

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. :

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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 Thursday, January 24,
2019.

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VOLUME VII

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1 Thursday Morning Session,
2 January 24, 2019.

3 - - -

4 EXAMINER SEE: Let's go on the record.

5 Let's take brief appearances of the
6 parties, starting to my right and going around the
7 table.

8 MR. NOURSE: Thank you, your Honor. On
9 behalf of Ohio Power Company, Steven T. Nourse and
10 Christen M. Blend; and the law firm of Porter Wright,
11 L. Bradford Hughes and Eric B. Gallon; and the law
12 firm of Ice Miller, Christopher L. Miller.

13 MR. MICHAEL: Good morning, your Honors.
14 On behalf of AEP's residential utility consumers, the
15 Office of the Ohio Consumers' Counsel, Maureen
16 Willis, Bill Michael, and Chris Healey.

17 MR. McNAMEE: On behalf of the Staff of
18 the Public Utilities Commission of Ohio, I am Tom
19 McNamee.

20 MR. NUGENT: Good morning, your Honors.
21 On behalf of Interstate Gas Supply, Inc. and IGS
22 Solar, LLC, Michael Nugent and Joe Oliker.

23 MR. KURTZ: Good morning, your Honors.
24 For OEG, Mike Kurtz.

25 MR. DRESSEL: Good morning, your Honors.

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1 For the Ohio Manufacturers' Association Energy Group,
2 Kimberly W. Bojko and Brian W. Dressel.

3 MR. DUTTON: Good morning, your Honors.
4 Stephen Dutton and Angie Paul Whitfield for The
5 Kroger Company.

6 MR. COLLIER: Your Honor, on behalf of
7 the Ohio Coal Association, Orla Collier and John
8 Stock, of the law firm Benesch Friedlander Coplan &
9 Aronoff.

10 MS. PIRIK: Your Honor, on behalf of the
11 Mid-Atlantic Renewable Energy Coalition, Christine
12 Pirik, Terrence O'Donnell, Will Vorys, and Cristina
13 Luse with the law firm of Dickinson Wright.

14 MR. DOVE: On behalf of Natural Resources
15 Defense Council, Robert Dove.

16 MR. PRITCHARD: On behalf of IEU-Ohio,
17 Matt Pritchard and Frank Darr.

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

21 EXAMINER SEE: Thank you.

22 I think there are a couple matters we
23 need to address before we get started with our first
24 witness.

25 Mr. Collier.

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1 MR. COLLIER: Thank you, your Honor. As
2 I indicated, OCA will be withdrawing the testimony of
3 Mr. Michael Cope in this phase of the proceeding,
4 deferring it possibly to the next phase. I will not
5 be offering him as a witness.

6 EXAMINER SEE: Okay. Thank you.

7 And Mr. Dove.

8 MR. DOVE: Yes, your Honor. I would like
9 to request the examiners take administrative notice
10 of several of the Commission's reports to the General
11 Assembly. Several reports of the Commission's to the
12 General Assembly. They are annual reports. And when
13 you are ready, I can go by Case No. as well as the
14 date they were filed.

15 EXAMINER SEE: Both of those details
16 would be helpful.

17 MR. DOVE: In Case 12-1100-EL-ACP, the
18 report for 2009 and 2010, filed on August 15, 2012.

19 In Case No. 12-2668-EL-ACP, the 2011
20 report filed on November 6, 2013.

21 In Case No. 13-1909-EL-ACP, the 2012
22 compliance report, filed on October 14, 2015.

23 And in Case No. 16-0143-EL-ACP, the 2014
24 compliance report filed on December 7, 2016.

25 I believe the 2015 and '16 reports are

1 already in the record as part of Mr. Lacey's
2 testimony. They are Exhibits 3 and 4, I believe.

3 At least one of these references a
4 document that's also in the document. It includes it
5 as an attachment but the attachment is just a link,
6 so I just want to make clear that that's included as
7 well. It is part of the report as an attachment.

8 EXAMINER SEE: Okay. Mr. Dove.

9 MR. DOVE: Yes, your Honor.

10 EXAMINER SEE: Are you just asking the
11 Bench to take administrative notice of the report
12 itself or the --

13 MR. DOVE: The report is what I would
14 like. The docket, if we need to for completeness,
15 some of these only have, like, seven entries in the
16 docket. A few have more because they take comments.
17 But I just brought up that one attachment because the
18 document itself is only referenced as an attachment
19 via a link to another document in the docket. So the
20 Commission has identified it as an attachment but
21 didn't include it as a complete document in that
22 report. And I believe that's the 2011 status report.

23 MR. NOURSE: And, your Honor, I think
24 what we had discussed is that the Commission's report
25 to the General Assembly which seems like a fair

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1 document to take administrative notice of. I
2 wouldn't want to just incorporate comments or other
3 things we haven't reviewed, but we talked about the
4 reports.

5 MR. DOVE: And I have no problem with
6 that. I was just trying to make sure it was clear
7 that document that is referenced as an attachment is
8 included.

9 EXAMINER SEE: Okay.

10 MR. DOVE: It is Appendix C on the
11 compliance years' 2009-2010 report.

12 EXAMINER SEE: Okay. With that, okay,
13 the Bench will take administrative notice of those
14 reports to the General Assembly.

15 MR. DOVE: Thank you, your Honor.

16 MR. PRITCHARD: Your Honor, could I have
17 one clarifying question? I believe Mr. Dove
18 indicated the '15 and '16 reports were already
19 exhibits, so were we just noticing the first three
20 reports?

21 EXAMINER SEE: The way I understood it,
22 Mr. Dove asked for us to take administrative notice
23 of four reports, '9 and '10, 2011, 2012, and 2014 and
24 '15 and '16 are attached to the testimony of
25 Mr. Lacey?

1 MR. DOVE: That is correct, your Honor.

2 MR. PRITCHARD: Thank you, your Honor.

3 EXAMINER SEE: Okay. Mr. Collier.

4 MR. COLLIER: Yes, your Honor. At this
5 time the -- I am --

6 EXAMINER SEE: I'm sorry. I forgot there
7 is one other matter we need to address.

8 Mr. McNamee.

9 MR. McNAMEE: Thank you, your Honor.
10 It's my understanding that none of the parties have
11 cross-examination for Staff witness Stuart Siegfried
12 and no objection to admitting his testimony into
13 evidence, so at this point I would ask to have
14 marked, as Staff Exhibit 1, the prefiled testimony of
15 Stuart M. Siegfried filed in this docket on
16 January 8, 2019, and I would move for its admission.

17 (EXHIBIT MARKED FOR IDENTIFICATION.)

18 EXAMINER SEE: Are there any objections
19 to the admission of Staff Exhibit 1?

20 MR. NOURSE: No objection.

21 EXAMINER SEE: Hearing none, Staff
22 Exhibit 1 is admitted into the record.

23 MR. McNAMEE: Thank you, your Honor.

24 (EXHIBIT ADMITTED INTO EVIDENCE.)

25 EXAMINER SEE: Mr. Collier.

1 MR. COLLIER: At this time, OCA would
2 call Dr. Richard Brown to the stand.

3 (Witness sworn.)

4 EXAMINER SEE: Thank you. Have a seat.

5 MR. COLLIER: Your Honor, at this time, I
6 would like to have marked the direct testimony of
7 Dr. Brown, OCA Exhibit 2, and his attached report as
8 OCA Exhibit 2A.

9 EXAMINER SEE: So marked.

10 (EXHIBIT MARKED FOR IDENTIFICATION.)

11 MR. COLLIER: I would also indicate
12 that's the redacted public version of his direct
13 testimony. I don't know how you want to handle this,
14 but we would mark, as Exhibit 3, Mr. Brown's
15 confidential testimony.

16 EXAMINER SEE: Okay.

17 MR. COLLIER: And I would -- I have
18 copies but I would assume that the testimony will
19 remain sealed and we don't need to circulate the
20 confidential version.

21 EXAMINER SEE: Just a second,
22 Mr. Collier.

23 MR. HUGHES: Your Honor, the Company just
24 had a question for OCA which is is it really
25 necessary to mark the report separately from the

1 testimony? I don't think we've been doing that
2 before.

3 MR. COLLIER: I don't care. OCC did
4 that. I don't know how the Bench wants to do that.

5 EXAMINER SEE: The confidential portion
6 is marked separately. We would move it aside but the
7 report that's attached to Mr. Brown's testimony, we
8 generally just mark it with the initials of the
9 witness exhibit, so it would be REB-Exhibit 1.

10 MR. COLLIER: All right. Just so I'm
11 clear and the record is clear, Mr. Brown's testimony
12 redacted will be marked OCA Exhibit 2. His attached
13 report will be RED-1.

14 EXAMINER SEE: "REB."

15 MR. COLLIER: REB, sorry, 1, and we will
16 not mark separately the confidential portion.

17 EXAMINER SEE: The report attached to
18 Mr. Brown's testimony is just marked and attached --
19 referenced in his testimony.

20 MR. COLLIER: Understood, your Honor.

21 EXAMINER SEE: But the confidential we
22 can mark as 2A.

23 MR. COLLIER: If you want. If that's the
24 pleasure of the Bench. Again, I don't care one way
25 or the other.

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1 (EXHIBIT MARKED FOR IDENTIFICATION.)

2 EXAMINER SEE: Okay. Did you provide the
3 court reporter with a copy of confidential?

4 MR. COLLIER: I'll do that now,
5 recognizing that it's under seal. And unless there
6 is an objection, I won't present it to the witness
7 because we won't be asking him questions about the
8 confidential.

9 - - -

10 RICHARD E. BROWN, PH.D., P.E.
11 being first duly sworn, as prescribed by law, was
12 examined and testified as follows:

13 DIRECT EXAMINATION

14 By Mr. Collier:

15 Q. Dr. Brown, would you state your name for
16 the record, please?

17 A. Richard E. Brown.

18 Q. And, Dr. Brown, do you have before you
19 the direct testimony that we've just marked, the
20 redacted version?

21 A. Yes.

22 Q. Do you also have attached to that the
23 expert report?

24 A. Yes.

25 Q. And you understand that is the redacted

1 version of your testimony?

2 A. Yes.

3 Q. Dr. Brown, there have -- there has been
4 granted a motion to strike and defer portions of your
5 testimony to the next phase.

6 For the record -- and I will summarize
7 this based on the motion -- page 4, beginning with
8 Conclusion 2 through 5;

9 Conclusion 7 regarding REPA terms and
10 structure, recovery of debt equivalency cost, and
11 EL-RDR recovery mechanism structure;

12 Expert report, pages 8 through 12,
13 comparing RGR benefits to the Company with the REPAs,
14 criticizing the debt equivalency cost proposal;

15 Expert report, pages 18 to 24, discussing
16 the specific economics of the REPAs;

17 Expert report, pages 42 to 46, discussing
18 EL-RDR issues, including the ownership and operation
19 of the projects;

20 Expert report, pages 56 through 58,
21 discussing Mr. Williams' testimony in the EL-RDR
22 phase;

23 And the expert report, page 59, beginning
24 with Conclusion 2, through page 60, Conclusion 7,
25 summarizing conclusions regarding the REPA terms and

1 structure, recovery of debt equivalency costs, and
2 the EL-RDR recovery mechanism structure.

