. Mr. Michael, I'm there.

17 Q. And on line 14, you reference
18 characteristics similar to existing projects in the
19 model. Do you see that?

20 A. I do.

21 Q. And what are those characteristics?

22 A. Most importantly, the profile of the unit
23 as to how the unit -- I mean what is the -- for
24 example, let's talk about wind. What is the profile
25 of wind in that area? And if you have historic units

1 that are available that are existing, you can get a
2 much accurate profile based on the actual performance
3 versus using, you know, I will call a forecasted
4 data. So what we did here was use the actual units
5 that are in the vicinity of these locations to
6 determine the rate profile so we can model that in
7 the PROMOD analysis for an hourly dispatch.

8 Q. And when you refer to these locations,
9 Mr. Ali, what are these locations?

10 A. I don't recall the names of those units.
11 But these are units that are within, you know, 50 to
12 60 miles of the three units that we modeled.

13 Q. Okay. So they could be --

14 MS. BOJKO: I'm sorry. Could I just have
15 the answer read back, please?

16 EXAMINER SEE: Okay.

17 (Record read.)

18 Q. Mr. Ali, where are the units you modeled?

19 A. I don't know the quadrants. I can tell
20 you one of them is Highland. One of them is Willow
21 Grove. And then one of them was (REDACTED). So
22 these are the three plants. Of course, I don't know
23 the quadrants of those.

24 Q. Do you know the counties they are in?

25 A. I don't recall off the top of my head.

1 Of course we -- I look at electrical model, and
2 electrical models don't have those county
3 distinctions.

4 Q. If you turn to page 6 of your testimony,
5 please, Mr. Ali, and specifically lines 5 through 7.

6 A. Okay.

7 Q. You didn't model how gas-fired plants
8 would lower LMPs if at all, did you?

9 A. No.

10 Q. And you didn't model whether or not
11 coal-fired plants would lower LMPs, did you?

12 A. No.

13 MR. MICHAEL: Thank you, Mr. Ali. I have
14 no further questions.

15 THE WITNESS: Thank you, Mr. Michael.

16 EXAMINER SEE: Mr. Oliker, I thought it
17 was Mr. Whitt that was next, but --

18 MR. OLIKER: If Mr. Whitt --

19 MR. WHITT: I have no questions, your
20 Honor.

21 EXAMINER SEE: That solves that one.

22 Thank you.

23 Mr. Oliker.

24 MR. OLIKER: Thank you, your Honor.

25 - - -

1 CROSS-EXAMINATION

2 By Mr. Oliker:

3 Q. Good afternoon, Mr. Ali.

4 A. Good afternoon.

5 Q. My name is Joe Oliker, and I represent
6 Interstate Gas Supply and IGS Solar, LLC. Just a few
7 questions for you this afternoon.8 Based upon the discussion earlier with
9 counsel for OCC, I'm correct that you have some
10 familiarity with PJM Interconnection?

11 A. Yes, I do.

12 Q. And what is your experience with PJM?
13 How much of your time do you spend working on PJM
14 matters?15 A. It's kind of hard to guess with the
16 changes from time to time, but I would say maybe
17 30 percent to 40 percent. And all of that is pretty
18 much related to or associated with the transmission
19 planning functions and coordination on transmission
20 planning matters with PJM.21 Q. Okay. And although you've mentioned
22 transmission planning, it sounds like you also have a
23 familiarity with the way the energy markets work?24 A. Yeah. Transmission is a big piece of the
25 energy market especially when it comes to congestion.

1 Q. And you're familiar with the PJM
2 stakeholder process?

3 A. PJM has many stakeholder processes.
4 Which one are you referring to? Can you be specific?

5 Q. Are you familiar with the PJM committees
6 and subcommittees that exist?

7 A. For transmission, yes.

8 Q. Okay. And do you serve on any of those
9 committees?

10 A. I believe I'm backup in one of the
11 committees for transmission owners.

12 Q. Which committee is that?

13 A. I really can't recall right now.

14 Q. But generally speaking, in the PJM
15 stakeholder process, there are agendas in the
16 submission of various PJM studies?

17 A. In some of the committees there are
18 studies that are performed. Of course, those studies
19 are performed by PJM, and PJM independently reviews
20 the results of that analysis with the stakeholders.
21 So, in essence, the stakeholders are not performing
22 any analysis, but they are providing input and are
23 being used for vetting of that analysis.

24 Q. And often the scope of what a PJM
25 committee does is to tackle challenges to

1 transmission or generation reliability.

2 A. Among other things like tariffs,
3 processes, manuals, et cetera.

4 Q. And would you agree that from time to
5 time -- well, let's take a step back. How long have
6 you been participating in PJM committees?

7 A. I can't give you a definite number but
8 it's definitely, I mean, at least been more than
9 five-plus years.

10 Q. Okay. And in your experience, one of the
11 subjects that has come up within PJM planning is
12 renewable technology integration?

13 A. From an interconnection perspective or
14 from a technology perspective? I mean, can you be a
15 little bit more specific there? Because it's a
16 pretty broad subject.

17 Q. Well, do you agree, typically speaking,
18 renewable technologies are what we would consider
19 intermittent resources?

20 A. Yes, that is correct.

21 Q. And the difference between an
22 intermittent resource and a baseload resource is that
23 a baseload resource can be dispatched at will;
24 whereas, an intermittent resource is subject to the
25 weather of the minute, correct?

1 A. That is fair.

2 Q. Okay. And we'll come back to that in a
3 minute. But you've talked about locational marginal
4 prices are one element of the PJM market, correct?

5 A. Of the energy market, yes.

6 Q. Okay. And generally speaking,
7 load-serving entities must pay the LMP price times
8 their load in each hour? Would you agree with that
9 from a high level?

10 A. On a given node, yes.

11 Q. Okay. And load-serving entities, such as
12 AEP or a CRES provider, are assessed a bill from PJM
13 on a regular basis to cover all of their costs in the
14 PJM grid, correct?

15 THE WITNESS: Your Honor, can I have that
16 read back to me, please?

17 (Record read.)

18 A. If your question is that load-serving
19 entities are one of the entities that receive the
20 costs, then that is correct; but there are, of
21 course, a lot of interstate transactions that take
22 place also, so.

23 Q. Okay. And the price that load-serving
24 entities pay for energy, it's typically a PJM line
25 item, correct?

1 A. Yes.

2 Q. There's a lot of line items, aren't
3 there?

4 A. Yes, a lot, and not all of them are
5 equal.

6 Q. Okay. And you discussed, with counsel
7 for OCC, ancillary services; that would be another
8 line item on the load-serving entity's PJM bill,
9 right?

10 A. That is correct.

11 Q. And I believe that you discussed some of
12 those ancillary services. Am I correct one of the
13 ancillary services you mentioned was frequency
14 regulation?

15 A. That is correct.

16 Q. And are you familiar with the purpose
17 behind frequency regulation?

18 A. Yeah.

19 Q. Would you agree from a high level it's in
20 order to assure PJM can maintain the transmission
21 lines at 60 Hertz?

22 A. Yeah, close to 60 Hertz. There is some
23 margin there. Very small margin.

24 Q. As close as possible, right?

25 A. Yes, yes.

1 Q. And so, for example, you agree if there
2 is a surge in generation delivered onto the
3 transmission grid, if that's not mitigated, it could
4 cause the line to exceed 60 Hertz?

5 A. Well, so the fact is any generation that
6 gets added to PJM, it has to be analyzed. Generation
7 just can't get added to the market or to the system.
8 And we perform very rigorous analysis to see the
9 impact of that generation on thermal capacity of the
10 grid, of the work performance of the grid and, above
11 all, the stability of the grid. And as a result of
12 that, if that particular generator or set of
13 generation, if you will, is going to deteriorate the
14 performance of the grid or the characteristics of the
15 grid, then network upgrades are identified by the RTO
16 to mitigate those -- those issues.

17 Q. Okay. Thank you for that -- for that
18 answer, but I want to focus on simply what happens in
19 realtime. Would you agree that if in realtime there
20 is a surge of generation that may be unexpected and
21 delivered to the transmission grid, unless PJM takes
22 some other action, the transmission line can exceed
23 60 Hertz?

24 A. No, I really don't agree with it because
25 you are assuming that something happens that was not

1 analyzed, right? So something happens in realtime
2 that the transmission planning and the transmission
3 provider did not analyze and did not mitigate, so as
4 a result of it you have to scramble to figure that
5 out in realtime. I mean, these decisions are made in
6 milliseconds. And the reasons these decisions are
7 made in milliseconds is just the dynamic nature of
8 the system. So it's very important and imperative
9 that proper analysis is performed up front and those
10 mitigations are in place before new generation gets
11 online.

12 Q. Right. And one of those mitigations is
13 frequency regulation, right?

14 A. Yes.

15 Q. So, for example, if there's a surge in
16 generation that is unexpected, if there's no time to
17 ramp down a resource, you may deploy a type of
18 frequency regulation, correct?

19 A. Yes, you do, but for a frequency
20 regulation issue to happen, it has to be a massive
21 generation going offline. I mean, I am talking about
22 4- to 5,000 megawatt to see that level of a change in
23 the PJM system where you get to 59.9 Hertz or
24 something like that.

25 Q. Well, let's -- let's talk about the

1 different type of frequency regulation that exist.

2 First, you agree there is a Regulation A and

3 Regulation B market if you know?

4 A. I can't recall that, the different types
5 of markets there.

6 Q. Are you familiar with any of the total
7 costs paid to frequency regulation resources?

8 A. Like you said, it's a line item on the
9 bill. I'm -- I mean that's what I know what that
10 cost is.

11 Q. Okay. You agree there's -- do you know
12 if there is fast-moving frequency regulation
13 resources and slow-moving frequency --

14 A. Yes.

15 Q. -- regulation resources?

16 A. Yes.

17 Q. Okay. Let's keep that conversation high
18 level from that perspective. In the event of --
19 let's take a step back.

20 There doesn't have to be a 5,000-megawatt
21 change in generation in order to use frequency
22 regulation, does there?

23 A. No, you don't have to have that. A
24 smaller outage can cause it, but that is how big of
25 an outage would probably trigger a violation where

1 you get to an area where it's of some concern.

2 Q. Okay. And for purposes of this
3 discussion, please accept the fact that I expect PJM
4 is going to maintain 60 Hertz, and I want to focus
5 more about how they are going to do that.

6 A. Okay.

7 Q. Is that helpful?

8 A. Sure.

9 Q. And, for example, whether or not we
10 talked about when there's a surge of generation onto
11 the transmission grid, you could deploy a frequency
12 regulation resource that would increase its usage,
13 correct, to suck up that extra generation, right?

14 A. That is correct.

15 Q. Likewise if there is suddenly a major
16 decrease in the output of a unit, then you may have
17 to have a frequent -- frequency regulation resource
18 using spinning reserves or something like that,
19 correct?

20 A. Sure.

21 Q. Okay. Now coming back to intermittent
22 resources. In the event of a sudden stoppage in
23 wind, you agree that could cause a 400-megawatt drop
24 in energy output from a wind resource?

25 A. Most certainly; and so can, all of a

1 sudden, a production failure at a coal plant
2 resulting in 1,300 megawatt of coal going away. PJM
3 has to plan for both scenarios, both impacts.

4 Q. Okay. And with respect to solar, a cloud
5 could go over a solar facility and decrease the
6 output?

7 A. So could a natural gas plant go offline.

8 MR. MICHAEL: Objection. Move to strike,
9 nonresponsive.

10 MS. BLEND: I disagree, your Honor.
11 Mr. Oliker is questioning Mr. Ali about different
12 scenarios, various scenarios that could cause a need
13 for frequency regulation, and Mr. Ali is simply
14 saying there are others beyond those that Mr. Oliker
15 is suggesting.