3 Do you understand that's been deferred?

4 A. I understand.

5 Q. All right.

6 MR. HUGHES: Your Honor, one point of
7 clarification if I could?

8 EXAMINER SEE: Yes.

9 MR. HUGHES: For the first item
10 mentioned, going back to the transcript here to see
11 how it was described, I believe Counsel said page 4
12 beginning with Conclusion 2 through 5, and then
13 Conclusion 7 regarding REPA terms and structure. I
14 just wanted to clarify, Conclusion 6 would also be
15 subject?

16 MR. COLLIER: I think it's 2 through 7.
17 Conclusions 2 through 7.

18 MR. HUGHES: Correct. Thank you.

19 Q. (By Mr. Collier) Dr. Brown, in your
20 testimony and in your report, do you address your
21 education and experience?

22 A. Yes.

23 Q. And subject to what has been represented
24 as having been deferred, do you adopt your testimony
25 and report as your testimony here today?

1 A. Yes.

2 Q. If I were to ask you the questions in
3 your direct testimony, would your answers be the
4 same?

5 A. Yes.

6 Q. Do you have any additions or corrections
7 to your testimony or your report at this point?

8 A. No.

9 MR. COLLIER: Your Honor, I would move
10 the admission of OCA Exhibits 2 with the attached
11 report and 2A confidential into evidence at this
12 time, subject to cross-examination.

13 EXAMINER SEE: Okay. Mr. Michael, any
14 cross-examination for this witness?

15 MR. COLLIER: Your Honor, I do have one
16 more matter.

17 I would move briefly for reconsideration
18 of the testimony and conclusions relating to the debt
19 equivalency cost, only to the extent that they relate
20 to the REPA proposal, economic benefit, that
21 Mr. Torpey sponsored. I think because Mr. Torpey and
22 others have put into issue the costs of the REPA and
23 admitted that there was no debt equivalency, in order
24 for the record to be clear, we need to take into
25 account not only net benefits but also any detriment.

1 The debt equivalency would be a detriment to that
2 offset.

3 MR. HUGHES: Your Honor, if I may, the
4 Company's position on this is that consistent with
5 the position articulated in our motion in limine, as
6 well as the memo contra, and the Commission's
7 January 14 Entry, we believe that debt equivalency
8 cost issues are appropriately deferred to the second
9 phase.

10 EXAMINER SEE: And consistent with our
11 Order, your request for reconsideration is noted but
12 it is denied.

13 MR. COLLIER: And then I would proffer
14 the testimony that was deferred and the portions of
15 the report that were deferred.

16 EXAMINER SEE: Okay.

17 MR. COLLIER: With that, I turn the
18 witness over to cross-examination.

19 EXAMINER SEE: Okay. Mr. Michael, any
20 cross-examination for this witness?

21 MR. MICHAEL: No, thank you, your Honor.

22 EXAMINER SEE: Mr. Nugent?

23 MR. NUGENT: No questions, your Honor.

24 EXAMINER SEE: Mr. Kurtz?

25 MR. KURTZ: I do. Thank you, your Honor.

1 - - -

2 CROSS-EXAMINATION

3 By Mr. Kurtz:

4 Q. Good morning, Dr. Brown.

5 A. Good morning.

6 Q. Your 60-page report, about how many hours
7 did you spend on that?

8 A. It was a lot of material to review, so
9 including reviewing the materials and writing the
10 report, probably about 80 hours.

11 Q. Let me -- let me ask you to turn to page
12 5 of your testimony. I want to ask you about your
13 Conclusion No. 10. And I want to ask you about the
14 phrase in the middle, "reduced profitability for
15 unsubsidized Ohio generation facilities." Do you see
16 that?

17 A. I see that, yes.

18 Q. So one way that the generic REPAs would
19 reduce the profit -- the profitability of
20 unsubsidized generation is through a lower LMP market
21 price, correct?

22 A. That's right, yes.

23 Q. Okay. And that's the 7 cents per
24 megawatt-hour that Mr. Ali calculated?

25 A. That's what he calculated.

1 Q. Now, that reduction in market energy
2 prices, I guess, is bad for the merchant generators
3 but it's good for consumers because it lowers rates;
4 would you agree?

5 A. In the short-term analysis, it would be
6 good for customers. In the long-term industry, it
7 may be a different story based on discouraging new
8 entrants to the market, things like this. In the
9 short term, yes; in the long term, not necessarily.

10 Q. And another way that these -- well, these
11 renewables are obviously high-capital-cost,
12 zero-fuel-cost units, correct?

13 A. The solar and the wind, yes.

14 Q. Right. And so whenever they are
15 available, they dispatch, correct?

16 A. They typically will bid zero price, or
17 even with wind, negative price, into the market and
18 they will be first to be dispatched.

19 Q. So the second element of reducing
20 profitability is the coal units will run less hours
21 because they will be dispatched less, correct?

22 A. The nonrenewable, coal included, would
23 produce less energy under that scenario, that's
24 correct.

25 Q. Okay. The -- you are aware that the

1 Department of Energy and the FERC and PJM are
2 considering proposals to, I guess, value more --
3 value differently the resilient units with fuel
4 storage capability on-site. Are you aware of that?

5 A. Yes. These discussions are happening.

6 Q. Okay. But you are also aware that the
7 Ohio Commission doesn't have any influence in those
8 discussions other than, I guess, as a commenter at
9 PJM, correct?

10 A. That's right, yes.

11 Q. And you are aware that this Commission
12 has to enforce Ohio law only without regard to
13 resiliency and fuel security and all the issues that
14 are federal issues?

15 A. Without making a legal opinion, that's my
16 understanding.

17 MR. KURTZ: Okay. Thank you, your Honor.

18 EXAMINER SEE: Mr. Dressel.

19 MR. DRESSEL: No, your Honor.

20 EXAMINER SEE: Mr. Dutton.

21 MR. DUTTON: No, your Honor.

22 EXAMINER SEE: Ms. Pirik.

23 MS. PIRIK: No, your Honor.

24 EXAMINER SEE: Mr. Dove.

25 MR. DOVE: No, your Honor.

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1 EXAMINER SEE: Mr. Pritchard.

2 MR. PRITCHARD: No cross, your Honor.

3 EXAMINER SEE: Ms. Glover.

4 MS. GLOVER: No questions, your Honor.

5 EXAMINER SEE: Mr. McNamee.

6 MR. MCNAMEE: No questions. Thank you.

7 EXAMINER SEE: Mr. Hughes.

8 MR. HUGHES: Thank you, your Honor.

9 - - -

10 CROSS-EXAMINATION

11 By Mr. Hughes:

12 Q. Good morning, Dr. Brown.

13 A. Good morning.

14 Q. My name is Brad Hughes. We met briefly a
15 few minutes ago, and I am one of the outside counsel
16 for AEP Ohio in these proceedings. Is it okay if I
17 refer to the Ohio Coal Association just as OCA --

18 A. Yes.

19 Q. -- in my questions? Okay. And I would
20 also like to begin just by asking you some questions
21 about the conclusions that you list on pages 4 to 5
22 of your written testimony.

23 A. Okay.

24 Q. And just so the record is clear, the
25 conclusions in your -- in your testimony are

1 identical to the ones you set forth at the end of
2 your report, correct?

3 A. Yes.

4 Q. Okay. And turning to your Conclusion
5 No. 9 on page 5 of your testimony, you state that the
6 Navigant survey, presented by the Company in this
7 case, is highly flawed, correct?

8 A. Yes.

9 Q. Okay. And -- but you are not actually
10 presenting the results of any customer survey that
11 you conducted, correct?

12 A. I did not conduct any customer survey.

13 Q. Okay. And like Mr. Kurtz, I also have a
14 couple of questions about Conclusion No. 10. And
15 that's the one in which you state that any economic
16 and social benefits resulting from these projects
17 will be offset by some negative -- negative effects,
18 and you list three in this conclusion: The higher
19 electricity rates, reduced profitability for the
20 unsubsidized facilities, and then your third one is
21 reduced oil and gas exploration and extraction,
22 correct?

23 A. Yes.

24 Q. And I would just like to touch -- turn to
25 those one at a time, very briefly. The first one you

1 list there, the higher electricity rates, am I
2 correct that your report does not include a
3 quantitative projection of future electricity rates
4 to be paid by customers if the Commission grants the
5 Company's Application in this proceeding which
6 relates to generic 900 megawatts of generic solar and
7 wind?

8 A. I'm trying to answer in a way that
9 respects the deferral to Phase II, but what my report
10 uses for this conclusion is the AEP analysis, taking
11 the AEP analysis at face value. This conclusion
12 derives from that.

13 Q. And are you referring to the analysis
14 presented by Mr. Torpey in his testimony?

15 A. That's correct, yes.

16 Q. Okay. When you refer, in Conclusion
17 No. 10, that the benefits will be outweighed by
18 reduced profitability for unsubsidized resources,
19 that's the same piece that Mr. Kurtz touched on?

20 A. Yes.

21 Q. When you use the term "unsubsidized Ohio
22 generation resources," what are you including? What
23 kinds of resources are you including there?

24 A. What types of resources?

25 Q. Uh-huh.

1 A. So this, for example, would be solar
2 projects that don't get special rider treatment, for
3 example.

4 Q. Any other types of generation resources
5 that you consider to be unsubsidized?

6 A. In terms of -- this would be special
7 subsidization in this case and so I am not talking
8 about like federal Investment Tax Credits or
9 Production Tax Credits, that's sort of separate, and
10 so, for example, wind projects that don't get special
11 treatment, that would be included in this conclusion
12 as well. So I am not talking about general federal
13 tax advantages in this. I'm talking about special
14 treatment beyond that.

15 Q. Okay. But you did not perform a
16 profitability projection for any specific generation
17 facility that you consider to be unsubsidized,
18 correct?

19 A. Correct.

20 Q. Okay. And on -- so on what is it that
21 you base your assertion that other generating
22 facilities will experience reduced profitability?

23 A. So we're talking about the energy market
24 here and, for the most part, the energy market is
25 going to be a fixed volume of megawatt-hours and

1 those fixed volume of megawatt-hours are provided by
2 different entities, and if you have a subsidized
3 facility that is kind of going to sell their energy,
4 then that is energy that won't be sold by other
5 facilities, and when other facilities don't sell
6 their energy, their profitability goes down.

7 Q. So are you limiting your Conclusion
8 No. 10, then, to the energy market and excluding the
9 capacity market?

10 A. This is primarily the energy market,
11 correct.

12 Q. Okay. And so, you're speculating that
13 the 400 megawatts of solar will displace fossil
14 generation, correct?

15 MR. MICHAEL: Objection to form. The
16 speculation. That's Counsel's characterization. I
17 don't think it's appropriate to characterize the
18 witness's testimony as such.

19 EXAMINER SEE: The objection is
20 overruled. The witness can answer the question.

21 A. So the PJM stack usually will end -- the
22 last to be dispatched will typically be fossil fuel.
23 There may be other things in there, but generally,
24 yes, putting in zero-fuel-cost sources will displace
25 positive-fuel-cost sources, most likely fossil fuel.

1 Q. And I believe in response to a question
2 from Mr. Kurtz, you agreed that that displacement
3 would occur in -- because the solar generation was
4 lower priced than the fossil generation; is that
5 correct?