16 MR. OLIKER: Your Honor, it would be a
17 line -- a response more appropriate for redirect.

18 MR. MICHAEL: Exactly.

19 EXAMINER SEE: Mr. Ali, I need you to
20 answer the question that's posed to you, and if you
21 need to add anything to it to clarify, go ahead.

22 THE WITNESS: Thank you, your Honor.

23 MR. OLIKER: Can I have his answer
24 because I am not sure he actually did answer it.

25 EXAMINER SEE: Do you want the question

1 read back and the answer?

2 MR. OLIKER: Yes, please.

3 (Record read.)

4 MR. OLIKER: Given that, I would move to
5 strike because he did provide a gratuitous answer
6 without even responding to the question.

7 MR. MICHAEL: I think it was granted, my
8 motion to strike, so.

9 MR. OLIKER: I wasn't sure.

10 EXAMINER SEE: What was that,
11 Mr. Michael?

12 MR. MICHAEL: I just thought I had
13 understood your Honor to have granted the motion to
14 strike and instructed the witness to answer the
15 question that was asked. That was my understanding
16 of your Honor's ruling.

17 MR. OLIKER: If that's the case, I will
18 withdraw my motion, but I was not sure, your Honor.

19 EXAMINER SEE: I asked the witness to
20 respond to the question posed to him and to elaborate
21 on his answer if he felt it necessary.

22 THE WITNESS: Thank you, your Honor. May
23 I answer that question, your Honor?

24 A. Yes; and so can a gas plant go offline.

25 Q. Okay. Earlier you mentioned some

1 familiarity with the term called "uplift."

2 A. Yes.

3 Q. And would you agree that uplift can occur
4 any time PJM dispatches a generation unit out of the
5 normal dispatch order?

6 A. Yes.

7 Q. So an example would be -- an example
8 where wind or solar could increase uplift, is -- PJM
9 is required to direct a coal plant to follow their
10 dispatch signal and stay online because it may be
11 needed later in the day, and if the LMP price in
12 existence at the time that plant is being directed to
13 dispatch is lower than that unit's average -- or
14 offer for the day, then it could create uplift?

15 A. So the example that you are using right
16 now, I'll elaborate on that. So what you are
17 referring to is in essence there could be a coal
18 plant that has -- that takes a certain amount of time
19 to ramp up and ramp down because, you know, if you
20 shut down a coal plant it's going to take certain
21 time to bring it back, and knowing that the plant
22 will be needed later on, when the wind or solar is
23 not available, PJM would keep that plant online.
24 That is already baked into my analysis.

25 One of the parameters that you have to

1 have in PROMOD for coal plants is the ramp-up and
2 ramp-down rates. So those rates are already built in
3 and the program optimizes energy cost, satisfying
4 those parameters.

5 Q. So your model already accounts for --
6 does it net the uplift payment?

7 A. For the particular example you are using
8 for coal, yes, it will -- it will make sure that that
9 coal plant would stay on in case it's needed for
10 the -- for the next 18 hours. Most of the time if
11 you take a coal plant down, it's going to take 18
12 hours to bring it back. So there is a maximum power
13 output and then there is a minimum power output. And
14 what the model does is it will make sure that that
15 plant does not go below the minimum because, if it
16 does, then you have to shut it off, so that's how it
17 optimizes it. It doesn't shut down those plants that
18 are going to be needed and they will take 18 hours,
19 or, in the case of nuclear, it can take days. Those
20 plants just don't go offline in the morning.

21 Q. But the cost to pay those plants has to
22 be collected from load-serving entities, correct, in
23 the form of uplift?

24 A. No. Those plants are getting cleared at
25 an LMP price and those plants are paying the LMP

1 price -- they are paying the LMP price.

2 Q. But in reality they are not paying the
3 LMP price. They are paying a different price because
4 of the revenue sufficiency guarantee, correct?

5 A. I think the -- the assumption here is
6 that some of those units are must-run units. Right?
7 Because otherwise if you are not a must-run unit,
8 then you have to be sustainable in the market to run.
9 PJM is not making payments to plants out there who
10 are not -- who are not cost effective. They just
11 need a lot more than the market prices to be
12 sustainable.

13 Q. Okay. Let's talk about your definition
14 of "must-run." You are not referring to a
15 reliability must-run contract, are you?

16 A. Yes, I am.

17 Q. Reliability must-run units are not the
18 only units that receive uplift payments, are they?

19 A. No.

20 Q. Okay. And uplift payments happen all the
21 time, every single day, correct?

22 A. Yes.

23 Q. And they can happen any time a unit is
24 directed to run out of the normal dispatch order.

25 A. Yes.

1 Q. Okay. And earlier you indicated -- one
2 second, your Honor.

3 Are you aware of whether PJM has
4 performed any studies regarding renewable integration
5 and the additional costs it may impose on the system?

6 A. Specifically for renewable integration?
7 Nothing comes to mind.

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

9 EXAMINER SEE: Yes.

10 MR. OLIKER: I would like to mark IGS
11 Exhibit 2. Your Honor, I would like to mark as IGS
12 Exhibit 2, a PJM Renewable Integration Study which
13 was prepared for PJM Interconnection by General
14 Electric International on May 31, 2014.

15 EXAMINER SEE: So marked.

16 (EXHIBIT MARKED FOR IDENTIFICATION.)

17 MR. OLIKER: And to be clear, this is a
18 document that was presented to the Intermittent
19 Resources Subcommittee, Renewable Integration Study
20 Reports, for PJM Interconnection, and ultimately
21 presented to PJM on September 13, 2016.

22 EXAMINER SEE: The only -- the only date
23 I see on here -- okay.

24 MR. OLIKER: The date is on the cover. I
25 was giving -- I -- I was reading from PJM's website.

1 EXAMINER SEE: Okay.

2 MR. OLIKER: I would be happy to provide
3 you a link if people want that.

4 MR. DOVE: Yes, please.

5 EXAMINER SEE: Yes, Mr. Oliker.

6 MR. OLIKER: The link is [www.PJM.com/
7 committees-and-groups/subcommittees-IRS-PRIS.aspx](http://www.PJM.com/committees-and-groups/subcommittees-IRS-PRIS.aspx).
8 The page is titled "Rule Integration Study Reports."

9 MS. BLEND: Mr. Oliker, would you mind
10 repeating that?

11 MR. OLIKER: Sure. I can also send it
12 around. One more time. It's
13 www.PJM.com/committees-and-groups/subcommittees-IRS
14 -- I'm sorry. I actually made a mistake. I would
15 prefer to send it around so I don't butcher it
16 because I know Ms. Sloan sent something before. I'm
17 hitting send right now. I've just sent it to the
18 service list. Your Honor, have you marked it?

19 EXAMINER SEE: Yes, it's marked.

20 MR. OLIKER: Okay. Thank you.

21 Q. (By Mr. Oliker) Earlier, Mr. Ali, you
22 indicated that PJM has studies prepared for it from
23 time to time, correct?

24 A. That is correct.

25 Q. Does this look like one of those studies?

1 A. Yes, it does.

2 Q. And is the title "PJM Renewable
3 Integration Study"?

4 MS. BLEND: Objection, your Honor.
5 Mr. Oliker has not established a foundation for this
6 document that he is now questioning the witness
7 about.

8 MR. OLIKER: I think I'm trying to do
9 that.

10 MS. BLEND: Mr. Ali has not been asked or
11 testified whether he has ever seen this document
12 before today.

13 EXAMINER SEE: Well, let's see where
14 Mr. Oliker is going with it first. Go ahead.

15 Q. (By Mr. Oliker) Mr. Ali, was the title of
16 this document "PJM Renewable Integration Study"?

17 A. Yes.

18 Q. And it appears to be prepared for PJM
19 Interconnection?

20 A. Yes.

21 Q. Now, have you had an opportunity to look
22 through the document?

23 A. Just in the last 5 minutes, yes.

24 Q. And have you ever seen this document
25 before?

1 A. I remember I did back in probably 2015
2 sometime.

3 Q. Okay. And if you turn to page 14, am I
4 correct that it states "With increasing levels of
5 wind and solar generation, it will be necessary for
6 PJM to carry higher levels of reserves to respond to
7 the inherent variability and uncertainty in the
8 output of those resources. Currently, PJM has four
9 categories of ancillary services. It identifies
10 regulation, reserves, black start, and reactive
11 services?

12 A. Yes. And to put it in context, this
13 analysis looked at, in some scenarios, up to 20
14 percent of the PJM generation being renewable. So I
15 think we need to keep that in context when we make
16 that statement. Like I said, the projects that I am
17 testifying about and we're looking at are not even
18 close to half percent of PJM generation.

19 Q. But you're not disagreeing with any of
20 the conclusions on page 14 from the study.

21 A. I haven't had an opportunity to read the
22 whole study to draw any conclusions.

23 Q. But again, you are not disagreeing with
24 it as you sit here today?

25 A. Yes, I am not disagreeing that if you add

1 this much generation, intermittent generation, more
2 than 20 percent of the overall portfolio, you would
3 have some requirements for reactive power support
4 because, you know, that's something you will need for
5 stability of the grid, but you would not really make
6 that determination without doing a benefit/cost
7 analysis.

8 You know, as an RTO, you have to perform
9 a benefit/cost analysis to show that adding 20
10 percent of generation and making this many upgrades
11 on the transmission grid is going to be cost
12 effective for the system.

13 I don't think we can assume that since
14 there are regulations needed, there is reactive
15 support needed, that does not mean that this
16 generation is not cost effective. You have to look
17 at the upgrades needed on the grid to make that
18 determination.

19 Q. And am I correct that one of the
20 conclusions PJM reached in this study is to the
21 extent there is additional penetration of renewables,
22 there will be the requirement to construct more
23 transmission?

24 A. Like I said, I have not read the document
25 to confirm that, but from my experience at -- at 20

1 percent of penetration of renewables, you would need
2 transmission. As a matter of fact, you would need
3 transmission to even connect 1 megawatt or 2 megawatt
4 of generator to the grid, but those costs are, per
5 the data today, the responsibility of the generator
6 owner.

7 Q. You keep mentioning 20 percent. If I go
8 to page 3, one of the scenarios modeled is Business
9 As Usual reference case with the existing level of
10 wind and solar in year 2011. Is that correct?

11 A. That is correct.

12 Q. And then below it, it says 14 percent RPS
13 which is wind and solar generation meets existing RPS
14 mandates by 2026 with 14 percent renewable
15 generation.

16 A. That is correct. And all the other
17 scenarios which are four other scenarios at PJM model
18 are all at 20 percent.

19 MR. OLIKER: Thank you, Mr. Ali.

20 Your Honor, those are all the questions I
21 have.

22 THE WITNESS: Thank you.

23 EXAMINER SEE: Ms. Bojko.

24 MS. BOJKO: Thank you, your Honor.

25 - - -

1 CROSS-EXAMINATION

2 By Ms. Bojko:

3 Q. Good afternoon, Mr. Ali.

4 A. Good afternoon.

5 Q. I want to take a step back. Your
6 testimony in this case is on the impact of renewable
7 projects on the LMP, correct?

8 A. That is correct.

9 Q. And then you also testify in this case
10 regarding the transmission system; is that correct?

11 A. That is correct.

12 Q. And you are not evaluating in your
13 testimony whether there was a capacity need for the
14 650 megawatts of renewable generation that you
15 modeled, correct?

16 A. That is correct.

17 Q. And the use of LMPs provides for pricing
18 the cost of congestion into electricity prices,
19 correct?

20 A. Yes.

21 Q. And generators are the parties that are
22 paid the LMP, correct?23 A. The generators get paid the LMPs, and the
24 load pays the LMP.

25 Q. And you believe that the addition of new

1 generation resources could cause the Company to need
2 to modify its transmission in the system in order to
3 accommodate the new resources, correct?