6 A. Not correct, no.

7 Q. So I'm sorry. Can you clarify that?

8 A. It -- the stack is dispatched based on
9 bids and so the bid of the solar would be lower than
10 the bid of the fossil fuel plants.

11 Q. Okay. So are you here today testifying
12 on behalf of any specific what you call "unsubsidized
13 generation resource" that you believe would be
14 displaced if the Commission approves this
15 application?

16 A. Well, I was hired by the law firm and the
17 law firm is representing OCA, but I've had no
18 involvement with OCA, so I guess you can interpret
19 that how you want.

20 Q. Okay. Thank you.

21 So moving on to the third projected
22 negative benefit that you discuss in Conclusion
23 No. 10. That's the one where you project that oil
24 and gas exploration and extraction will decline if
25 the Commission approves the Application?

1 A. That's right, yes.

2 Q. And on what did you base this assumption
3 in Conclusion No. 10?

4 A. Well, this goes to this whole line of
5 questioning that you have, most likely the displaced
6 generation is going to be fossil fuels; and if you
7 produce less energy with the fossil fuels, then there
8 will be less fossil fuel exploration.

9 Q. But you are not here today testifying on
10 behalf of any particular oil and gas extraction
11 company, correct?

12 A. Correct.

13 Q. Okay. I would like to turn to the
14 discussion of project economics and I believe that's
15 at page 5 of your report.

16 A. Okay.

17 Q. So under "Deregulation," the second
18 paragraph there.

19 A. Yes.

20 Q. You state "AEP Ohio is generally
21 prohibited from owning significant electricity
22 generation capacity," correct?

23 A. Correct, yes.

24 Q. And how do you define "significant" for
25 purposes of this assertion?

1 A. Well, I mean, it's ultimately a decision
2 made in hearings such as this, but I don't know the
3 specifics in Ohio, but I know that in certain states
4 this has been interpreted to mean zero, meaning
5 certain utilities are not even allowed to deploy
6 backup generation during emergency situations, but
7 some would.

8 And so, I would say that when you are
9 looking at utility-sized power plants, a safe
10 threshold would be anything over like 5 megawatts
11 would certainly be something that would not be --
12 that would be considered utility-scale generation
13 which would generally be contrary to the whole
14 thought of competitive wholesale electricity markets
15 but it's fuzzy.

16 Q. And so, you are not aware of a specific
17 statute or rule in Ohio that places a specific cap on
18 the amount of generation that a -- that an electric
19 distribution utility can operate?

20 A. I have not seen a number. I don't think
21 one exists.

22 Q. Okay. Also on page 5, if you move down
23 to the last paragraph on that page, you state that
24 "Regulated utilities like AEP Ohio have exclusive
25 franchise service territories and therefore monopoly

1 positions for providing retail electricity to
2 customers within their service territory," correct?

3 A. That's correct, yes.

4 Q. But resident customers in AEP Ohio's
5 service territory are permitted to shop non-retail
6 generation service? Do you know?

7 A. They, I believe, are able to -- for
8 retail competition, able to shop for a supplier of
9 energy. They are not able to shop for a deliverer of
10 energy.

11 Q. So when you were referring to the
12 "monopoly," you were referring to delivery?

13 A. That's correct, yes.

14 Q. Okay. Okay. Now, I am going to skip
15 over some parts of your report that were deferred to
16 Phase II, and I am going to turn to page 14 of your
17 report.

18 A. Okay.

19 Q. And underneath the chart where you
20 present Mr. Torpey's solar break-even analysis, you
21 state in that paragraph that you believe Mr. Torpey
22 uses very aggressive market price increase
23 assumptions, corrects?

24 A. Correct.

25 Q. And do you know where Mr. Torpey obtained

1 his forecasted market prices?

2 A. I do not, no.

3 Q. And in your report in the portions that
4 have not been deferred, do you present any of your
5 own energy market price forecasts for the years 2021
6 through 2040?

7 A. No.

8 Q. Okay. Turning the page, at the bottom of
9 page 15 and continuing on to the top of page 16, you
10 say "It is not clear why Mr. Torpey thinks that the
11 market price for solar energy will increase about
12 twice the historical inflation rate..., " correct?

13 A. Correct, yes.

14 Q. Okay. And are you referring in that
15 assertion to Table 3-1 that you've -- that's on page
16 15 of your report?

17 A. Yes. So Table 3 -- no. Table 3-3 has
18 Torpey's summary of his analysis and there is a
19 Column H which has the "Solar Energy Priced at
20 Market" and then I used those numbers. And I
21 duplicate those in my Table 3-1.

22 Q. And so, is it your understanding, when
23 you look at Column H of Mr. Torpey's solar break-even
24 analysis in Figure 3-3, is it your understanding that
25 he was forecasting a specific market price for solar

1 energy in that column?

2 A. No. This is what he would be selling the
3 solar energy in the PJM market for.

4 Q. Okay. Would you agree, Dr. Brown, that
5 Column H -- I'm sorry. Excuse me, one second.

6 On the top of page 16, where you say "It
7 is not clear why Mr. Torpey thinks that the market
8 price for solar energy will increase," you are
9 referring to actually the market price for energy,
10 not solar energy, correct?

11 A. I'm just referring to what Mr. Torpey
12 describes this as in Column H of his table.

13 Q. Okay. Okay. I would like to turn to
14 this chart on page 17 of your report. And that's
15 where you -- you have pasted in a graph from the
16 Lawrence Berkeley National Lab?

17 A. Yes.

18 Q. That compiles some data about PPA prices.

19 A. Correct, yes.

20 Q. One just housekeeping question I have, in
21 the first sentence at the top of page 17, you
22 describe this as a compilation of data on historical
23 wind PPA prices. Am I right that you're actually
24 meaning to refer to solar there?

25 A. Yes. That is an error. So that word

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1 should read "wind." You can choose wind and/or solar
2 and the chart here is filtered to show only solar so,
3 correct, that's an error.

4 Q. Okay. And is it also true that when you
5 go and look at this chart on the website where you
6 got it, it's possible to isolate the PPA prices by
7 region so that they are -- they appear to be
8 highlighted by region?

9 A. You can. That -- it's colored in the
10 chart, and so it maybe could make the data more
11 clear, but that segmented data is shown in this
12 Figure 3-5.

13 MR. HUGHES: Okay. Your Honor, may I
14 approach?

15 EXAMINER SEE: Yes.

16 (EXHIBIT MARKED FOR IDENTIFICATION.)

17 Q. Okay. Dr. Brown, so are you able to
18 identify what I have just marked as AEP Ohio Exhibit
19 18?

20 A. Yes. This is Figure 3-5, but it has the
21 midwest items basically emphasized, highlighted.

22 Q. So this effectively just makes it easier
23 for the Commission to see the specific PPA prices for
24 utility-scale solar in the midwest, correct?

25 A. I think that's fair, yes.

1 Q. Okay. And it looks like there are only
2 approximately a half dozen midwestern utility-scale
3 PPA prices that are reflected here since 2006,
4 correct?

5 A. Correct, yes.

6 Q. And is it also correct that the
7 most-recent dots, that you see indicated here, are in
8 the approximate 60-dollar per megawatt-hour range?
9 Does that look about right?

10 A. That looks about right, yes.

11 Q. Okay. Do you know, Dr. Brown, whether
12 your Figure 3-5 could include PPA prices for projects
13 that haven't yet been actually built or placed in
14 service?

15 A. It's not clear from the website. I don't
16 know yes or no.

17 Q. Okay. Turning now to page 25 of your
18 report, skipping over some information that's been
19 deferred to Phase II, this is where you address the
20 economic benefit report that was filed by Dr. Buser
21 and Dr. Lafayette, correct?

22 A. Correct, yes.

23 Q. And I see you agree here that the
24 methodology used by Dr. Buser and Dr. Lafayette,
25 including the RIMS II model, is what you describe as

1 something that's widely accepted?

2 A. For short-term economic-benefit
3 calculation, yes.

4 Q. Okay. And yet, at the same time, you are
5 asking the Commission to give very little weight to
6 that analysis, correct?

7 A. I am simply pointing out what the authors
8 of this report stated which was there are lots of
9 uncertain assumptions in this analysis which makes
10 the results of this analysis highly imprecise.

11 Q. Okay. But you have not, yourself,
12 utilized the RIMS II model or any other economic
13 benefit model to predict the benefits or losses
14 related to these projects, correct?

15 A. Short of calculating benefits and losses,
16 I have not done that.

17 Q. Okay. And on page 26 of your report, in
18 the first paragraph after your block quotation from
19 the Regionomics report.

20 A. Yes.

21 Q. You say it's not clear why the report
22 does not examine possible shutdowns if these projects
23 are put into service, correct?

24 A. Correct, yes.

25 Q. But sitting here today, you're not able

1 to identify any electrical generating utilities that
2 participate in the PJM market that will be shut down
3 if the Commission grants this application, correct?

4 A. Well, we don't even know if they are
5 going to be built and so correct.

6 Q. Okay. And the Ohio Coal Association did
7 not provide you the identity of any resource within
8 the PJM market that would shut down if the Commission
9 approves this application, did they?

10 A. They did not.

11 Q. Okay. And nor did they identify any
12 specific coal mine that would cease production in the
13 event that the Commission grant this application?

14 A. They did not.

15 Q. Okay. In the following paragraph, on
16 page 26, you state that peak energy demand in Ohio
17 must be met, and if part of this energy demand is met
18 by Hecate and Willowbrook, it will not be met by
19 other generation resources, correct?

20 A. Correct, yes.

21 Q. And when you refer here to "other
22 generation resources," those could be re -- any
23 resources that participate in the PJM market,
24 correct?

25 A. Correct, yes.

1 Q. Including resources located outside the
2 State of Ohio that participate in that market?

3 A. That's correct, yes.

4 Q. Okay. And turning to the bottom of page
5 27, you state that if -- under "Public health
6 benefits," do you see that paragraph?

7 A. Yes.

8 Q. You state that if less oil and gas
9 extraction and less coal mining do result, the
10 negative economic consequences to Ohio should have
11 been quantified, which they are not, correct?

12 A. Correct, yes.

13 Q. Okay. But even if we assume the
14 construction of the solar projects presented by AEP
15 Ohio results in less coal being extracted somewhere,
16 for sale to some participant in the PJM market, you
17 would have no way of knowing whether those reductions
18 would affect production at an Ohio coal mine, would
19 you?

20 A. Not without -- no, that's fair.

21 Q. Okay. And I have the same question, you
22 know, even if we assume the construction of these
23 facilities results in less oil or gas being extracted
24 somewhere for sale to some PJM market participant,
25 would your answer be the same? You would have no way

1 of knowing whether that reduction would affect
2 production from a specific well in Ohio?

3 A. Correct, yes.

4 Q. Okay. Okay. Just a couple of questions
5 with your -- the section of your report on the
6 Navigant survey.

7 A. Yes.

8 Q. Turning now to page 31. In the fourth
9 paragraph there, you state that the response rate for
10 the survey that was conducted here was very low,
11 correct?

12 A. Correct, yes.

13 Q. Especially -- you say that's especially
14 the case for residential non-PIPP and small C&I
15 customers?

16 A. Yes. And those are the only two
17 categories that were asked "Willingness to Pay"
18 questions which is why I highlight those.