4 A. I really -- I really can't answer that
5 without some perspective because it really depends on
6 how much new generation gets added to the grid. AEP
7 is a system today where we do not have congestion.
8 AEP is a system today which clears at the same RPM
9 prices as the rest of PJM because there are no
10 transmission constraints on the grid. So it depends
11 on how much more generation gets added that the
12 transmission grid may need to be modified.

13 Based on my assessment, this level of
14 generation is not going to require network upgrades.
15 Of course, you will need some physical facilities to
16 physically connect the generation to the grid, but
17 that is true for any type of generation.

18 Q. Okay. I was actually referring to your
19 testimony. Maybe we'll just turn there, page 3.

20 A. Sure.

21 Q. Lines 18 through 19. This is where you
22 talk about the potential for new generation resources
23 to impact the transmission systems in a number of
24 ways you state; is that correct? It starts on line
25 17.

1 A. That is correct. And if I may add --

2 Q. No.

3 A. -- I say the word there "potentially."

4 Q. Right.

5 A. Thank you.

6 Q. I believe I stated that; potentially
7 impact the transmission system. And in the number of
8 ways that it could potentially impact the
9 transmission system, the Company's transmission
10 system may require the construction of new
11 transmission facilities, correct?

12 A. Yeah, hypothetically, depending on how
13 much more generation we add. Are we talking about
14 thousands of megawatt of generation to get to that
15 point.

16 Q. Or the Company may need to modify its
17 existing transmission system, correct?

18 A. Yes.

19 Q. Or it's possible that the transmission
20 system will require both the addition of new
21 facilities as well as the modification of existing
22 facilities, correct?

23 A. It is possible.

24 Q. And in order to evaluate the exact impact
25 of renew -- renewable projects, the Company would

1 need to review the specific projects and their
2 specific location, correct?

3 A. That is correct.

4 Q. And then after they identify the specific
5 projects and their location, then AEP would perform
6 simulations of the PJM region using the PROMOD model,
7 correct?

8 A. That is correct.

9 Q. And your analysis used an analytical
10 framework comprising of two cases, the base case and
11 the study case, correct?

12 A. That is correct.

13 Q. And the base case is an unmodified
14 version of the model developed by PJM for market
15 efficiency analysis, correct?

16 A. Correct.

17 Q. And the study case, you modeled three
18 specific renewable projects that you identified today
19 and that -- those would be Highland, Willowbrook, and
20 I said you said (REDACTED); is that correct?

21 A. Yes.

22 Q. Is it (REDACTED) or (REDACTED)?

23 A. I think it's -- I think it's (REDACTED),
24 I think.

25 MS. BLEND: Your Honor, could we go off

1 the record for just a moment?

2 EXAMINER SEE: Yes.

3 (Discussion off the record.)

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

6 Counsel for AEP has brought an issue to
7 the Bench's attention, and we'll continue today and
8 ask that the parties simply refer to the project in
9 general terms, and address the issue at the end of
10 the day and -- and address the issue at the end of
11 the day going forward. If specific matters need to
12 be addressed, we can go into confidential session to
13 ask this witness questions if that -- if we need to
14 get to that point.

15 MS. BOJKO: Understood, your Honor. I
16 think I have a question pending, and I may just need
17 to rephrase that question.

18 EXAMINER SEE: You have a pending
19 question for the witness?

20 MS. BOJKO: I think so. I don't know if
21 he answered first.

22 EXAMINER SEE: You asked him the name of
23 the facility. He clarified that for you. There
24 isn't a question beyond that.

25 MS. BOJKO: Thank you, your Honor.

1 Your Honor, the -- in light of the
2 testimony by this witness, it is clear that this
3 witness is referring to three specific AEP projects,
4 two of which are the solar projects that have been
5 proposed. And if I recall, the Bench's ruling, when
6 we came back after lunch yesterday, it was stated
7 that we were not permitted to discuss the two
8 specific projects that would be saved for Phase II
9 but that we needed to talk about the generic request
10 for need.

11 And this highlights the issue of
12 Mr. Ali's testimony is based on three specific
13 projects of which the Bench said we're not going to
14 discuss in this phase. So in light of that
15 information, I think that his testimony should be
16 stricken or, in the alternative, it should be
17 deferred to the second phase of the hearing just as
18 the intervenor's testimony that discussed these two
19 solar projects were also deferred to the second phase
20 of the hearing. Particularly because it brings in a
21 cost issue about the LMPs and how that is used in the
22 IRP.

23 MS. WHITFIELD: I would second that
24 motion, that motion to strike as well, or to defer,
25 given that that's exactly the basis for why Kroger's

1 witness Mr. Bieber's testimony was deferred is that
2 it related to the specific -- two specific solar
3 projects that form the basis for his modeling. And
4 to the extent that his modeling forms the basis for
5 the economic impacts and economic benefit analysis of
6 Mr. Torpey, opens the door to ask questioning or --
7 all that has to be deferred to Phase II to be
8 consistent.

9 MS. BLEND: Your Honor, if I may respond?
10 Mr. Ali's testimony is more general than has just
11 been characterized by counsel for OMAEG and Kroger.

12 Although it's true that Mr. Ali did model
13 three renewable projects, he testifies, at page 5 of
14 his testimony, beginning on line 13, that those
15 projects have characteristics similar to existing
16 projects in the PJM PROMOD model.

17 And really the only information that he
18 is utilizing -- he has testified previously in
19 response to other cross-examination today that the
20 only project-specific information he was utilizing is
21 general location and size of the projects. That
22 certainly is not, you know, something -- those are
23 not necessarily REPA-specific issues that need to be
24 deferred for Phase II of this proceeding or else
25 they -- they are not REPA-specific issues that need

1 to be deferred for Phase II of the proceeding.

2 And I also believe that based on
3 Mr. Ali's testimony earlier, regarding the lack of
4 congestion in the AEP Ohio zone, if asked, and he
5 could be questioned on cross-examination on this
6 issue, his analysis regarding the LMP savings would
7 not change regardless of the location of the projects
8 in Ohio.

9 So while it is true that he used, you
10 know, as a general matter, three projects in
11 particular locations of a particular size, that is
12 not dispositive of or determinative about his LMP
13 savings analysis that's presented in this case which
14 shows among, you know, in addition to the other
15 evidence the Company has put on, that there is a
16 benefit to customers associated with the addition of
17 renewable resources and, therefore, a need for those
18 resources in Ohio. Thank you.

19 MR. COLLIER: Your Honor, I think that
20 begs the question because the issue is, as referenced
21 on page 5, the modeling of three new renewable
22 projects and whether or not they have characteristics
23 similar to the existing projects in the model.
24 That's the whole point. And it seems like we are
25 getting it from both ends. We can't inquire about

1 the specific projects and their operating
2 characteristics and we can't refer to the projects in
3 the model because some of that information may
4 somehow be confidential.

5 MS. BLEND: And, again, your Honor,
6 Mr. Ali testified earlier that he utilized the size
7 of the resource and the general location of the
8 resource for purposes of his LMP analysis and that,
9 otherwise, the characteristics of the renewable
10 projects he modeled were similar to those existing in
11 the PROMOD model. So there is nothing about the
12 particular REPAs or the particular solar projects or
13 their, you know, the terms and conditions under which
14 the Company would operate those facilities, that are
15 all Phase II issues, that are being addressed or
16 treated in Mr. Ali's testimony.

17 MR. COLLIER: It sounds to me like there
18 is something about the three identified projects with
19 similar characteristics that somehow you think is
20 confidential. And I think you mentioned name and
21 something else, location.

22 MS. BLEND: No. I am responding to
23 Ms. Bojko's motion to strike this witness's -- strike
24 this witness's testimony.

25 MR. COLLIER: That's only because we

1 can't get into it. Or can we get into it? That's
2 the question.

3 MS. BOJKO: Your Honor, if I may just
4 respond?

5 EXAMINER SEE: Just a minute.

6 Ms. Blend, please clarify what is it
7 that -- what specifically AEP would like not to be --
8 what you consider confidential?

9 MS. BLEND: The Company, as to
10 confidentiality, the Company considers the name of
11 the wind project that was utilized or consulted or
12 referenced in Mr. Ali's LMP analysis to be treated as
13 confidential.

14 MR. COLLIER: Is there a way you can
15 identify the two solar projects that's not
16 confidential?

17 MS. BLEND: The two solar projects which
18 have been publicly disclosed in Company filings in
19 the consolidated cases that will be the subject of
20 Phase II of the hearings have been publicly disclosed
21 and we don't have an issue with any of those names
22 being part of the public transcript.

23 MR. COLLIER: There was a reference to
24 Willow Bend. Maybe I misinterpreted. Is that
25 Willowbrook?

1 MS. BLEND: I believe that's what Mr. Ali
2 was referencing.

3 MR. COLLIER: And the reference to
4 Highland would be reference to the Highland or Hecate
5 project.

6 MS. BLEND: That's correct.

7 MR. COLLIER: That's fair game.

8 MS. BLEND: Those names are fair game.
9 Everything about Mr. Ali's analysis is fair game.
10 Our confidentiality request was limited to the name
11 of the wind project.

12 EXAMINER SEE: Okay.

13 MS. WHITFIELD: So as I understand,
14 Ms. Blend, you're saying that the Willowbrook and the
15 Highland projects are fair game in Phase I at this
16 point in time?

17 MS. BLEND: The names. Willowbrook and
18 Highland are not confidential and the Company does
19 not consider them confidential as it relates to
20 Mr. Ali's LMP analysis. That was all that I said.

21 MS. WHITFIELD: Well, it's unclear to me.
22 If Mr. Ali's analysis and particularly the study case
23 models three new renewable projects, including the
24 two solar projects that have been deferred to the
25 Phase II, and we are not allowed to question or put

1 testimony on as to those two specific projects, then
2 we would renew our request that Mr. Ali's testimony
3 on this point be deferred -- stricken from here or
4 deferred to Phase II to be consistent with the
5 treatment of intervenor witness testimony. Thank
6 you, your Honor.

7 EXAMINER SEE: Please cut your mic off,
8 Mr. Collier.

9 The motion to -- I think it's been
10 characterized as a motion to strike Mr. Ali's
11 testimony is denied, or for it to be deferred to the
12 second phase of these proceedings is also denied.

13 I think with the clarification that
14 you've been given, outside of confidentiality, you
15 are going to be allowed to cross-examine the witness
16 on how he performed his analysis and what's included
17 in a generic sense. And as we get to Phase II, you
18 can -- you'll be able to cross-examine the witnesses
19 at that time as to specifics. But at this point,
20 we're only looking at the analysis as it relates to
21 AEP's proposal regarding need for the facilities.

22 MS. BOJKO: Your Honor, point of
23 clarification. You use the word "generic," and I
24 guess my problem with that, and I do intend to get
25 into this after we get done here today, but my

1 problem with that is that he didn't do a generic
2 analysis. He used specific projects and specific
3 locations, so that takes it out of the generic realm.
4 He didn't do a generic analysis.

5 EXAMINER SEE: It's -- it's my
6 understanding -- Mr. Ali, did you use the two solar
7 facilities and the wind facility as a guide to
8 perform your analysis?

9 THE WITNESS: Yes, your Honor. You have
10 to, at the end of the day, to perform an analysis to
11 figure out what -- what will happen to the LMP
12 prices, you have to model something. All right? You
13 have to put that on the grid and see what the impact
14 of that is. So the analysis that I have is pretty
15 generic in a sense because on the AEP system there is
16 no congestion, there are no constraints. And these
17 projects, from an information perspective, they are
18 already part of the PJM queue, the studies are done,
19 the information is available. So my responsibility
20 or what I did here was modeling the solar plants and
21 the wind farm to see what will happen to the LMP and
22 that is pretty generic information because there is
23 no congestion on the AEP system.

24 EXAMINER SEE: Then we'll continue. The
25 motion to defer his testimony is denied. And we'll

1 continue and handle it question by question if we
2 have to.