19 Q. And do you consider yourself an expert in
20 customer-survey-response rates generally?

21 A. Well, I have dealt a lot with this with a
22 lot of utilities do customer surveys for quality of
23 service, things like this, and the response rates for
24 those are significantly higher than these response
25 rates.

1 Q. But you don't present any of those
2 response rates in your testimony, correct?

3 A. Correct, yes.

4 Q. Okay. Turning to pages 37 through 41 of
5 your report, here, am I correct in this section of
6 your report you are addressing six different
7 arguments that were presented by the Company in the
8 Amended Long-Term Forecast?

9 A. Yes. So there was just to be clear,
10 there was the initial Long-Term Forecast that was
11 submitted. Then there was an Amended Long-Term
12 Forecast which didn't really address the issues of
13 these hearings, and then there was the Third
14 Supplement, I think they called it, and so -- yeah,
15 the Amended Long-Term Forecast describes there is no
16 need in the traditional sense but then goes on and
17 presents six itemized areas where, in a
18 nontraditional sense, there is an argument for need,
19 and I go through those, one to one, and address
20 those, so that's what this section does.

21 Q. Okay. Thank you for that clarification.

22 So the first argument you address on
23 page 37, in bold print there you say "Provided the
24 projects can be developed within a reasonable price
25 range, large-scale development of Ohio renewable

1 energy projects support a finding of need by
2 conveying a price advantage and rate stability for
3 customers," correct?

4 A. Yes, and the bold is just a direct quote
5 from the Amended Forecast and so this is just
6 presenting what was stated and then I respond to it.

7 Q. Okay.

8 A. So those are not my words; those are
9 words in the report.

10 Q. I understand. And then just underneath
11 that you state there that this is an economic
12 argument, not a resource planning argument, correct?

13 A. That's correct.

14 Q. Okay. So is it your position then,
15 Dr. Brown, that utility resource planning cannot
16 address the economic aspects of adding additional
17 generation?

18 A. Typically resource planning, integrated
19 resource planning is going to identify a need for
20 capacity and energy. And if there is -- if there is
21 a need for capacity and energy, then to identify how
22 to do that for the lowest-remedy requirements. So it
23 would be a two-stage process. The first stage, the
24 determination of the need for energy and capacity, is
25 not an economic consideration; it is a technical

1 consideration.

2 Q. And with respect to the two-step process
3 you've just described, do you know whether any states
4 considered cost as part of the first step, the need
5 step?

6 A. It possibly could be considered when you
7 are looking at whether there is a need based on the
8 cost of things like the demand side management
9 programs, the integrated resource, but in terms of
10 the supply side, no.

11 Q. And just a question about resource
12 planning as it relates to your specific background,
13 what prior experience do you have in your career
14 that's related to utility resource planning?

15 A. Well, when I worked for ABB, I was in
16 charge of the project that developed the -- it's
17 basically the equivalent of the PROMOD model at ABB,
18 so I am very familiar with this area. I have
19 supervised commercial software that does this
20 analysis.

21 Q. Okay. Under Argument 1 on page 37, the
22 last paragraph on that page, you say that the PJM is
23 a free market specifically created to provide the
24 lowest cost of energy, and that interfering with the
25 PJM market, by allowing new generation resources not

1 having to compete, results in a less-efficient market
2 and corresponding higher cost of energy, correct?

3 A. That's right, yes.

4 Q. But wouldn't you agree, Dr. Brown, that
5 the PJM market already includes generation resources
6 that would be subsidized under your definition of the
7 term?

8 A. So, before, we talked about there's
9 federal tax benefits in terms of subsidization, and I
10 was trying to segment that from subsidization that
11 goes beyond that, and which are you -- are you
12 talking about, one or the other capacity? Asking for
13 clarification of the question.

14 Q. I am just trying to understand -- you
15 state that PJM is a free market.

16 A. That's right.

17 Q. And so, I'm just trying to understand
18 whether your definition of a "free market" can
19 include resources that are subsidized to some extent.

20 A. Well, just to be clear, my position is
21 that, yes, when you give Investment Tax Credits and
22 Production Tax Credits to certain generation
23 facilities and not others, this does result in a
24 less-efficient market with the pros and cons that go
25 along with that. And so, yes, according to that

1 definition, let's say we are considering these
2 federal tax benefits as a subsidy, then, yes, the PJM
3 market would include subsidized generation for sure.

4 Q. Okay. So you would agree the Investment
5 Tax Credit is available not just to an EDU like AEP
6 Ohio seeking to build solar generation but also to
7 other solar project developers?

8 A. Right. So at least the renewable
9 generation are competing against each other fairly in
10 the PJM market. That's different than this case
11 though.

12 Q. Would you also agree, Dr. Brown, that the
13 coal industry benefits from certain federal tax
14 credits or subsidies?

15 A. I am not certain. It would not surprise
16 me.

17 Q. So have you ever had -- you haven't had
18 any occasion to study any of the federal tax credits
19 that could be available to OCA's members?

20 A. That's correct, yes.

21 Q. Okay. So assume hypothetically,
22 Dr. Brown, that federal tax credits do exist for coal
23 producers, would you agree that those tax credits
24 would also have market distorting effects the way you
25 define those effects?

1 A. For cross-technology generation, but at
2 least the coal plants are competing fairly against
3 each other. And so at least within a certain
4 technology you have a level playing field, so.

5 Q. Okay. Thank you.

6 Moving to your -- your response to the
7 second argument, on page 38, in the Long-Term
8 Forecast.

9 A. Okay.

10 Q. You state that -- as you restate the
11 Company's position in bold print, it says "A formal
12 study by an independent consultant shows that AEP
13 Ohio costumers want and need long-term renewable
14 power generated by new Ohio renewable projects."

15 A. Correct.

16 Q. So that's your restatement of the
17 Company's position.

18 A. That's right.

19 Q. Okay. And then in response, one of the
20 things you say that this is a customer preference
21 argument, not a resource planning argument; is that
22 correct?

23 A. That's correct, yes.

24 Q. And so, is it your position then,
25 Dr. Brown, that utility resource planning cannot

1 address customer preferences?

2 A. Traditional utility resource planning is
3 required to look for minimum revenue requirement
4 solutions to capacity and energy shortfalls, and so
5 to the extent customers don't like to have rolling
6 blackouts, that would address that concern, but no,
7 traditional resource planning does not address
8 customer preferences.

9 Q. Okay. And then moving to page 40 where
10 you are addressing Argument No. 5 in the Amended
11 Long-Term Forecast.

12 A. Yes.

13 Q. And I see in the first paragraph of your
14 response to Argument No. 5 you state this is an Ohio
15 economy argument, not a resource planning argument,
16 correct?

17 A. That's correct, yes.

18 Q. And so, again, my question to you is,
19 Dr. Brown, do you believe that the Commission has the
20 discretion to consider the Ohio economy in connection
21 with its review and approval of a utility resource
22 plan?

23 A. So the statute states what the Commission
24 should consider. And so, if they follow the statute,
25 my answer to that is the Commission should not

1 consider this. The state legislature legislates on
2 this issue, they have, but I think it would be
3 contrary to statute if they did this. This is my
4 opinion.

5 Q. But, again, you are not an attorney,
6 correct?

7 A. This is not a legal opinion, correct,
8 yes.

9 Q. Okay. Thanks.

10 I'm sorry. One second, Dr. Brown.

11 Okay. So, Dr. Brown, a few minutes ago,
12 I asked you to assume federal tax credits do exist
13 for coal producers, and I asked if you agreed whether
14 those credits would also have market distorting
15 effects. In your answer you stated at -- one of the
16 things you said, "at least the coal plants are
17 competing fairly against each other"; is that an
18 accurate summary of your response?

19 A. Sounds correct.

20 Q. Okay. You are aware, Dr. Brown, that
21 there are coal plants that are owned by vertically --
22 vertically-integrated companies and that are rate
23 based within the PJM market, correct?

24 A. Yes.

25 Q. Okay. I just have a couple of questions

1 about some of the items that you listed on your
2 curriculum vitae, beginning at page 65 of your
3 report.

4 A. Yes.

5 Q. So if we turn to page 70, it looks like
6 you have listed some of your -- the prior testimony
7 you've provided at regulatory proceedings, correct?

8 A. Yes.

9 Q. And looking down to Item 5 on that list,
10 it states that you prepared -- you testified in the
11 North Carolina docket, "Bi-Annual Avoided Cost
12 Hearings"; is that correct?

13 A. That's right, yes.

14 Q. And the way you describe that testimony
15 in italics there, you state you provided an
16 assessment of the potential benefits and costs of
17 utility-scale solar facilities in North Carolina?

18 A. That's right.

19 Q. Okay. Do you remember any of the
20 benefits of utility-scale solar that you addressed in
21 that testimony, Dr. Brown?

22 A. So this was an avoided cost hearing. It
23 was very -- it was very narrow. There was 1975
24 legislation that requires utilities to purchase
25 cogeneration output. In North Carolina they have

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1 applied this legislation to utility-scale solar, and
2 so the question is what actually is the avoided cost
3 to the utility of having this cogeneration or, in
4 this case, utility-scale solar come into the system.
5 And so the benefit, very narrowly defined here, is
6 avoided cost. That's the benefit by definition.

7 Q. And do you remember testifying in that
8 North Carolina proceeding, Dr. Brown, that utility
9 fuel hedging benefits result from solar-qualified
10 facilities?

11 A. Depending upon the contract, if you have
12 a contract that results in fixed costs to the
13 utilities and customers, there will be hedging
14 benefits in that case.

15 Q. One other piece of testimony that you
16 list in your CV that I wanted to ask about and it's
17 the first item on your list, you recently prepared an
18 expert report and testified in the Icebreaker
19 Windpower matter at the Ohio Power Siting Board,
20 correct?

21 A. In this very room.

22 Q. And is that still pending before the
23 Power Siting Board, if you know?

24 A. My understanding is yes, it's still
25 pending.

1 Q. Okay. And in your CV here, it states
2 that you represented some local resident intervenors
3 in that matter?

4 A. That's right, yes.

5 Q. And those intervenors, were they opposing
6 a proposal to build a wind project in Lake Erie?

7 A. Yes. They lived on the water, with views
8 of the water, and they did not want offshore wind on
9 Lake Erie.

10 Q. Okay. And do you remember the written
11 testimony that you provided in the Icebreaker
12 Windpower matter, explaining to the Power Siting
13 Board that in terms of power generation, public need
14 is related to sufficient baseload generation, other
15 aspects of system reliability, economic benefit,
16 environmental benefit, or the ability to meet
17 renewable energy portfolio standards?

18 A. Yes.

19 Q. So that's an accurate recitation of the
20 summary you provided?

21 A. Sounds correct.

22 Q. Okay. Okay. Dr. Brown, I just have a
23 few additional questions going back to the testimony
24 we discussed in which you described the PJM market as
25 a free market.

1 A. Yes.

2 Q. Would you agree, Dr. Brown, that the PJM
3 auctions are administratively controlled?

4 A. Yes.

5 Q. Okay. And would you also agree,
6 Dr. Brown, that in the PJM market, the Market Monitor
7 determines offer caps and floors on offer pricing?