3 MS. BOJKO: Okay. Thank you, your Honor.

4 Q. (By Ms. Bojko) Mr. Ali, just to be
5 crystal clear here. Let's turn to your testimony,
6 your written testimony that your counsel referred to
7 in her arguments. On page 5, line 12, you state "The
8 second case, referred to as the Study Case, models
9 three new renewable projects (one wind and two solar
10 projects), correct?

11 A. That is correct.

12 Q. And I believe from responses to other
13 questions this afternoon, you would agree with me
14 that the one wind facility is with regard to 200
15 megawatts, and the two solar projects would equal
16 400 megawatts?

17 A. The wind facility was 250-megawatt and
18 the solar was 400-megawatt.

19 Q. Okay. So a total of 650 megawatts which
20 is what's on line 16, correct?

21 A. That is correct.

22 Q. Okay. And those were specific projects;
23 the two solar were Highland and Willowbrook, correct?

24 A. That is correct.

25 Q. And those are the two specific solar

1 projects that AEP is seeking cost recovery for in the
2 second phase of this proceeding, correct?

3 A. I really can't answer that question about
4 cost recovery. I think Witness Allen would have been
5 a better witness for that.

6 Q. Okay. And as I understood your response
7 to the Attorney Examiner, you stated that in modeling
8 the three renewable projects, you gave the projects
9 specific characteristics, correct?

10 A. That are in line with the characteristics
11 of other wind farms as well as solar plants in Ohio.

12 Q. Right. You had to assess -- give the --
13 in order to properly model something, you have to
14 make assumptions and you have to assume certain
15 characteristics of a particular project, correct?

16 A. Yes.

17 Q. And the characteristics specifically that
18 you referred to in your testimony relate to the
19 technology and the geographical location of the
20 projects that you modeled, correct?

21 A. That is correct.

22 Q. And you state in your testimony that
23 the -- on lines 13 through 15 that the
24 characteristics that you modeled were similar to
25 existing renewable projects, correct?

1 A. That is correct.

2 THE WITNESS: But I would like, your
3 Honor, to elaborate a little bit on the correct
4 characteristics that are relevant to this analysis
5 because the wind farm and solar plants have a lot of
6 characteristics. Not every single one of them is
7 relevant to the analysis. May I elaborate on that?

8 MS. BOJKO: Your Honor, that seems like
9 it's something for redirect.

10 EXAMINER SEE: There is not a question
11 before you at this point. If you need to elaborate
12 to answer, Ms. Bojko's question you may do so. If
13 not, answer the question posed to you.

14 A. Ms. Bojko, can ask you that, please,
15 again, the question?

16 Q. There is not a question pending.

17 A. Okay.

18 Q. You state on page 5 that you ultimately
19 modeled -- excuse me. Strike that. You answered
20 that.

21 Okay. Now, Mr. Torpey talks in his
22 testimony about a generic 650 megawatts. Is it your
23 understanding that Mr. Torpey's analysis is based on
24 the same 650 megawatts that you referenced in your
25 analysis, the Willowbrook and the Highland solar and

1 the one wind farm?

2 A. It is my understanding that in
3 Mr. Torpey's analysis you don't have to have specific
4 locations, but I think that's a question you should
5 ask Mr. Torpey when he is on the stand.

6 Q. Sure.

7 Was your LMP analysis included in the IRP
8 that Mr. Torpey drafted and is sponsoring in this
9 case?

10 A. I'm not sure about that.

11 Q. Well, let's look at it. Look at IRP
12 Section 8.1.5. That is JFT-1 at page 19. Do you
13 have the IRP up there with you?

14 A. No, I don't.

15 MS. BOJKO: Could the Company provide you
16 with Torpey's testimony, please?

17 MS. BLEND: Sure. Just a moment.

18 MS. BOJKO: I thought the IRP was an
19 exhibit that was up there.

20 MS. BLEND: Just for clarification on the
21 record, Ms. Bojko, you're referring to Exhibit JFT-1
22 to AEP Ohio Witness Torpey's testimony when you say
23 the "IRP"?

24 MS. BOJKO: Yes. I'm sorry, I thought I
25 said JFT-1 at page 19.

1 Q. (By Ms. Bojko) Let me back up before you
2 answer that question, sir.

3 I -- it's your understanding that Mr.
4 Torpey took your analysis on the impact to LMPs and
5 used it in the integrated resource plan, correct?

6 A. Yes, that is my understanding.

7 Q. Okay. So now that you have -- do you
8 have in front of you what's been identified as JFT-1
9 which is an exhibit to Mr. Torpey's testimony?

10 A. I do.

11 Q. Could you turn to page 19, please.

12 A. Yes, I'm there.

13 Q. And, sir, you didn't draft the IRP, did
14 you?

15 A. No.

16 Q. If you look at page 19, Section 8.1.5,
17 it's titled "Description of PJM LMP Impact Scenario."
18 Do you see that?

19 A. I do.

20 Q. And this, sir, is your analysis, is it
21 not?

22 MS. BLEND: Objection, your Honor.

23 Mr. Ali just testified he didn't prepare this
24 document.

25 MS. BOJKO: Your Honor, he actually

1 testified he didn't draft it, but he also testified
2 that he was aware that Mr. Torpey included his
3 analysis in the IRP. And, your Honor, if you recall,
4 I moved to strike the reference to Mr. Torpey's
5 testimony and that was denied, so this is proper
6 cross-examination.

7 MS. BLEND: Ms. Bojko -- my objection is
8 that Ms. Bojko has not and cannot establish a
9 foundation with this witness for this document. He
10 testified he did not prepare it, he did not draft it.

11 MS. BOJKO: Your Honor, he testified that
12 Mr. Torpey -- he knew -- he was aware -- I backed up,
13 and he testified that he was aware Mr. Torpey used
14 his LMP analysis in the preparation of the integrated
15 resource plan.

16 EXAMINER SEE: I am going to allow the
17 witness to answer the question. The objection is
18 overruled.

19 MS. BLEND: Thank you.

20 A. The analysis that I performed and I
21 shared with Mr. Torpey is really looking at dollar
22 per megawatt-hour change in the LMP prices. It's
23 not -- it's not analysis that is location specific.
24 What it does is it says -- I mean, it looks at if
25 solar gets added and wind gets added, how much do you

1 see reduction on a dollar per megawatt-hour basis.
2 That information is what I shared with Mr. Torpey and
3 then Mr. Torpey used that information for his
4 analysis. But I'm not familiar with the specifics of
5 the analysis that Mr. Torpey performed. I am sure he
6 can answer those questions more intelligently.

7 Q. Sure. I'm -- Section 8.1.5, my actual
8 question to you is: Doesn't this section reference
9 your PROMOD simulation regarding the value of
10 locational market price -- marginal price impacts
11 from adding renewables to the system?

12 A. Yes, it does reference the PROMOD
13 analysis I performed.

14 Q. And in this section there's a reference
15 to 600 megawatts in that PROMOD simulation. You
16 believe that that reference to 600 should be 650; is
17 that fair?

18 A. No, that is not. Like I said, what I
19 provided Mr. Torpey was dollars per megawatt-hours.
20 So you can take that value of dollars per
21 megawatt-hour savings because the characteristics
22 that I'm interested in in the PROMOD analysis is what
23 is the cost of energy, and that cost of energy for
24 wind and solar is zero dollars per megawatt-hour.

25 The other characteristic that is

1 important in my analysis is the profile of the wind
2 and the solar which is pretty consistent across Ohio.
3 So having those projects modeled, what I got was the
4 LMP price reductions per megawatt-hour. That can
5 then be taken and you can extrapolate that, you can
6 reduce that, to figure out would be the benefits if
7 we were to procure 600, 700, 800, 900 megawatts
8 because there is no congestion on the AEP system.

9 Q. Would anybody else, at AEP, run a PROMOD
10 simulation or would that be run by you?

11 A. It would be run by the Transmission
12 Planning organization which reports up to me for
13 energy analysis. Now, there are other organizations
14 which will run PROMOD analysis for other purposes.

15 Q. And it's your -- your testimony was that
16 you ran or your group ran the PROMOD simulation for
17 650 megawatts of new renewable projects, correct?

18 A. That is correct.

19 Q. Okay. And are you aware of whether the
20 PROMOD simulation was run for the impact to LMP
21 prices from adding approximately 600 megawatts of
22 renewables in the PJM footprint?

23 A. That is correct, but what we are trying
24 to get to is the dollars per megawatt-hour changes,
25 and I could run that analysis for 400 megawatt, I can

1 run that analysis for 800, and what I'm getting at is
2 it will show the same dollars per megawatt-hour
3 change.

4 Q. I understand that, Mr. Ali. If you could
5 try to answer my question. I just asked if you ran
6 it. Yes or no. Did you --

7 A. Yes.

8 Q. Did you run the 600-megawatt PROMOD
9 simulation with the base case and the study case?

10 A. No, not 600.

11 Q. Thank you.

12 EXAMINER SEE: Ms. Bojko.

13 (Pause in proceedings.)

14 EXAMINER SEE: We were experiencing some
15 technical difficulties. Thank you. Go ahead.

16 MS. BOJKO: Thank you.

17 Q. (By Ms. Bojko) Does AEP quantify the
18 impact of all of its proposed REPAs on the LMP?

19 A. I cannot answer that question.

20 MS. BOJKO: Your Honor, at this time, I
21 would like to mark as OMAEG Exhibit 1, an AEP
22 discovery response to Direct-INT-02-021. May I
23 approach?

24 EXAMINER SEE: Yes.

25 (EXHIBIT MARKED FOR IDENTIFICATION.)

1 Q. Sir, do you have in front of you what's
2 been marked as OMAEG Exhibit 1?

3 A. I do.

4 Q. And is this an Ohio Power -- AEP Ohio
5 discovery response to Direct Energy's Interrogatory
6 Set 2-21?

7 A. It is.

8 Q. And, sir, are you the responsible party
9 for this discovery response?

10 A. Yes, I am.

11 Q. And isn't it true -- or does this refresh
12 your recollection about whether all facilities are --
13 PJM LMP analysis are -- is run on the addition of
14 Timber Road II facility?

15 A. Could you please repeat that?

16 Q. I'm sorry, that was a poorly-constructed
17 question, sorry.

18 Does this interrogatory ask if AEP had
19 run the impact of the Timber Road facility on the PJM
20 LMP?

21 A. Yes, that's the question.

22 Q. Okay. And AEP's response is that they
23 had not performed the requested analysis; is that the
24 case?

25 A. Yes, AEP has not performed specific

1 analysis for Timber Road facility.

2 MS. BOJKO: Your Honor, I would also like
3 to have marked as OMAEG Exhibit 2 -- and if you don't
4 mind, I might as well mark a couple at this time.

5 EXAMINER SEE: Okay.

6 MS. BOJKO: OMAEG Exhibit 2 would be the
7 discovery response to Direct-INT-02-019. And then I
8 would like to have marked as OMAEG Exhibit 3 which is
9 an AEP response to Direct-INT-02-017.

10 EXAMINER SEE: So marked.

11 (EXHIBITS MARKED FOR IDENTIFICATION.)

12 Q. (By Ms. Bojko) Mr. Ali, do you have
13 what's been marked -- in front of you what's been
14 marked OMAEG Exhibit 2, a discovery response to
15 Direct Interrogatory 02-019?

16 A. I do.

17 Q. And does this response to the discovery
18 request state that the -- well, you are the
19 responsible party for this discovery request,
20 correct?

21 A. That is correct.

22 Q. And this discovery response states that
23 AEP Ohio has not performed an analysis regarding the
24 impact of the Wyandot Solar facility on the PJM LMP
25 prices, correct?

1 A. Yes, AEP has not performed the analysis
2 for Wyandot Solar facility's impact on the LMPs.

3 Q. And similarly, if we look at what's been
4 marked as OMAEG Exhibit 3, which is the response to
5 Direct Energy Interrogatory 02-017, you would agree
6 with me that the Company has not performed an
7 analysis of the PJM LMP impact on the Fowler Ridge II
8 facility; is that correct?

9 A. That is correct.

10 Q. Could you turn to -- so, sir, it's fair
11 to say AEP does not quantify the PJM LMP analysis on
12 all of the proposed renewable projects that it either
13 acquires the energy from or enters into a REPA for;
14 is that correct?

15 A. No, I don't think that is correct
16 because, I mean, AEP does perform energy analysis for
17 projects based on the relevance of their analysis as
18 to what that analysis -- what are the benefits we are
19 trying to project or see. So my team does perform
20 analysis for projects in the AEP system. Some of
21 that analysis is done for energy-efficiency reason;
22 some of the analysis is done for reliability reasons.

23 Q. And in the three cases that we just
24 discussed, AEP did not quantify the impact of those
25 three projects on LMP price, correct?

1 A. That is correct.

2 MS. BOJKO: And, your Honor, at this time
3 can I have marked as OMAEG Exhibit 4, a response to a
4 Data Request, IEU Interrogatory 01-001?

5 EXAMINER SEE: So marked.

6 (EXHIBIT MARKED FOR IDENTIFICATION.)

7 MS. BOJKO: May I approach, your Honor?

8 EXAMINER SEE: Yes.

9 Q. Sir, do you have in front of you what's
10 been marked as OMAEG Exhibit 4 which is a data
11 response to IEU Interrogatory 1-001?

12 A. Yes, I do.

13 Q. And were you the responsible party for
14 this response?

15 A. Yes, I was.

16 Q. And in this response, the question asked
17 if you anticipated a need for transmission plant
18 additions or upgrades to connect the additional
19 renewable generation for which the need filing is
20 requested; do you see that?

21 A. Yes, I do.

22 Q. And the response from you, on behalf of
23 AEP, is yes; is that correct?

24 A. Yes.

25 Q. And you list out a series of

1 interconnection system impact study reports that are
2 publicly available on PJM's website, correct?

3 A. Yes.

4 Q. And in those filings there are four
5 projects listed; is that correct?

6 A. No, that is not correct. There is only
7 two listed.

8 Q. There are four studies -- let me clarify.
9 There are four studies that were performed and two
10 projects.

11 A. That is correct.

12 Q. And those two projects that you
13 identified that you relied upon in answering this
14 discovery response are the Willowbrook and Highland
15 solar facilities that are the subject of the second
16 phase of this hearing; is that correct?

17 A. Can you please repeat that question?

18 Sorry.

19 Q. Sure.

20 MS. BOJKO: May I have that read back?

21 (Record read.)

22 A. I'm not sure if they are subject of the
23 second phase of the hearing.

24 Q. Fair enough. These are the two solar
25 projects that you've identified on page 5 of your

1 testimony, line 13, correct?

2 A. That is correct.

3 Q. And it appears from the links that you've
4 provided that these impact studies were -- one's an
5 impact study and one is a feasibility study; is that
6 correct?

7 A. Yes. So for each of those two
8 generators, PJM has completed the feasibility study
9 as well as the impact study.

10 MS. BLEND: Your Honor, for purposes of
11 the record, I believe this discovery response was
12 produced or served during the -- during a time during
13 which the Company's motion to consolidate the Phase I
14 and Phase II issues was still pending and before
15 there had been a ruling on those issues.

16 MS. BOJKO: I'm not sure what the
17 objection is.

18 MS. BLEND: There is not an objection. I
19 just wanted to note for the record that this was
20 produced in discovery before the Commission -- before
21 the Attorney Examiners issued their procedural entry,
22 bifurcating the Phase I and Phase II issues for
23 purposes of hearing.

24 MS. BOJKO: Your Honor, so was his
25 testimony talking about one wind and two solar

1 projects. So I don't understand the relevance of
2 that comment or the implication.

3 EXAMINER SEE: Go ahead, Ms. Bojko.

4 MS. BOJKO: Okay.

5 Q. (By Ms. Bojko) Could you turn to page 6
6 of your testimony, please, lines 7 through 10. In
7 this section of your testimony, you -- you reference
8 Mr. Torpey's testimony; is that correct?

9 A. I don't reference his testimony. I just
10 talk about Company witness Torpey using the
11 information that I provided to perform the analysis.

12 Q. Fair enough. I'm sorry, I apologize. I
13 didn't mean to misrepresent.

14 You said that the Company witness Torpey
15 used this information, meaning your information, to
16 perform his analysis.

17 A. That is correct.

18 Q. Okay. And you state that Mr. Torpey's
19 analysis shows the impact that lower LMPs have on the
20 PJM market over the life of the renewable projects;
21 is that correct?

22 A. That is correct.

23 Q. Once you provided your LMP analysis to
24 Mr. Torpey, you were not further involved in
25 Mr. Torpey's analysis, correct?

1 A. That is correct; but I did, you know, saw
2 the results of that final analysis that Mr. Torpey
3 performed.

4 Q. Okay. Well, then isn't it true that the
5 analysis in Mr. Torpey's testimony, as well as in the
6 IRP, actually shows the impact over the term of the
7 REPA, not the life of the facility?

8 A. I cannot answer that question. You
9 should be asking Mr. Torpey.

10 Q. Well, sir, you stated that analysis on
11 page 6, lines 8 to 9 of your testimony.

12 A. I am summarizing the results of that
13 analysis, stating that I saw the results of that
14 analysis. As far as the particulars are concerned,
15 Mr. Torpey is the best witness to elaborate on those.

16 Q. Well, isn't it true that the results in
17 Mr. Torpey's analysis, that you reviewed, does not,
18 in fact, show the impact over the life of the
19 renewable facility?

20 A. Like I said, I cannot answer that
21 question.

22 MS. BOJKO: Your Honor, at this time I
23 renew my motion to strike. I am asking him a
24 specific question about something specific he wrote
25 in his testimony that he's now telling me he has no

1 knowledge of, and he can't answer my question with
2 regard to the words in his testimony. Therefore, I
3 move to strike his testimony. It is
4 mischaracterizing Mr. Torpey's analysis and it is --
5 has the prejudicial effect of confusing the record
6 and providing misinformation.

7 MS. BLEND: Your Honor, just before I
8 respond, is Ms. Bojko moving to strike Mr. Ali's
9 testimony in its entirety or only the sentence that
10 begins on page 6, line 7, with "Company witness
11 Torpey" and ends on line 9 with "renewable projects"?

12 MS. BOJKO: It's actually the two
13 sentences where he's incorrectly describing
14 Mr. Torpey's testimony that he's now said he has no
15 knowledge of and can't speak to.

16 MS. BLEND: Mr. Ali testified that he
17 could not speak to the specifics of what Mr. Torpey's
18 analysis showed in terms of the details, but that he
19 was familiar with and had reviewed the results of the
20 analysis, meaning the 7 cent per megawatt-hour LMP
21 benefit and the \$31 million benefit that Mr. Torpey
22 calculates.

23 He -- again, we have already covered this
24 issue, your Honors, earlier this afternoon.

25 Mr. Ali's testimony on page 6, lines through 10, is a

1 summary of his understanding of how Mr. Torpey
2 utilized Mr. Ali's analysis and it should remain in
3 his testimony.

4 If Ms. Bojko has questions about
5 Mr. Torpey -- for Mr. Torpey about what -- whether
6 Mr. Torpey's analysis looks at the life of the
7 renewable projects or the terms of the REPA, she can
8 certainly ask him that tomorrow when he testifies.

9 EXAMINER SEE: The motion to strike page
10 6, lines 7 through 9 of Mr. Ali's testimony is
11 denied. However, it is -- the motion is going to be
12 granted as to the last portion of that sentence that
13 begins on line 7 and ends "over the life of the
14 renewable projects." That portion of Mr. Ali's
15 testimony, the motion to strike is granted.

16 MS. BOJKO: Thank you, your Honor.

17 MS. BLEND: Your Honor, I apologize, just
18 to make sure I understand your Honor's ruling. Are
19 the only words "over the life of the renewable
20 projects" being stricken?

21 EXAMINER SEE: Yes, it is, so that the --
22 it now reads "Company witness Torpey used this
23 information to perform an analysis that shows the
24 impact that lower LMPs have on the PJM market."

25 MS. BLEND: Thank you, your Honor.

1 MS. BOJKO: Thank you.

2 Your Honor, with that ruling, I have no
3 further questions.

4 Thank you, Mr. Ali.

5 THE WITNESS: Thank you.

6 EXAMINER SEE: Ms. Whitfield.

7 MS. WHITFIELD: Yes, thank you, your
8 Honor.

9 - - -

10 CROSS-EXAMINATION

11 By Ms. Whitfield:

12 Q. I just have a few questions for you,
13 Mr. Ali. I believe in your testimony to Mrs. Bojko
14 and also Mr. Kurtz earlier today, you talked about
15 your calculation showed an LMP price reduction of 7
16 per MWh, correct?

17 A. The calculation I performed was for three
18 years 2021, 2024, and 2027, and they were three
19 different numbers of LMP reduction in that
20 calculation. The 7-cent number is what Mr. Torpey
21 came up with using that analysis over a time period.

22 Q. Okay. That was -- the 7 cents was a
23 levelized number that Mr. Torpey came up with; that
24 is your understanding?

25 A. That is my understanding.

1 Q. And you had no input or analysis in
2 Mr. Torpey's determination of that levelized amount?

3 A. Like I mentioned earlier, I provided the
4 LMP reductions in the AEP and PJM zone. So the input
5 was the LMP price reduction for his modeling.

6 Q. Okay. And you did that for a three-year
7 period, correct?

8 A. I did that for three separate years
9 because those are the models that are available as
10 industry standard models at PJM.

11 Q. Okay. And are you aware that
12 extrapolated that -- the numbers than you calculated
13 through your models for a period of 20 years from
14 2021 through 2040?

15 A. I think it's better if you ask him that
16 question. I don't want to misstate anything.

17 Q. Okay. So you are not aware of his
18 extrapolation of that to a 20-year period?

19 A. I do understand that he extrapolated
20 that; I am just not sure about the period at this
21 point.

22 Q. Sure. Thank you.

23 So you wouldn't know, sitting here today,
24 what was included or not included whenever Mr. Torpey
25 was doing an analysis of any reduction or increase in

1 the cost of energy.

2 A. No, I will not know the specifics of the
3 modeling that he performed and the analysis he
4 performed. Like I mentioned earlier, one of the
5 biggest inputs into that model is the LMP prices
6 because the PROMOD model is the only model that can
7 be used to come up with LMP prices in light of
8 transmission constraints, I mean, that's the only
9 model that exists out there. So my analysis provided
10 the LMP reduction based on the transmission
11 constraints if there are any. Of course, AEP
12 wouldn't have any constraints, but that's the --
13 that's the only model that the RTOs use for that.
14 And then Mr. Torpey took that information and
15 performed his assessment.

16 Q. Okay. And I think you testified in
17 response to Mr. Kurtz that the 7 percent -- or 7
18 cents, I'm sorry, MWh price reduction, that levelized
19 amount could result in a savings or economic benefit
20 to customers. Do you recall testifying to that?

21 A. What I do recall testifying to is that I
22 am aware of Mr. Torpey's -- Torpey's analysis
23 reserves which showed a 7-cent reduction and
24 translated into roughly \$31 million of savings in
25 PJM.

1 Q. Okay. And are you aware that Mr. Torpey,
2 in doing his analysis, did not include all the costs
3 that a customer would face in his analysis of the
4 economic benefits?

5 A. I cannot answer that question. That
6 should be asked of Mr. Torpey.

7 Q. So you do not know, sitting here today,
8 if he included, for example, the impacts of debt
9 equivalency costs whenever he was calculating the
10 annual cost savings for customers that you just spoke
11 about that you said referenced \$31 million?