8 A. Yes.

9 Q. Okay. And would you also agree,
10 Dr. Brown, that the whole demand structure capacity
11 is essentially a regulatory construct?

12 A. Could you repeat or rephrase? I am not
13 sure I understand your question.

14 Q. When I say "a regulatory construct," I
15 mean a construct that includes checks and balances
16 that are regulated at the federal level.

17 A. You are talking about the capacity
18 interest market in PJM, I think you said?

19 Q. Yes.

20 A. So yes, I'll agree with that.

21 Q. Okay. Would you also agree, Dr. Brown,
22 that the RPM price is a short-term price and that it
23 does not categorically or exclusively represent the
24 market price, the market price for capacity?

25 A. I guess it depends on your definition,

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1 but there's two separate things, right? There's the
2 short-term capacity bids which are really the, you
3 know, the short-term liquid market aspects of this,
4 and then there is the long-term capacity needs and
5 bids to fulfill that which is sort of a separate
6 process. I think they are both -- they are sort of
7 separate markets. I would agree that they are
8 separate things.

9 Q. And would you also agree, Dr. Brown, that
10 within the PJM market, bilateral contracts exist
11 including long-term agreements that are based on
12 costs that also reflect market prices for capacity?

13 A. Yes.

14 Q. And, Dr. Brown, are you also aware the
15 PJM market has a regulatory backstop in place that's
16 cost based in the event that the auctions don't
17 supply sufficient capacity?

18 A. I am not aware of that. It wouldn't
19 surprise me though.

20 MR. HUGHES: Okay. Thank you, very much.
21 No further questions.

22 EXAMINER SEE: Mr. Collier, any redirect?

23 MR. COLLIER: Just a minute.

24 - - -
25

REDIRECT EXAMINATION

By Mr. Collier:

Q. Dr. Brown, you were asked about subsidies and I think you used the term "additional subsidy."

A. Could you turn your microphone on.

Q. Sorry.

A. Thank you.

Q. You were asked questions about subsidy questions.

A. Yes.

Q. And you address the tax credit subsidization.

A. Correct.

Q. Those tax credits, Investment Tax Credit or Production Tax Credit, are they based on qualifying facilities?

A. Yes.

Q. In other words, start date is important?

A. That's right, yes.

Q. Now, with regard to the subsidies beyond the tax credit that you initially discussed in your cross-examination, what would those be in this type of proceeding?

A. So if you were basically giving economic benefits that were ultimately going to be paid for by

1 retail customers, that would be a benefit that goes
2 beyond the -- the tax benefits. The tax benefits are
3 going to be reflected in sort of the base bid price
4 and if that base bid price isn't sufficient to
5 compete in the market and you get benefits beyond
6 that so that you are now viable, that would be
7 additional -- that would be additional subsidies.

8 Q. You were asked some questions about
9 hedge, particularly pertaining to page 70 of I think
10 your report -- or your résumé, I'm sorry. The North
11 Carolina case you referred to, was that for a
12 regulated entity?

13 A. Well, this involved -- the utilities are
14 regulated entities and they are required to buy the
15 output of the unregulated utility-scale solar
16 facilities and so it involved unregulated entities.
17 Those were the owners of the solar projects, and then
18 it would be the regulated utilities that would
19 purchase the output, so it was both.

20 Q. You mentioned hedging in terms of fixed
21 costs in that North Carolina case.

22 A. That's right.

23 Q. What did you mean by that?

24 A. So, for example, if you were to purchase
25 the output of a solar facility at a fixed price and

1 then you were not purchasing that energy on a market
2 with a volatile price, that would be -- there would
3 be hedge value there. But if you purchased the
4 output of the solar facility and that output price
5 was pegged to market output, then there would not be
6 hedge value to that purchase. And so, you need to
7 make the distinction of whether there is any sort of
8 cost stability associated with the purchase
9 agreement; if there is, then there is hedge value;
10 if's there not, then there is no hedge value.

11 Q. All right. And you addressed the hedge
12 value that's asserted in this case beginning at page
13 24 and continuing into -- well, beginning at page 24.

14 A. Correct.

15 Q. And do you find hedge value with this
16 proposal?

17 A. No.

18 MR. HUGHES: Your Honor, I'm sorry. I
19 just wanted to break in to note I believe page 24
20 relates to a topic that was deferred to Phase II.

21 MR. COLLIER: I don't believe it was,
22 your Honor. Not based on the -- and even if it were,
23 there was testimony by Mr. Torpey concerning hedge
24 value and he was asked hedge value on
25 cross-examination.

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1 MR. HUGHES: I think, at this point, we
2 are going beyond the scope of my cross which was
3 limited to this application for the generic projects.
4 I didn't ask details about the project specific
5 hedge.

6 EXAMINER SEE: Page 24 and the
7 information reflected on REB-Exhibit-1 has been
8 deferred to the second phase of these proceedings.

9 Okay. Let's not go any further in that
10 section, Mr. Collier.

11 MR. COLLIER: Okay.

12 Q. (By Mr. Collier) Dr. Brown, when you were
13 asked questions about hedge value in the North
14 Carolina case, what are the important factors for
15 hedge value in that case?

16 A. So in that case, the hedge value -- well,
17 the important things for the value of hedge is what
18 is the volatility of the avoided cash flow and what
19 is the volatility of the purchase agreement with
20 the -- the output of the solar facility. And so,
21 typically in North Carolina, you are going to have
22 some sort of cost certainty when you are purchasing
23 the output, either a fixed price for the duration of
24 the contract or a known escalation, and so that would
25 represent maximum cost certainty and maximum hedge

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1 value.

2 Sometimes you will pay increases in price
3 to -- like a consumer price index that -- that
4 lessens cost certainty and lowers hedge value, and
5 you can go all the way to pegging output to market
6 prices which would then be zero hedge value. And so,
7 that certainty of cash flows is what determines the
8 value of a hedge.

9 MR. COLLIER: With that, your Honor, I
10 have no further questions on redirect, and I move the
11 admission of OCA Exhibit 1 and the attached report.

12 EXAMINER SEE: Okay.

13 MR. HUGHES: Your Honor, just for the
14 record, the Company just wants to make sure that the
15 record reflects the previously -- if this admission
16 would be subject to the previous deferred testimony.

17 EXAMINER SEE: Hold on.

18 Before we get there, any recross of this
19 witness? Mr. Michael.

20 MR. MICHAEL: Yes, your Honor.

21 - - -

22 RECROSS-EXAMINATION

23 By Mr. Michael:

24 Q. Dr. Brown, you just referenced, in
25 response to your counsel, certainty of cash flow. Do

1 you recall that?

2 A. Yes.

3 Q. And from where would the cash come when
4 you were referring to certainty of flow?

5 A. So ultimately when you are dealing with a
6 utility that's purchasing output, it's going to come
7 from the customers, the retail customers. So the
8 retail customers pay their utility bills and that
9 brings cash into the utility. The utility uses that
10 cash to produce the output of the solar facilities.
11 But ultimately the end customer, the purchaser of the
12 retail service, is the source of the cash.

13 Q. And you also discussed, in connection
14 both on cross-examination and redirect by your
15 counsel, pegging the output to market prices; is that
16 correct?

17 A. Correct, yes.

18 Q. And what exactly did you -- pegging the
19 output of the renewables to market prices, is that
20 what you were referring to?

21 A. Yes.

22 Q. And explain to me what you mean by that.
23 How, operationally, would that work?

24 A. So if you have a solar facility and your
25 solar facility is bidding into the -- selling its

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1 energy through a purchase power agreement, you can
2 track basically what that energy would have cost had
3 you purchased that energy at that hour at market
4 prices and that is the price that you would pay for
5 that solar energy. That would be pegging the
6 purchase power agreement price to the wholesale
7 market clearing price.

8 Q. Okay. And what if the output from the
9 renewable facilities were bid into the wholesale
10 market? Would that also be pegging to market prices?

11 A. Well, if you actually bid the energy into
12 the market, then that solar facility is then going to
13 get the market clearing price for that energy, and so
14 now you are just, you know, you are bidding it into
15 the market. You are not selling it bilaterally in
16 that case.

17 Q. Okay. And were that to be the case, in
18 other words, the solar renewable output was bid into
19 the market, would that increase the uncertainty,
20 given the uncertainty in market prices?

21 A. Yes. Typically the volatile day-ahead
22 market prices are going to be clearly more volatile,
23 but, on average, going to be lower than long-term
24 purchase power agreements. That is -- that's the
25 hedge value of a standard purchase power agreement

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1 that has a known price.

2 MR. MICHAEL: Thank you, your Honor. I
3 have no further questions.

4 EXAMINER SEE: Mr. Nugent.

5 MR. NUGENT: No questions, your Honor.

6 EXAMINER SEE: Mr. Kurtz.

7 MR. KURTZ: Oh, no questions.

8 EXAMINER SEE: Mr. Dressel.

9 MR. DRESSEL: No questions, your Honor.

10 EXAMINER SEE: Mr. Dutton.

11 MR. DUTTON: No questions, your Honor.

12 EXAMINER SEE: Ms. Pirik.

13 MS. PIRIK: No questions.

14 EXAMINER SEE: Mr. Dove.

15 MR. DOVE: No questions, your Honor.

16 EXAMINER SEE: Mr. Darr.

17 MR. DARR: No questions. Thank you.

18 EXAMINER SEE: Ms. Glover.

19 MS. GLOVER: No questions.

20 EXAMINER SEE: Mr. McNamee.

21 MR. McNAMEE: No questions, your Honor.

22 Thank you.

23 EXAMINER SEE: Mr. Hughes.

24 MR. HUGHES: No questions.

25 EXAMINER SEE: Counsel for OCA has

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1 already moved for the admission of OCA 2 or -- OCA 2
2 and OCA 2A. Are there any objections?

3 Hearing none, OCA 2 and 2A are admitted
4 (EXHIBITS ADMITTED INTO EVIDENCE.)

5 EXAMINER SEE: Recognizing certain
6 portions of the testimony has been deferred to the
7 second phase of these proceedings.

8 Mr. Hughes.

9 MR. HUGHES: Yes, your Honor.

10 EXAMINER SEE: AEP 18?

11 MR. HUGHES: Yes. I'm sorry. We would
12 move to admit AEP Ohio 18.

13 EXAMINER SEE: Are there any objections
14 to the admission of AEP Exhibit 18?

15 Hearing none, AEP Exhibit 18 is admitted
16 into the record.

17 (EXHIBIT ADMITTED INTO EVIDENCE.)

18 EXAMINER SEE: Thank you, Dr. Brown.

19 THE WITNESS: Thank you.

20 Mr. Collier.

21 MR. COLLIER: I am ready to proceed
22 unless the Bench would like to take a brief recess so
23 we can reshuffle?

24 EXAMINER PARROT: It looked like you
25 already did that, but if you are ready, go ahead.

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1 MR. COLLIER: I call Emily Medine to the
2 stand.

3 (Witness sworn.)

4 EXAMINER PARROT: Please have a seat.

5 MR. COLLIER: Your Honor, at this time, I
6 would like to have marked for the record, OCA Exhibit
7 3, the testimony of Ms. Medine.