12 A. Yes, I cannot confirm or deny that.

13 Q. Well, could you agree, based on your
14 experience, that before the determining an economic
15 benefit to a customer from a reduction in the cost of
16 energy that you calculated, the LMP, you would have
17 to take into account all the costs that would be
18 impacting that customer, right? You just would not
19 look at the LMP reduction, correct?

20 MS. BLEND: Objection, your Honor.

21 Ms. Paul is now asking Mr. Ali about what -- how
22 Mr. Torpey should have conducted his analysis.
23 Mr. Ali has already testified that the scope of his
24 testimony relates to the LMP calculation that's set
25 forth on page 5 of his testimony and that he was not

1 involved in Mr. Torpey's analysis to determine, among
2 other things, levelized economic benefits associated
3 with generic wind and solar; so this is outside the
4 scope of his testimony and not a proper subject of
5 cross-examination for this witness.

6 MS. WHITFIELD: May I respond, your
7 Honor?

8 EXAMINER SEE: Yes.

9 MS. WHITFIELD: In fact, Mr. Ali just
10 testified that Mr. Torpey used his analysis of the
11 LMP to calculate an annual cost savings for AEP Ohio
12 customers in the amount of \$31 million. I'm asking
13 him is he aware that Mr. Torpey failed to include
14 some important factors in doing that analysis of cost
15 savings, and he can't -- he can't just put that
16 \$31 million out as an economic benefit to customers
17 and then say he doesn't know anything about how you
18 calculate that economic benefit to customers.

19 MS. BLEND: And, your Honor, if I could
20 just briefly follow-up? That question, the answer to
21 that question was that Mr. Ali could neither confirm
22 or deny whether Mr. Torpey included such costs in his
23 analysis.

24 The question that I objected to was a
25 question about whether, in determining an economic

1 benefit, one, Mr. Torpey could -- should take into
2 account a cost that would be impacting a customer.
3 My objection is that's outside the narrow scope of
4 Mr. Ali's LMP-related testimony.

5 EXAMINER SEE: The objection is
6 sustained.

7 Q. (By Ms. Whitfield) Mr. Ali, do you know
8 if to get an accurate picture of any benefits or
9 costs savings to customers, you would have to
10 consider all the costs impacting customers?

11 MS. BLEND: Your Honor --

12 Q. Do you know that?

13 MS. WHITFIELD: I'm asking him if he
14 knows that. If he can't testify to that, then he can
15 say that.

16 MS. BLEND: And I'll make the same
17 objection I just made.

18 MS. WHITFIELD: But I will say he opened
19 the door to this when he put in the record in his
20 answer to one of my questions that Mr. Torpey used
21 his LMP modeling and extrapolated and levelized it to
22 a 7-cents-per-MWh reduction and then extrapolated
23 that to a economic benefit savings.

24 MR. KURTZ: Your Honor, I am going to
25 object as well. Completely different issues.

1 \$31 million net present value LMP savings from
2 reduced energy costs. That equivalency is a cost.
3 Completely separate and different from the
4 \$31 million energy savings.

5 MS. WHITFIELD: And that's what I'm
6 saying. You are making my point, Mr. Kurtz, because
7 economic benefits --

8 MR. KURTZ: That's not what he did. He
9 didn't do the debt equivalency.

10 MS. BLEND: Nor Mr. Torpey's LMP
11 analysis.

12 EXAMINER SEE: Are you joining
13 Ms. Whitfield's --

14 MR. KURTZ: No, I'm joining AEP.

15 MS. WHITFIELD: Of course he is.

16 MR. MICHAEL: I'm shocked.

17 MS. WHITFIELD: Shocking, right?

18 MS. BLEND: Your Honor, I will also note
19 that Mr. Ali's awareness of how Mr. Torpey generally
20 used the LMP numbers that Mr. Ali calculated that are
21 on page 5 of his testimony, doesn't open him up to
22 questions about Mr. Torpey's analysis.

23 MS. WHITFIELD: But, in fact, we move to
24 strike the --

25 EXAMINER SEE: The objection is

1 sustained. Move on, Ms. Whitfield.

2 MS. WHITFIELD: Thank you, your Honor.
3 With that, I have no further questions.

4 EXAMINER SEE: Mr. Collier.

5 MR. COLLIER: Thank you, your Honor.

6 - - -

7 CROSS-EXAMINATION

8 By Mr. Collier:

9 Q. Mr. Ali, I would like to turn your
10 attention to page 3 of your testimony.

11 A. I'm there.

12 Q. Okay. Locational marginal pricing, it's
13 PJM that sets the locational marginal prices, is it
14 not?

15 A. I think it's fair to say that PJM
16 calculates the locational marginal prices in the
17 day-ahead and real-time market. But anybody has the
18 ability to forecast locational marginal prices if you
19 have access to the PROMOD model and PJM databases.

20 Q. All right. But PJM uses the LMPs to set
21 prices for energy purchases and sales.

22 A. Yes. Among -- and PJM is not the only
23 RTO who does that. As a matter of fact, pretty much
24 all the regional transmission organizations and
25 independent system operators across North America,

1 and even outside, use locational marginal prices.

2 Q. Why don't we just stick to PJM right now,
3 is that okay?

4 A. Sure.

5 Q. You say "Congestion occurs when heavy use
6 of the transmission grid causes parts of the grid to
7 operate at their limits, resulting in the
8 lowest-priced energy being prevented from freely
9 flowing to a specific area of the grid." Do you see
10 that statement?

11 A. I do.

12 Q. All right. You also have testified that
13 there is no congestion on the AEP system.

14 A. That is correct.

15 Q. Would LMPs be imposed if there is no
16 congestion?

17 A. Say that again, please.

18 Q. Would locational marginal prices be set
19 if there is no -- by PJM if there is no congestion?

20 A. Definitely. So the locational marginal
21 prices have three components. One component of the
22 locational marginal price is the energy price. The
23 second component of locational marginal price is
24 congestion component. And the third component is the
25 loss component.

1 So in essence, in a market where there is
2 no congestion whatsoever, the last unit that is
3 needed to meet the demand and losses is setting the
4 energy component of the LMP, so pretty much everybody
5 gets that LMP energy component as the price for the
6 market.

7 Now, in cases where you have congestion,
8 then the LMP prices would be more in the area which
9 are on the wrong side of the congestion in the sense
10 that you have more LMP cost because what you will
11 have to do is you will have to send a signal to
12 the -- to the load which -- which is using that
13 energy by increasing the price so they use less
14 energy, and you are also incentivizing generation in
15 that area to come up because you're increasing the
16 incentive for them.

17 And in areas which are on the other side
18 of congestion, those are the areas where you are
19 giving generation lower prices, you are reducing
20 their prices so they don't come up.

21 And so, as a result of it, congestion
22 causes discrimination pretty much in the -- in the
23 market and more cost-effective units are not allowed
24 to run.

25 So when I said that in AEP there is no

1 congestion, so the congestion cost component of the
2 LMP is zero, but there is an energy cost component of
3 the LMP which is set by the last unit that is needed
4 to clear the market.

5 Q. Okay. But the energy cost component is
6 separate from the LMP cost component, is it not?

7 A. No. The energy cost component is part of
8 the LMP cost component. Like I mentioned, the LMP
9 has three components: Energy, congestion, losses.

10 Q. Okay. But the congestion part of it, if
11 there is no congestion, is eliminated.

12 A. Should be zero.

13 Q. Right. Okay. Now, when you say
14 generators are paid the LMP at their node, and buyers
15 pay the LMP at their node for the energy consumed,
16 what is the "node"?

17 A. So in essence that's where -- where the
18 delivery happens. So the delivery of energy to the
19 grid at the point of interconnection and the
20 consumption of energy at the point of
21 interconnection. And those points, whatever the LMP
22 is, the generation gets paid that LMP and the load
23 pays that LMP.

24 Q. Do congestion costs vary by node
25 location?

1 A. Yes, it does. It could, depending on
2 where you are on the system.

3 Q. So location of the node is important.

4 A. Yes, it is.

5 Q. Now, what node did you assume for
6 purposes of the LMP analysis?

7 A. So for -- like I mentioned earlier, for
8 the AEP system, there are thousands of nodes, there
9 are thousands of points where either generation is
10 getting delivered to the market or -- or demand is
11 being consumed by the load; so we calculate that
12 up -- the LMP at every single node.

13 And in a market like AEP's zone, and I am
14 just talking about AEP's zone where there is no
15 congestion, the expectation is the LMPs are the same
16 across all the -- all the load except, of course, the
17 loss component may change the LMP slightly between
18 the different nodes.

19 But what we calculated as part of this
20 analysis was the average LMP savings across the AEP
21 zone so, in essence, you take all those nodes, you
22 take all the consumption, and the delivery, and you
23 come up with the average LMP price savings.

24 Q. So what you did -- locational marginal
25 pricing is based at the node, you used an average.

1 A. Yes.

2 Q. An average of the AEP Ohio system?

3 A. The average of the AEP East zone.

4 Q. What's the AEP East zone now?

5 A. That is the AEP transmission system in
6 the PJM RTO.

7 Q. AEP Ohio?

8 A. It includes AEP Ohio, but it includes
9 Appalachian Power. It includes Kentucky, Wheeling,
10 and Indiana Michigan.

11 Q. So it's not limited to AEP Ohio's
12 transmission. It goes beyond that?

13 A. Yes, because it's an integrated system
14 but I think what's important to remember here is that
15 since there is no congestion cost that there is no
16 congestion on the AEP transmission system, the LMPs
17 across the AEP system are uniform.

18 Q. Now again, reference to node, how do you
19 understand that energy from the Willowbrook facility
20 will actually enter the AEP system?

21 A. Physically by the electrons will get on
22 the transmission lines that it's connected to.

23 Q. What's the point of delivery?

24 A. The point of delivery is where the Willow
25 Grove facility will connect physically to the AEP

1 transmission system.

2 Q. And where will it connect physically?

3 A. Like I mentioned earlier today, I don't
4 have the exact coordinates.

5 Q. You don't have the exact what?

6 A. Coordinates; the exact physical location
7 of that.

8 Q. Give me your best guess.

9 MS. BLEND: Objection to relevance and
10 it's also calling for speculation.

11 MR. COLLIER: Well, it's based on lack of
12 knowledge, but he's an expert. I am asking him for
13 his best estimate where he thinks this delivery point
14 is going to be. I don't need exact coordinates.

15 Q. Give me the county.

16 A. Yes, I don't recall that. In essence, in
17 our electrical model if you look at that, we really
18 don't have counties and states designated. It's just
19 an electrical system with lines and buses and
20 branches.

21 Q. Isn't it a fact that the Will -- energy
22 from the Willowbrook facility will connect to the
23 138-kV Wildcat substation operated by AEP Ohio?

24 MS. BLEND: Objection to relevance again,
25 your Honor. This has nothing to do with Mr. Ali's

1 LMP analysis.

2 MR. COLLIER: I don't know that it does
3 or doesn't.

4 EXAMINER SEE: The objection is
5 sustained.

6 Q. (By Mr. Collier) I thought you said that
7 of importance is the location of the node because
8 locational marginal prices can vary by node, right?

9 A. That is correct. And I also said that
10 that is because in cases you have congestion, then
11 depending on where you are on the system, so, for
12 example, if you are in Baltimore Gas and Electric
13 footprint and that's your node and there is
14 congestion on the AEP south interface which connects
15 Pennsylvania and Maryland to Ohio, then in that case
16 you will have a congestion component, significant
17 congestion component, which will increase your LMP;
18 but you are on the AEP zone where there is no
19 congestion, then it won't matter that much as to
20 which node you sit on.

21 Q. Now, you are telling me it won't matter
22 as much; is that what you are saying?

23 A. I'm just trying to explain and trying to
24 be helpful as to how the LMP prices change and why
25 it's irrelevant on certain nodes because of

1 congestion, and in areas and zones like AEP where
2 there is no congestion, the LMP prices are pretty
3 uniform.