8 EXAMINER PARROT: So marked.

9 (EXHIBIT MARKED FOR IDENTIFICATION.)

10 - - -

11 EMILY S. MEDINE

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

14 DIRECT EXAMINATION

15 By Mr. Collier:

16 Q. Ms. Medine, would you state your title
17 and business address.

18 A. Sure. Emily Medine, Principal with the
19 firm of Energy Ventures Analysis. Corporate office
20 is 1901 North Moore Street, Suite 1200, Arlington
21 Virginia 22209.

22 Q. And what's your position with the Energy
23 Ventures?

24 A. I'm a Principal.

25 Q. And do you address your -- the business

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1 of EVA, as well as your résumé, in your report?

2 A. Yes, I do.

3 Q. Ms. Medine, for the record again, there's
4 been a motion to defer certain portions of your
5 testimony. Based on the motion in limine filed by
6 AEP, that would be page 11, lines 10 through 29,
7 addressing REPAs and Green Tariff proposal; page 13,
8 line 24, through page 17, line 26, discussing the
9 RFPs and REPA structure; page 25, line 2, through
10 page 26, line 12, discussing debt equivalency
11 recovery proposal; page 32, line 22, through page 3,
12 line 3, addressing REPA terms regarding disposition
13 of energy capacity generated by the solar facilities.
14 Do you understand that?

15 A. Yes.

16 Q. If I were to ask you the questions in
17 your direct testimony, subject to what's been
18 deferred, would your answers be the same?

19 A. Yes.

20 Q. And would your answers be true and
21 correct?

22 A. Yes.

23 MR. COLLIER: Your Honor, at this time, I
24 move for the admission of OCA Exhibit 3.

25 MR. NOURSE: Your Honor, I wanted to

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1 address a couple of things on the motion to defer. I
2 think there were -- there is a quick but I think
3 incomplete description of what we had moved for.
4 Mr. Collier, among other things I, think misstated
5 page 32, line 22, through page 33, line 3. Also the
6 footnotes that are included and the description that
7 was in the motion that was granted, I think would be
8 controlling here.

9 And, secondly, I wanted to clarify and
10 add a couple of things that were not explicitly
11 covered in our motion but I think are consistent with
12 the argument and the ruling and I think we've
13 adjusted some of this as we go forward in the
14 hearing. In particular, our motion did not mention
15 some of the findings in the front of Ms. Medine's
16 testimony which are just, you know, advanced
17 summaries of those sections that were deferred.

18 So, in particular, I would like to extend
19 the deferral to those summary statements of the
20 findings and, specifically, page 3, Finding 3, which
21 starts on line 23; Finding 4 which starts on line 27
22 of page 3 and goes over to line 2 of page 4; there's
23 also a sentence, at the end of Finding 6, that's
24 lines 14 through 16 on page 4, about the 20-year REPA
25 issue that was deferred; and then Finding 7 in its

1 entirety, page 4, starting on line 18.

2 So those are summary statements in the
3 front of the testimony that relate to the substantive
4 narrative and analysis that was included in the
5 deferral portion of this testimony. So I move that
6 those be added to the deferral ruling.

7 MR. COLLIER: Your Honor, I would state,
8 No. 1, I read from the chart that was attached to the
9 motion so I read exactly what they were moving to
10 strike. It appears now we have an additional motion
11 that includes these findings. And to the extent that
12 they -- the findings relate to items that were
13 deferred at least in theory, I have no problem with
14 that. And will accept that as well.

15 MR. NOURSE: Thank you. As far as the
16 first part, I was just clarifying. I think you
17 misstated one page number when you were reading.

18 EXAMINER PARROT: Actually, that's right
19 out of your motion, so I am glad you -- you didn't
20 intend it to be.

21 MR. NOURSE: So that must have been a
22 typo.

23 EXAMINER PARROT: Page 33. That was
24 something I had earmarked to address today anyway.

25 MR. NOURSE: Okay. Great.

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1 EXAMINER PARROT: It's page 33 through
2 line 3.

3 MR. NOURSE: That's correct. Thank you.

4 EXAMINER PARROT: Okay.

5 MR. NOURSE: I just wanted to mention
6 that before we got into cross.

7 EXAMINER PARROT: Thank you, Mr. Nourse.

8 MR. NOURSE: Thank you.

9 MR. COLLIER: I think the testimony
10 stands in terms of the understanding of the witness
11 that these things have been deferred and we'll
12 attempt to stay within what the Bench has defined as
13 the scope. However, I would also proffer -- well,
14 first of all, I would make a motion to reconsider the
15 issue of debt equivalency because I think that
16 relates particularly to the net benefit along the
17 lines we have discussed before. I am making that for
18 the record.

19 EXAMINER PARROT: And consistent with the
20 Bench ruling from earlier today, noted, but again --

21 MR. COLLIER: Understood.

22 EXAMINER PARROT: Go ahead and make your
23 proffer.

24 MR. COLLIER: I would make the proffer of
25 everything that's been deferred from her testimony.

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1 And the witness -- I move admission, subject to
2 cross-examination, of Exhibit 3.

3 EXAMINER PARROT: Thank you, Mr. Collier.
4 Mr. Michael.

5 MR. MICHAEL: No cross-examination, your
6 Honor. Thank you.

7 EXAMINER PARROT: Mr. Nugent.

8 MR. NUGENT: No questions, your Honor.

9 EXAMINER PARROT: Mr. Dressel?

10 MR. DRESSEL: No questions, your Honor.

11 EXAMINER PARROT: Mr. Dutton.

12 MR. DUTTON: No questions, your Honor.

13 EXAMINER PARROT: Mr. Darr.

14 MR. DARR: No questions.

15 EXAMINER PARROT: Mr. Glover -- I'm
16 sorry. Ms. Glover.

17 MS. GLOVER: No questions, your Honor.

18 EXAMINER PARROT: Sorry.

19 Mr. McNamee.

20 MR. McNAMEE: No questions, your Honor.

21 EXAMINER PARROT: Mr. Kurtz.

22 MR. KURTZ: No questions.

23 EXAMINER PARROT: Mr. Dove.

24 MR. DOVE: No questions, your Honor.

25 EXAMINER PARROT: Ms. Pirik.

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1 MS. PIRIK: No questions, your Honor.

2 EXAMINER PARROT: Mr. Mendoza.

3 - - -

4 CROSS-EXAMINATION

5 By Mr. Mendoza:

6 Q. Good morning, Ms. Medine.

7 A. Good morning.

8 Q. Do you have experience conducting opinion
9 polls?

10 A. Conducting them? No. I do have some
11 experience with polls.

12 MR. MENDOZA: Thank you, your Honor. I
13 have no further questions.

14 EXAMINER PARROT: Mr. Nourse, back to
15 you.

16 MR. NOURSE: Thank you, your Honor.

17 - - -

18 CROSS-EXAMINATION

19 By Mr. Nourse:

20 Q. Good morning, Ms. Medine.

21 A. Good morning.

22 Q. Welcome back to Ohio.

23 A. Thank you.

24 Q. I do want to clarify, at least in my
25 experience, when you and I have been involved in

1923

1 cases in the past in Ohio, you've been an independent
2 auditor for most of those cases; is that correct?

3 A. Yes.

4 Q. But today you are not an independent
5 auditor. You are here as a paid expert witness on
6 behalf of the Ohio Coal Association, correct?

7 A. Yes.

8 Q. Okay. And briefly, on the question
9 Mr. Mendoza asked you, I was going to expand on that
10 a little bit and ask you if you've ever had training
11 or experience in designing or implementing customer
12 surveys.

13 A. It was actually an area that I studied in
14 graduate school. My most recent opinion poll,
15 particularly relevant to this, was related to an
16 engagement I'm currently involved in, in Chugach,
17 Alaska, where there is a community solar project
18 that's underway. And I believe I put into my
19 testimony my experience with that poll and the
20 conclusions that we found from that poll.

21 Q. Right. And that's the extent of your
22 experience relating to design or implementation of
23 customer surveys?

24 A. That's my most recent. It's been a long
25 career.

1924

1 Q. Okay. All right. Now, turning to page
2 22 of your testimony, so you're discussing some EIA
3 data here and stating some relevant -- what you call
4 relevant statements from the 2018 Annual Energy
5 Outlook. Do you see that?

6 A. Yes.

7 Q. And the bullet on line 5 of page 22, you
8 agree this is a valid assumption by EIA?

9 A. Could you say what page again, please?

10 Q. Page 22, the bullet starting on line 5.

11 A. Oh, I'm sorry. Yeah. Yes.

12 Q. All right. And then on 23, line 2,
13 there's a statement -- again, I think this is out of
14 the EIA data report, you are referencing that wind
15 and solar growth, in terms of the projected future
16 growth, account for 64 percent of the total
17 generation growth through 2050? Do you see that?

18 A. Yes. That's a quote.

19 Q. Yeah. And you agree with that.

20 A. I agree with that. I would note that EIA
21 almost -- I think by statute or by some kind of
22 requirement is only able to include what are actual
23 government regulations, but that would extend to
24 Production Tax Credits and ITC. So this is assuming
25 the current ITC stays as is and the Production Tax

1 Credit ultimately disappears, but yes.

2 Q. Okay. But you believe it is a valid
3 assumption to make that renewable generation will --
4 will be expanded and will have support from states
5 and regulators?

6 A. Two points to that. One is I am actually
7 quoting what EIA thinks and I'm suggesting what the
8 government research thinks is reasonable, and I am
9 quoting it as a basis for something for
10 consideration. And the second part, I am not sure I
11 understand what you were saying in terms of
12 regulations and the like.

13 Q. Okay. Well, first of all, I asked you if
14 you agreed with this. I understand you quoted it in
15 the report. I just want to be clear for the record,
16 you agree with this statement?

17 A. I believe it is absolutely relevant.

18 Q. It's relevant?

19 A. Yes.

20 Q. Okay. But do you agree with it?

21 A. I think our forecasts will be slightly
22 different because of different assumptions, but I
23 think it's extremely relevant for consideration that
24 solar is expected to grow with the current level of
25 subsidies without -- it doesn't include a specific

1 state subsidy, for example, which is simply on the
2 basis of the economic analysis that was performed by
3 EIA.

4 Q. So when you -- first of all, when you say
5 "current subsidy," are you referring to the federal
6 tax law?

7 A. I am referring to with respect to solar
8 federal Investment Tax Credit.

9 Q. Okay. Which is part of the federal tax
10 law?

11 A. Correct.

12 Q. All right. And are you saying that EIA
13 assumed that that's the only, quote-unquote, subsidy
14 and that's -- knowing that that's going to be going
15 away soon? Is that what you are saying?

16 A. It's not going away soon. That's the
17 point is that the 10-percent tax credit continues.
18 What goes away is the Production Tax Credit.

19 Q. Okay. But you're saying the only,
20 quote-unquote, subsidy that's embedded in EIA's
21 projection is the federal tax subsidy that you could
22 consider a subsidy?

23 A. What EIA assumes is what is on the books
24 today. So it has some -- it's not just the 10
25 percent. It is what's on the books.

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1 Q. That's the only subsidy through 2050 that
2 EIA would have considered is this tax treatment?