4 Q. The Hecate facility will connect to the
5 Stuart-Clinton transmission line owned by Dayton
6 Power & Light; isn't that correct?

7 MS. BLEND: Same objection, your Honor,
8 to relevance on the same grounds as the last
9 question.

10 EXAMINER SEE: And the objection is
11 sustained.

12 MR. COLLIER: I don't understand if
13 delivery point is relevant and locational marginal --
14 and node -- the location of the node is relevant
15 because there are different nodes and different
16 prices why the point of delivery wouldn't be relevant
17 for the specific facilities that he's modeling here.

18 MS. BLEND: Your Honor, Mr. Ali has
19 explained that several times to Mr. Collier during
20 this questioning.

21 MR. COLLIER: I don't think he has. He
22 hasn't told me where the node is yet.

23 EXAMINER SEE: The objection was
24 sustained. You can pose another question to the
25 witness, if you wish, Mr. Collier, but otherwise move

1 on.

2 Q. (By Mr. Collier) The -- now, your -- turn
3 your attention to page 5.

4 A. You said page what?

5 Q. Page 5.

6 A. I'm there.

7 Q. Okay. You state that in your model for
8 the study case you use, and I am going to limit it to
9 the solar projects, you used two solar projects.

10 A. That is correct.

11 Q. And those two solar projects are the
12 Hecate or Highland and the Willowbrook.

13 A. Yes.

14 Q. Do you arrive at the same LMP savings for
15 wind as you do for energy?

16 A. Sorry. Say that again.

17 Q. Is the LMP savings the same for wind and
18 energy?

19 A. Wind and energy?

20 Q. Yeah. I'm sorry, wind and solar. Is
21 there a differentiation in LMP pricing between solar
22 and wind?

23 A. Well, it really depends on the dispatch
24 of the generation at the time. When it comes to
25 the -- when it comes to the price of wind and solar

1 when they are bidding into the market, in my model
2 those prices are the same zero dollars per
3 megawatt-hour.

4 Now, depending on what else is running at
5 that given time, your LMPs could be different, and it
6 could be different even for the same solar plant. So
7 you LMP could be different at 1:00 p.m. versus if you
8 are at 2:00 p.m. because you don't know what other
9 units are dispatching in the market and what their
10 bids are. And the bid is, like I said earlier, set
11 by the last unit that is needed. But as far as those
12 solar plants and wind plants are concerned, their
13 input price into the market is zero dollars per
14 megawatt-hour.

15 Q. No variable O&M?

16 A. Well, the energy analysis there is -- in
17 the energy analysis it's -- it's zero dollars per
18 megawatt-hour, yes.

19 Q. The energy analysis, I am asking you if
20 the energy analysis includes any variable O&M.

21 A. Yes, it does, and it's set at zero
22 dollars per megawatt-hour because you have got to
23 remember for these plants, there are assumptions
24 that -- in the models that they're also getting
25 certain credits. So some wind plants can also,

1 actually in realtime, they are bid in negative. They
2 would bid in negative to be able to run. So it could
3 be even lower, the prices could be even lower in
4 realtime.

5 Q. In realtime under real circumstances, the
6 energy cost could be lower than zero?

7 A. For wind and renewables, yes, it could be
8 because there are other credits like PPC.

9 Q. Do you think the PJM competitive market
10 for energy is competitive -- that the PJM market for
11 energy is competitive?

12 A. Yes, I believe it's a competitive market.

13 Q. Do you believe the capacity market is
14 competitive in PJM?

15 A. Yes, I believe it's competitive, but it's
16 the only market in -- in America that is three-year
17 forward looking that I know of.

18 Q. The -- your Figure 1, "AEP Zone" is what
19 again?

20 A. It's the AEP eastern system that sits in
21 PJM, and it's planned, operated, and maintained as an
22 integrated transmission network.

23 Q. And that includes AEP Ohio?

24 A. It does include AEP Ohio.

25 Q. And includes more than AEP Ohio?

1 A. Yes, it does.

2 Q. Who -- what entity manages the AEP zone
3 transmission?

4 A. When you say "manage," can you elaborate
5 on that? Do you mean operate? Do you mean maintain?
6 Do you mean plan?

7 Q. Operate, maintain, and plan. You can
8 break it down.

9 A. Sure. The planning function of the AEP
10 transmission zone is the responsibility of the PJM
11 RTO as well as the transmission organization within
12 AEP transmission. The operation of the transmission
13 grid is also shared responsibility between PJM and
14 AEP transmission. The maintenance of the
15 transmission grid is the responsibility of the AEP
16 transmission.

17 And then as far as the expansion and
18 modification of the grid is concerned, projects that
19 are needed to address criteria violations are
20 identified PJM, and they are executed by AEP, but
21 projects that are needed to ensure the rehabilitation
22 of aging infrastructure and connection of customers
23 to the grid are identified -- reviewed with,
24 identified, and developed by AEP, and they are
25 reviewed with the PJM stakeholders.

1 Q. All right. Continuing with Figure 1, you
2 have three years' results shown: 2021, 2024, and
3 2027. Do you see that?

4 A. I do.

5 Q. Is it impossible for you to determine LMP
6 savings for any other years?

7 A. This is the industry standard that the
8 RTOs utilize to justify and rationalize the need of
9 transmission as well as efficiency in the energy
10 market. The PROMOD analysis is pretty complex. It
11 takes weeks to finish one year. And pretty much all
12 across America the RTOs use two to three years,
13 maximum, to determine the benefits of market
14 efficiency. And pretty much it's a standard industry
15 practice to use interpretation and extrapolation.

16 Q. You used three years. Did you choose the
17 three years to be used?

18 A. No. These were based on the
19 latest-available PJM models.

20 Q. Okay. Are you saying there isn't any
21 other PJM model available for any other year?

22 A. That won't be up-to-date.

23 Q. Okay. The LMP savings you calculate then
24 are a result of the application of your model?

25 A. The LMP savings is the result of

1 utilizing the industry-standard PJM model and
2 modeling the solar and the wind plants in there.

3 Q. And there is a variation in those three
4 years. In 2021, it's .050 dollars per megawatt-hour.
5 In 2024, it drops to .043 dollars per megawatt-hour,
6 and then increases to .062. Do you understand that?

7 A. Yes, I do.

8 Q. Do you have an explanation for the drop
9 in 2024?

10 A. So there are differences in those years
11 as to what is the topography of the transmission
12 system. At any given time there are projects that
13 are being undertaken. Also the usage of energy is
14 different in those years. If you look at the usage
15 in 2024, it goes up slightly.

16 In addition to that, there are various
17 maintenance and refueling outages of power plants
18 that happen in various years and those are also
19 included so it's not the exact same model. A lot of
20 the assumptions are different based on, you know, the
21 forecast that PJM develops in consultation with all
22 stakeholders including generation owners,
23 transmission owners, LSCs, and others.

24 Q. So we'll have to ask Mr. Torpey how he
25 extrapolated from 2021 to 2024 and then from 2024 to

1 2027 for the years in between, right?

2 A. That is correct.

3 Q. The average energy use, gigawatt-hours,
4 those figures, what's the source of those figures?

5 A. These are based on the load profile of
6 the AEP East zone and the PJM models that PJM has
7 developed.

8 Q. Load profile, is that energy consumed?

9 A. Yes, that is the energy consumed.

10 Q. Does that include line losses?

11 A. This purely includes the energy consumed
12 because you have got to remember you have demand and
13 then, of course, your generation is going to be a
14 little bit more than that demand could account for
15 losses.

16 Q. So is energy actually consumed --

17 A. Yes. Sorry.

18 Q. Is energy actually consumed factoring in
19 line losses?

20 A. Yes. This is energy usage in the AEP
21 East zone including the losses of the systems.

22 Q. Okay. What about unaccounted for
23 electricity? Is that included in line losses?

24 A. I'm sorry. I didn't get it. Can you
25 please explain that again?

1 Q. All right. What about energy efficiency?

2 A. Energy efficiency and demand response are
3 already baked into the load profile. It's already
4 baked into the load forecast.

5 Q. All right. This average energy use
6 gigawatt-hours for the entire AEP zone, we can't
7 derive that number from your Long-Term Forecast
8 Report, can we?

9 A. The energy usage in the PJM model is
10 based on the PJM zonal forecasts, so I think what's
11 important to remember here is that each transmission
12 owner and load-serving entity is providing PJM its
13 load forecast. And that load forecast may be for one
14 state or three states or four states. And then the
15 PJM takes all that together and models 13 states and
16 the District of Columbia, that it needs to rescale
17 that given load forecast for the entire region
18 because you can't assume that if Ohio is peaking,
19 then at the same time New Jersey is going to be
20 peaking also. So PJM does make some adjustments to
21 the load forecast to reach a better regional forecast
22 for its entire zone.

23 Q. That figure for Average Energy Use is a
24 number you did not derive or verify yourself, did
25 you?

1 A. So the basis of that number is driven
2 from the AEP load forecast and that's the load
3 forecast we give PJM. Now, that load forecast is
4 assuming that this particular area, for example, AEP
5 Ohio, has this coincidental peak. That coincidental
6 peak may not align with all of the other states
7 within PJM they consider to peak. So PJM will have
8 to determine, for the peaks scenario, what is the
9 overall peak in the PJM zone and then adjust the load
10 accordingly to make sure they have a more realistic
11 scenario.

12 But that doesn't mean that the forecast
13 that the Company has put together is -- is, you know,
14 inaccurate. It's just the way because you are
15 looking at certain zones and the coincidental peaks
16 of those zones and you are aligning them.

17 Q. All right. But we can't derive that
18 number solely from the AEP long-term forecast.

19 A. I can't answer that question.

20 Q. Is that number published anywhere by PJM?

21 A. Which number are we referring to again?

22 Q. The average energy use, gigawatt hours,
23 for the AEP zone.

24 A. So this number is purely driven by the
25 models. And the models have the load forecast for

1 every given zone within PJM, determined by PJM and
2 published by PJM and vetted by PJM with all the
3 stakeholders.

4 Q. You have to dig within the model
5 themselves.

6 A. No. I don't think so. I think if you go
7 to the PJM website, under Planning and Market
8 Efficiency, I think those assumptions are available
9 to the public to see.

10 Q. What's that site again?

11 A. PJM Planning and then you have to dig
12 down into Market Efficiency to see the assumptions.

13 Q. Is that a document that's published
14 anywhere?

15 A. Well, there are multiple documents.

16 Q. There are what?

17 A. Multiple documents.

18 Q. Multiple documents.

19 A. Yes. And some of them would -- may
20 require an NDS to get this.

21 Q. Actually -- all right.

22 MR. COLLIER: If I could have a moment,
23 your Honor?

24 EXAMINER SEE: Yes.

25 MS. BLEND: Your Honor, might now be a

1 good time to take a maybe a 5-minute break? We have
2 been going and Mr. Ali has been on the stand almost
3 three hours.

4 EXAMINER SEE: Yeah. We can take 5
5 minutes.

6 MS. BLEND: Thank you.

7 (Recess taken.)

8 EXAMINER SEE: Let's go back on the
9 record.

10 Mr. Collier?

11 MR. COLLIER: No further questions.

12 Thank you.

13 EXAMINER SEE: Thank you.

14 Ms. Pirik?

15 MS. PIRIK: No questions, your Honor.

16 EXAMINER SEE: Mr. Darr?

17 MR. DARR: Thank you, your Honor.

18 - - -

19 CROSS-EXAMINATION

20 By Mr. Darr:

21 Q. I want to follow up on a couple of things
22 you mentioned earlier this afternoon, and I want to
23 be respectful of your time because I know how
24 stressful trying to get to the airport on time can
25 be.

1 You mentioned that PJM has a
2 forward-capacity market, and I want to follow up.
3 You also work in the transmission planning, as I
4 understand, for ERCOT and Southwest Power Pool; is
5 that correct?

6 A. Yeah. I just have taken over those
7 responsibilities just a week ago.

8 Q. And on a matter I want to make sure we
9 tie up in a couple of days, and it will be with
10 another witness, but you may be helpful in explaining
11 something. With regard to ERCOT, there is no
12 three-year forward capacity market, correct?

13 A. That is correct. ERCOT is a pure energy
14 market is my understanding.

15 Q. And with regard to the Southwest Power
16 Pool, that is also an energy market, correct?

17 A. I can't confirm it. I'm not sure about
18 that.

19 Q. Well, you mentioned earlier you were
20 aware of only one RTO or pool that had a three-year
21 forward and that was PJM, correct?

22 A. Yes. And I think what's important is the
23 three-year forward-looking capacity market. I know
24 MISO has a capacity market, but it only looks a few
25 months in advance. So I think that's an important

1 distinction because, you know, the prices are very
2 different based on procuring these sources on a
3 long-term basis or short-term basis.

4 Q. Well, let me phrase it this way: In
5 terms of the planning in the Southwest Power Pool,
6 there is, as I understand it, a daily forward market,
7 a realtime market, and what's called a reliability
8 assessment. Is that your understanding as well?

9 A. I really can't confirm. I need to read
10 up on that.

11 Q. Okay. Thank you. Let's move on then to
12 another matter. I would like you to take a look at
13 Figure 1. I know we've been discussing that at some
14 length.

15 A. Okay.

16 Q. Figure 1 gives us the results of your
17 PROMOD runs for the years 2021, '24, and '27 and then
18 gives us the total of LMP savings per year for each
19 one of those years, correct?

20 A. That is correct.

21 Q. So the total savings for the AEP zone in
22 let's say 2021 is \$6.7 million total.

23 A. That is correct, just to the LMP savings.

24 Q. Yes. Now, with regard to the AEP -- I'm
25 sorry. I need to slow down a little bit here.

1 In terms of the average energy use in
2 gigawatt-hours that is line 3 of this table, this is
3 for the total zone, correct?

4 A. That is correct. It's for the total AEP
5 East zone.

6 Q. And as you indicated earlier today, the
7 total zone includes other entities such as I believe
8 you said Appalachian and what was Kentucky?

9 A. Yeah, Appalachian Power Company, Kentucky
10 Power Company, et cetera.

11 Q. And AEP Ohio represents roughly
12 one-third, on a gigawatt-hour basis, of the number
13 that you have here, correct? If you need a reference
14 point, I point you to I believe it's Table 4 in
15 Exhibit JFT-1 which is attached to Mr. Torpey's
16 testimony.

17 A. Sorry. Can you please reference that
18 page number again?

19 Q. Yes. It is page 20 which contains Table
20 4 of JFT-1.

21 A. Yes, I'm there.

22 Q. And if we look at the fourth column from
23 the left under "Baseload Renewables Without --
24 "Baseload LMPs Without Renewables," we see an Ohio
25 Power Company load of 46,249 gigawatt-hours, correct?

1 A. Yes.

2 Q. And that's for 2021.

3 A. Yes.

4 Q. And then when we look at the combined
5 renewable load LMP, that number is repeated as the
6 Ohio company power load -- Ohio Power Company load,
7 sorry, 46,249 gigawatt-hours, correct?

8 A. Yes.

9 Q. Okay. So if we go back to your table --
10 or, excuse me, Figure 1, if we look at the energy use
11 in line 4 of your testimony, the AEP Ohio portion of
12 that would roughly be one-third.

13 A. That is correct.

14 Q. Okay. And if we, to use your term or
15 Mr. Torpey's term, did the math and extrapolated
16 that, then roughly one-third of the LMP savings per
17 year would be assignable to AEP Ohio and its
18 customers.

19 A. For just that particular year, right, and
20 again, I think Mr. Torpey is probably the best-suited
21 witness to answer the questions concerning the LMP
22 saving benefits, but if you are just looking at this
23 table and you are trying to figure out just the LMP
24 savings based on this analysis, that's an accurate
25 assessment.

1 Q. Very good. Thank you.

2 Now, the zonal reduction that we're
3 talking about would flow to customers, or presumably
4 the load-serving entities, throughout the AEP zone,
5 correct?

6 A. Yes. Technically they would. I think
7 the only reason I am using that word is because you
8 also have to look at what is the market within the,
9 you know, within the zone, right, so, of course, Ohio
10 is kind of a hybrid market where you have
11 deregulation versus regulation also but then there
12 are markets -- sorry, I should say zones within AEP
13 that are purely regulated so, you know, technically,
14 yes, if everything was deregulated, competitive, yes,
15 you could assume that.

16 Q. Let me rephrase this then to see if I can
17 pin it down a little more carefully.

18 With regard to the LMP price reduction,
19 that would apply to any load within the AEP zone,
20 correct?

21 A. That is correct.

22 Q. So roughly the other two-thirds of the
23 savings that we're talking about here would flow to
24 Appalachian Power, Kentucky, and any other AEP entity
25 within the AEP transmission zone, correct?

1 A. The LMP savings, yes, that is correct.

2 Q. If you know, will any of the customers
3 in, say, Appalachian Power be responsible for the
4 costs associated with the renewable energy power
5 agreements that AEP is proposing to enter into if
6 they've produced a cost as is projected by Mr. Torpey
7 for the first four years of the generic solar
8 contracts?

9 THE WITNESS: I'm sorry, your Honor. Can
10 I have the question reread to me, please?

11 EXAMINER SEE: Certainly.

12 (Record read.)

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

14 Q. And with regard to the generic wind
15 contract, would your answer be the same?

16 A. As far as the cost is concerned?

17 Q. Yes. With any -- would a customer in
18 Appalachian Power be responsible for that cost
19 associated with the REPA if that is what -- if
20 Mr. Torpey's projections are correct?

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

22 Q. The effect of the addition of the solar
23 and wind contracts that you've indicated would have a
24 price-suppressive effect on the LMP price; were you
25 asked, at any time, to model the effect of that price

1 suppression on the Purchase Power Agreement Rider
2 that AEP has with regard to its generation assets
3 associated with OVEC?

4 A. No. I haven't performed any such
5 analysis.

6 Q. And one follow-up question with regard to
7 something that came up between you and Mr. Collier.
8 If a facility was located in a different zone, let's
9 say it crossed the AEP boundary and was located in a
10 different zone, then the modeling that you performed
11 might be affected by congestion pricing, would it
12 not?

13 A. That is correct. If there is congestion
14 between the AEP zone and that different zone, then it
15 will have an impact, definitely.

16 Q. And in terms of zones, is the Dayton
17 Power & Light zone distinct from the AEP zone for
18 purposes of modeling?

19 A. Yes, it is.

20 MR. DARR: Thank you. I have no further
21 questions.

22 EXAMINER SEE: Mr. McNamee?

23 MR. McNAMEE: No questions. Thank you.

24 EXAMINER SEE: Redirect, Ms. Blend?

25 MS. BLEND: No redirect, your Honor.

1 Thank you.

2 EXAMINER SEE: Thank you, Mr. Ali.

3 THE WITNESS: Thank you, your Honors.

4 EXAMINER SEE: AEP, I believe, has
5 already moved for the admission of AEP Exhibit 5.
6 Are there any objections to the admission of AEP
7 Exhibit 5?

8 MR. McNAMEE: No objection.

9 EXAMINER SEE: Hearing none, AEP Exhibit
10 5 is admitted into the record.

11 (EXHIBIT ADMITTED INTO EVIDENCE.)

12 MS. BOJKO: Your Honor, with the caveat
13 with the motion to strike that was granted?

14 EXAMINER SEE: Yes.

15 MS. BOJKO: Thank you.

16 EXAMINER SEE: Mr. Oliker.

17 MR. OLIKER: Your Honor, IGS would move
18 for the admission of the exhibit recognizing I only
19 referenced a few pages. I think we are willing to
20 limit the admission to page 14 and page 3 as well as
21 the title, of course, and the beginning part.

22 EXAMINER SEE: Say that again,
23 Mr. Oliker. You are only asking for the admission of
24 pages 3 and 14?

25 MR. OLIKER: I mean, to be -- just for

1 purposes of clarity, I think I would like to limit it
2 to pages 1 through 3 and 14.

3 MS. BLEND: Your Honor, AEP Ohio has no
4 objection to the admission of this document.

5 MR. KURTZ: I'm sorry. The entire
6 document?

7 MS. BLEND: Correct.

8 MR. OLIKER: And I didn't move the entire
9 document, but in the event the Bench would like --

10 EXAMINER SEE: I'm sorry. I could not
11 hear you.

12 MR. OLIKER: Your Honor, I wasn't going
13 to move for the admission of the entire document
14 because he only showed a vague familiarity and merely
15 talked about a few pages but, under the adoption of
16 completeness, we can move the entire document.

17 MS. BLEND: And, your Honor, that cuts
18 against admission of any part of the document.
19 Either the document is admissible and Mr. Oliker has
20 established a foundation for it, or it's not because
21 he hasn't -- because this witness wasn't familiar
22 with the document. I've stipulated we do not object
23 to the admission of the document. We would object to
24 the admission of only pages that have been picked and
25 chosen out of the document.

1 EXAMINER SEE: Are there any objections
2 to the admission of IGS Exhibit 2 in its entirety?

3 IGS Exhibit 2, in its entirety, is
4 admitted into the record.

5 (EXHIBIT ADMITTED INTO EVIDENCE.)

6 EXAMINER SEE: Ms. Bojko.

7 MS. BOJKO: Thank you, your Honor.

8 OMAEG, at this time, would like to move for the
9 admission of Exhibits 1 through 4.

10 EXAMINER SEE: Are there any objections
11 to the admission of OMAEG Exhibits 1 through 4?

12 MS. BLEND: No objections.

13 EXAMINER SEE: OMAEG Exhibits 1 through 4
14 are admitted into the record.

15 (EXHIBITS ADMITTED INTO EVIDENCE.)

16 EXAMINER SEE: Let's go off the record
17 for a minute.

18 (Discussion off the record.)

19 EXAMINER SEE: Let's go back on the
20 record.

21 We'll start -- we'll start again tomorrow
22 at 9:00 a.m. with AEP Ohio witnesses Horner --
23 date-certain witnesses Horner and Fry.

24 MS. BLEND: Your Honor, one further thing
25 before we go off the record?

1 EXAMINER SEE: Yes.

2 MS. BLEND: Just wanted to close the loop
3 and cover on the confidentiality issue that was
4 raised earlier. We'll move -- renew our motion or
5 previous motion regarding the sealing of the
6 testimony related to the identity of the wind
7 project.

8 EXAMINER SEE: I believe we can probably
9 redact it from yesterday and today to the extent it
10 has been mentioned.

11 MS. BLEND: I think it's just today.

12 EXAMINER SEE: Is it just today? And you
13 can work with the court reporter to do that.

14 MS. BLEND: Thank you very much.

15 EXAMINER SEE: Okay. Thank you.

16 We're off the record for the day.

17 (Thereupon, at 5:25 p.m., the hearing was
18 adjourned.)

19 - - -

20

21

22

23

24

25

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
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 Wednesday, January 16, 2019, and carefully compared with my original stenographic notes.

Karen Sue Gibson, Registered
Merit Reporter.

Carolyn M. Burke, Registered
Professional Reporter.

(KSG-6677)

- - -

This foregoing document was electronically filed with the Public Utilities

Commission of Ohio Docketing Information System on

1/31/2019 8:56:11 AM

in

Case No(s). 18-0501-EL-FOR, 18-1392-EL-RDR, 18-1393-EL-ATA

Summary: Transcript in the matter of the Long-Term Forecast Report of the Ohio Power Company hearing held on 01/16/19 - Volume II electronically filed by Mr. Ken Spencer on behalf of Armstrong & Okey, Inc. and Gibson, Karen Sue Mrs.