3 That's it?

4 A. For solar, yes.

5 Q. Okay. And, let's see, further down 23,
6 on line 15, you make a statement here that the last
7 statement which I guess refers to, is that the bullet
8 that starts on line 11?

9 A. Yes.

10 Q. "...is directly in conflict with AEP
11 Ohio's position that the commitment for solar should
12 be made immediately...." Do you see that?

13 A. Yes.

14 Q. Okay. Do you agree that -- let's just
15 assume we are all talking about the same federal tax
16 law, but do you agree that the tax incentives on the
17 books do affect the cost of investing in solar today?

18 A. Yes.

19 Q. Okay. And indeed, later in your
20 testimony, on page 36, you are talking about the --
21 you are talking about the policy in the first
22 sentence of the answer that begins on line 4, the
23 policy is supported at both the state and federal
24 level?

25 A. Yes.

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1 Q. Do you see that? And what's the "state"
2 part of that reference there?

3 A. There are some individual states that
4 have mandates for renewable energy.

5 Q. Okay. And then you're going on to state
6 there is a rapid rate of cost decline for wind and
7 solar?

8 A. Yes.

9 Q. Okay. And then if I could ask you to
10 turn to page 36 -- 26, and this is line 14, and you
11 are talking about accelerated retirement of coal
12 units here. Do you see that, line 14?

13 A. Yes.

14 Q. And is it your opinion that Ohio coal
15 units will be forced to retire based on the
16 implementation of 400 megawatts of solar entering the
17 PJM market?

18 A. Not specifically but obviously the
19 cumulative increase in renewables can affect the
20 coal -- the profitability and viability of coal
21 plants.

22 Q. When you say "cumulative increase," can
23 you give me an order of magnitude what you're
24 referring to there?

25 A. In terms of total resources?

1 Q. In terms of renewables.

2 A. Not -- I don't have a number.

3 Q. Okay. So you don't know what -- you
4 don't have an opinion about the -- what the threshold
5 level of renewable -- new renewable generation
6 resources that would cause accelerated retirements of
7 existing coal plants.

8 A. You know, we've done that analysis in a
9 number of different ways. I don't have a number to
10 proffer at this point, but I certainly would have an
11 opinion, subject to analysis.

12 Q. And also just to add to that, it also
13 tends not to be a single number.

14 A. It is a cumulative, over time, outlook.

15 Q. Okay. But you agree it's not 400
16 megawatts.

17 A. It could -- if that's the last plant, it
18 might be.

19 Q. It's not the first -- or the next --

20 A. It may or may not be. It's -- it's not
21 a . . .

22 Q. And do you agree that the addition of
23 natural gas capacity in PJM has a much bigger impact
24 on coal units, existing coal units?

25 A. Actually, I think what has the most

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1 impact on existing coal units is the wind Production
2 Tax Credit.

3 Q. More than natural gas utilities being
4 added?

5 A. Yes.

6 Q. And more than the natural gas prices in
7 the last 10 years?

8 A. You know, it's hard to measure exactly.
9 Obviously there are a number of contributing factors
10 but on -- actually, as we look at the industry as a
11 whole, it is the wind Production Tax Credit that has
12 the most negative impact on coal generation.

13 Q. Let's turn to your Attachment ESM-3, the
14 EVA study from July 2018. Are you there?

15 A. Yes.

16 Q. First, let me ask you to turn to page --
17 or I believe it's the Appendix here, Appendix A to
18 the report starts on page 13 of the ESM-3.

19 A. Yes.

20 Q. Okay. And you have a bunch of units,
21 coal plant retirements since 2014 in PJM, and can you
22 just quickly go through them. You don't have to list
23 all the unit numbers but indicate which plants were
24 AEP-owned plants that retired.

25 A. AEP-ownership position or AEP-operated?

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1 Q. Well, I think most of the ones we operate
2 we also had some ownership, but you can stick with
3 ownership.

4 A. Thank you.

5 So -- and if this is a quiz, let's see,
6 Glen Lyn, I believe Tanners Creek, Big Sandy, Kammer,
7 Kanawha River, Sporn, Clinch River.

8 Q. And I will help you a little bit.

9 A. Did I miss one? Oh, Muskingum.

10 Q. Okay. That's good.

11 A. Sorry.

12 Q. What about Beckjord?

13 A. I can't remember whether you were
14 operating that or you were just owners, that was
15 where my question came from but, yes.

16 Q. And what about Stuart?

17 A. Same issue there.

18 Q. Okay. So were those requirements based
19 on solar resources being added?

20 A. They were related to total market issues.
21 And as I mentioned there are a number of issues in
22 the market. I would be happy to walk through the
23 issues in the market to put it in context.

24 Q. First, you can answer my question.

25 A. Nothing -- there is very little direct,

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1 but I think it contributes to the issues as to the
2 retirements.

3 Q. Do you think the addition of solar in PJM
4 contributed to the retirement of those units we just
5 went through that -- is that your answer?

6 A. It is one of the factors. I mean, as I
7 said, I would be happy to walk through all of the
8 factors, but it is one of the factors.

9 Q. All right. We'll probe in a minute here.
10 So, and I think this is partly where you were going,
11 but let me direct your attention to page 2 of the
12 report, the study, ESM-2, the bullet, first sentence
13 in the bullet under the table, "Merchant power
14 markets like PJM are not structured to compensate
15 coal plants for the reliability and resilience that
16 they provide to the market." Do you see that?

17 A. Yes.

18 Q. Okay. So those are general challenges
19 that PJM has been dealing with for more than a
20 decade, how to properly compensate coal units,
21 correct?

22 A. Coal and nuclear, yes.

23 (Pause in proceedings.)

24 Q. Ms. Medine, your study that we've been
25 discussing, ESM-3, focused on three of the largest

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1 coal-fired stations in PJM; that is Pleasants,
2 Sammis, and Bruce Mansfield?

3 A. Correct.

4 Q. Okay. And would you agree that all three
5 of those plants originally were placed in service by
6 utilities that had rate-base rate of return cost
7 recovery?

8 A. Yes.

9 Q. And I believe Pleasants may be owned by
10 Allegheny Energy; is that correct?

11 A. So actually, as with most things, it's
12 more complicated than that. It had been partly owned
13 by MonPower and then the assets swapped a couple
14 years ago and they ended up moving Pleasants entirely
15 to AE Supply.

16 Q. Allegheny -- sorry, go ahead.

17 A. But as part of the bankruptcy, the
18 creditors received Pleasants into FirstEnergy
19 Solutions, so now technically it's now part of the
20 FirstEnergy Solutions.

21 Q. Okay. And Sammis and Bruce Mansfield are
22 also FES?

23 A. They are -- today, they are FES. Of
24 course, when they were built, it was a different
25 company name.

1 Q. Yeah. That's my next question. So
2 originally they were FirstEnergy utilities that --
3 that owned them?

4 A. I actually think it was -- for Mansfield,
5 it was a different company name when it was first
6 built but, yes, I'll accept where you are.

7 Q. Let me ask it this way: In 1999, when
8 Ohio began its restructuring and deregulation, Sammis
9 and Bruce Manfield -- Mansfield were owned by
10 FirstEnergy operating companies?

11 A. Yes.

12 Q. And the plants are in rate base for their
13 Ohio ratepayers at that time?

14 A. So I don't think that Pleasants was Ohio
15 ratepayers. I believe Pleasants would have been West
16 Virginia ratepayers.

17 Q. Okay. All right. So let's go back to, I
18 just wanted to clarify that for the record, the
19 context of your study. Let me go back to the
20 discussion we were having about PJM and the -- your
21 view that the PJM market is not structured to
22 properly compensate coal, coal plants. So would you
23 agree that fuel diversity is a positive attribute for
24 PJM to pursue?

25 A. As a generic statement, sure.

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1 Q. Yeah. And do you think PJM does promote
2 fuel diversity or pursue that as a goal in the
3 development of its markets?

4 A. I think it's -- it is -- does promote it,
5 and I think there are some legacy issues, again
6 partly due to the PTC on wind that have made it more
7 difficult to maintain the coal plants in the context
8 of PJM.

9 Q. Okay. And, next, I wanted to ask you
10 about two of the documents I handed to you. I don't
11 think we need to mark them as exhibits; but, excuse
12 me, the single page that I gave you, you can see is
13 from PJM's website and there's a section called "Fuel
14 Security" and there's a FAQ, frequently asked
15 questions --

16 A. Yes.

17 Q. -- tab. Do you see that?

18 A. Yes.

19 Q. And then the multi-page document I gave
20 you was the Fuel Security FAQs from the PJM website,
21 and it's dated November 21, 2018. Do you see that?

22 A. Yes.

23 Q. And then on the second page, I
24 highlighted Question 14, "Why isn't PJM focusing on
25 fuel diversity?" Do you see that?

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1 A. I see where you've highlighted it, yes.

2 Q. Do you see that question?

3 A. Yes.

4 Q. Can you read the answer?

5 A. "Fuel" --

6 MR. DARR: Objection, your Honor. I
7 mean, this is a classic example of reading somebody
8 else's work into the record. I believe you put
9 some -- some restrictions on that.

10 MR. NOURSE: I'm sorry, what? Do you
11 want me to respond? Your Honor, I think this is very
12 germane to these proceedings. I think it's very
13 common for us to rely on PJM and similar documents,
14 and so I am asking her to read the answer as a
15 background for my next question.

16 EXAMINER PARROT: Before we do that, I
17 guess let's establish -- excuse me, establish some
18 foundation as to whether she's seen this before.

19 Q. Well, are you a PJM expert, Ms. Medine?

20 A. I'm familiar with the market. I am not
21 an expert on PJM.

22 Q. Okay. And you've -- you've reviewed PJM
23 reports and documents before in your line of work?

24 A. I have but I have not reviewed this
25 document.

1 Q. Okay. So do you trust and rely on PJM
2 reports that you get from their website?

3 A. Generally but, like anything else, trust
4 but verify.

5 Q. All right. So, yeah. I want you to read
6 the answer, and then I have some questions about it.

7 MR. DARR: Same objection, your Honor.
8 This is proper for possibly rebuttal testimony but
9 it's not proper for cross-examination.

10 MR. NOURSE: Your Honor, you know, this
11 is what all of us do, so I don't know why Mr. Darr's,
12 you know, trying to raise this, you know, barrier to
13 my question. It's a PJM document. She's talking
14 about the PJM markets extensively in her report. So,
15 you know, surely if we can pull in testimony from
16 other contested proceedings, we can talk about an
17 official PJM document for the record.

18 EXAMINER PARROT: The objection is
19 overruled with the caveat, Ms. Medine, as we have
20 done with other witnesses in the proceeding, please
21 feel free to give a full and complete response to
22 Mr. Nourse's questions.

23 A. I'm happy to read a PJM document. I am
24 just glancing through this, I would say though,
25 however, there are a number of questions and answers

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1 that if we are going to submit one, we should be
2 providing all of them that were relevant. For
3 example, the last one is "What's the next step," and
4 it says "While there is no imminent threat, fuel
5 security is vital."

6 Q. Okay. Can you go back and read the one I
7 asked you to read?

8 A. The PJM -- just for the record, the PJM
9 document says "Why isn't PJM focusing on fuel
10 diversity?" And the response is "Fuel diversity is
11 more of a potential outcome that -- than solution in
12 and of itself. Unlike fuel security, fuel diversity
13 does not signal requirements needed by system
14 operators to ensure the continued service of
15 electricity through credible disturbance events. One
16 potential of fuel secure system may be a fuel diverse
17 system."

18 Q. And thank you.

19 MR. NOURSE: And, your Honor, Ms. Medine
20 said she wanted to have the other questions and
21 answers in, I am happy to mark this as AEP Ohio
22 Exhibit 19, so we have all the FAQs from PJM's fuel
23 security portion of its website.

24 EXAMINER PARROT: Hold on. I'm sorry.
25 So marked.

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1 (EXHIBIT MARKED FOR IDENTIFICATION.)

2 Q. Ms. Medine, is it your -- is it your view
3 that the -- that PJM actively pursues fuel diversity
4 as a goal in its market development?

5 A. I think what I just read and what I
6 believe the document says is fuel security is a
7 concern and, as a result of the concerns about fuel
8 security, there may be diversity, fuel diversity.

9 Q. I am asking you your opinion now as
10 either reflected in this document or not reflected as
11 to PJM. Do they pursue fuel diversity as a goal in
12 the development of their markets?

13 A. Apparently only to the extent it results
14 in fuel security.

15 Q. And do you think, and more specifically,
16 does PJM promote development of renewable generation
17 resources as a means to the end of fuel diversity?

18 A. Do you have a specific document you would
19 like me to refer to?

20 Q. No, I am asking your opinion.

21 A. My opinion is I'm not certain exactly
22 what they do with respect to promoting renewables.

23 Q. Are you aware of the MOPR proposal that's
24 pending?

25 A. Only -- I would not provide any testimony

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1 on that.

2 Q. Are you aware that the MOPR is aimed, in
3 part, at renewable resources?

4 A. Not specifically.

5 Q. Are you aware of the effect, if the MOPR
6 is adopted, on renewable resources?

7 A. Since I have not read the MOPR, I cannot
8 opine.

9 Q. Okay. You haven't read it.

10 Let me ask you generally about renewables
11 and the economics associated with renewable
12 generation being added to PJM. Would you agree that
13 a new renewable facility in PJM is more of an energy
14 play than a capacity play?

15 A. I think it varies, not -- it's not
16 specific. I think the solar and the wind are very
17 different, so solar can be more of a capacity play.
18 Wind is clearly an energy play.

19 Q. Okay. When you say solar can be a
20 capacity play, can you expand on that statement?

21 A. Sure. The new cap percentage is much
22 higher for solar than it is for wind.

23 Q. And so -- and then let's assume that --
24 well, me let ask it this way: Would you agree that a
25 new renewable generation resource in PJM can be

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1 economical without capacity revenue?

2 A. Very few sources in PJM can be economical
3 without capacity revenue.

4 Q. And I am asking you about -- let's -- let
5 me ask you about solar in particular. A new solar
6 generation resource in PJM, is it your view that
7 could be economic without capacity revenue?

8 A. My opinion, subject to check, is no.

9 Q. Okay. Now --

10 A. Excuse me, just for clarification. We
11 are talking about utility-scale solar.

12 Q. Yes.

13 A. Not behind-the-meter solar.

14 Q. That's what I was asking you about.
15 Thank you for that clarification.

16 Now, let me ask you the other one -- the
17 big document I put in the corner of your table there
18 is the direct testimony of Kevin Murray. It's
19 already in the record. It's IEU Exhibit 1. And I
20 have marked, with a yellow sticky, pages I am going
21 to ask you about. It's part of KMM Exhibit 2 and
22 it's at page 593.

23 First of all, let me make sure you
24 understand what this is. It's part -- it's a PJM
25 document. Again, we've freely admitted PJM documents

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1 into this record. PJM 21 -- it's 2021, 2022, RPM
2 base residual auction -- I'm sorry, that's not the
3 title. I'm sorry, it's KMM-3. I have got an
4 untabbed copy here.

5 Give me one second. I'm sorry. I am
6 just trying to get the front page of this document.
7 Here it is.

8 It's KMM-3 and it's Generation and
9 Transmission Planning Overview, 2018, Monitoring
10 Analytics, LLC. So it's the PJM Market Monitor. Are
11 you with me, Ms. Medine?

12 A. I went to the -- I'm sorry, I thought you
13 were talking. Are you still in Mr. Murray's
14 testimony?

15 Q. Yeah. It's KMM-3. I'm sorry, I said the
16 wrong number earlier. It is part of KMM-3 and it's
17 the Market Monitor Report and it's page 593.

18 A. Yes, I have it.

19 Q. Okay. And Table 12 is titled "Existing
20 PJM Capacity as of September 30, 2018." Do you see
21 that?

22 A. Yes.

23 Q. Okay. Can you take a second to look at
24 this chart and see if it's consistent with your
25 understanding of PJM capacity.

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1 A. The total is. I can't check with the
2 individual, but I'll assume it's fine.

3 Q. Okay. So let me ask you a few questions
4 about this table. First of all, solar is listed
5 toward the right. Solar resources total 1,359 if we
6 round up. These are megawatts. Do you see that?

7 A. Yes.

8 Q. And that's out of a total PJM capacity of
9 195,488 megawatts, correct?

10 A. Yes.

11 Q. Which is approximately 0.7 percent,
12 correct?

13 A. Subject to check, yes.

14 Q. And I asked you about natural gas
15 earlier, so the subject of those two columns, the
16 Combined Cycle column and the CT-Natural Gas column,
17 do you see those?

18 A. Yes.

19 Q. 43,063 for combined cycle, correct?

20 A. Yes.

21 Q. And CT-natural gas is 25,388, correct?

22 A. Correct.

23 Q. If we add those together, it's 68,451,
24 subject to check?

25 A. Okay.

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1 Q. And that is approximately 35 percent of
2 the 195,488, correct?

3 A. Yeah. The only caveat I will make is
4 obviously the CT is meant for peaking as opposed to
5 baseload generation. I'm sorry.

6 Q. And so back to your report, please.
7 ESM-3, page -- page 2 and going over to page 3, your
8 discussion there is you're saying that -- you're
9 first discussing the coal units and characteristics,
10 and then you say "This is in contrast to natural gas
11 plants, which can economically turn off during
12 periods of low demand and low prices, and subsidized
13 renewable plants (wind and solar), which have
14 negligible operating costs (thus not forced to
15 operate at a loss)." Do you see that?

16 A. Yes.

17 Q. Okay. And as I was asking before whether
18 you thought the coal -- in your study, whether the
19 retirement of coal units was driven more by natural
20 gas than renewable. Would you agree, based on the
21 numbers we just went over, 35 percent natural gas in
22 the PJM market, capacity market, and 0.7 percent
23 solar, would you agree that natural gas plants have a
24 bigger impact on the retirement of coal units?

25 A. So I think, as I mentioned, that the

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1 primary impact of renewables on coal generation is
2 wind and not wind and solar. And, again, I am happy
3 to explain why, but that actually -- that sentence
4 really refers to the impact of wind on coal capacity.

5 Q. Well, it says "wind and solar," correct?

6 A. It does, correct.

7 Q. And my question is about natural gas. Do
8 you need that question reread?

9 A. No. I understand the question. I am --
10 I would like to give a fuller explanation.

11 Q. Please do.

12 A. So the issue is that with the Production
13 Tax Credit, wind is subsidized and that the only time
14 you earn the Production Tax Credit is when you are
15 selling the wind into the market. What the net
16 effect of that has been is basically for wind power
17 to be dumped into the overnight market at very lower
18 or negative pricing.

19 Given the characteristics of coal versus
20 gas, the coal plants must maintain minimum load, so
21 it can suffer significant losses overnight, that even
22 when it's more economic during the day with respect
23 to gas, it cannot compete because it cannot overcome
24 the incurred losses overnight, and so it is not a
25 single relationship between gas and coal. We must

1 include other factors.

2 Q. So, but going back to my question, are
3 you saying that wind has a bigger impact on coal unit
4 retirements than -- than gas, natural gas?

5 A. I am saying, as I said, it's a
6 multifactorial approach. I can go through the other
7 factors as well, but clearly there are many factors,
8 of which gas is one, but wind is one as well.

9 Q. I understand there are many factors. I
10 am asking you, in a relative sense, which is more
11 significant.

12 MR. MICHAEL: Objection, asked and
13 answered twice.

14 MR. NOURSE: I disagree, your Honor. I
15 am trying to get an answer.

16 A. The reason --

17 EXAMINER PARROT: Overruled. Go ahead,
18 Ms. Medine. Go ahead.

19 A. The reason that you can't look at them
20 independently is if gas didn't have the operating
21 characteristic to be able to go down to zero
22 overnight, then you might have something different,
23 so it's a combination of, A, surplus gas in this
24 area, B, the fact that you cannot economically
25 operate many coal plants overnight. And those I

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1 would say would be the two top factors but there are
2 others.

3 Q. Okay. And, again, to be clear when you
4 refer to wind as a subsidized resource, you are
5 talking about the federal tax code?

6 A. I am talking about the very significant
7 Production Tax Credit.

8 Q. Which is part of the federal tax code?

9 A. I can't --

10 Q. Right?

11 A. Yes.

12 Q. I am just trying to find --

13 A. No. I just don't know.

14 Q. -- things we can agree on.

15 A. Yes.

16 Q. Okay. Thank you.

17 Let me ask you about fuel diversity.
18 Shift away from PJM and look at a state commission
19 like the PUCO. Is it your opinion that fuel
20 diversity is a valid factor for consideration in the
21 context of integrated resource planning cases before
22 the PUCO?

23 A. It is one factor but it is not -- I am
24 not sure I would put it up there in the top five, but
25 it is one factor.

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1 Q. And I asked you whether it was a valid
2 factor, so your answer is yes?

3 A. It is a factor.

4 Q. Thank you.

5 Now, do you know whether Ohio energy
6 policy incorporates energy supply diversity as a
7 goal?

8 A. I believe it does. I have the language.
9 I have looked at the language. I would only counter
10 that there is the alternative energy rider which
11 actually deals with the state mandates. And -- and
12 as part of that state mandate, it did specify
13 renewable targets that have to be met over time, and
14 as I am sure you recall, the original version of that
15 provided for a requirement that at least 50 percent
16 of the targets we had in state, and those targets
17 were eliminated.

18 Q. Okay. Would you agree that cycling of
19 coal units continue to be -- well, continue to be
20 needed with the addition of intermittent generation
21 such as solar and wind?

22 A. I am not sure I understand the question.

23 Q. Okay. Would you agree that when
24 intermittent generation resources are added to PJM,
25 that that will continue the need for fossil

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1 generation units to cycle correspondingly to the
2 intermittent nature of those renewable resources?

3 A. A couple of things. I am not sure if you
4 are talking about in 2020, or are you talking about
5 2040?

6 Q. You can address both.

7 A. Okay. So obviously in 2020 that's true.
8 But obviously with improvements in battery storage
9 and other innovations and the whole process, I think
10 eventually over time you will see a number of
11 utilities aspiring to 100 percent renewables by 2040,
12 2050.

13 Q. That's your view of the future?

14 A. It is a view of the future. I'm just
15 explaining what other utilities are doing. And it
16 is -- it is -- there are utilities, for example, I
17 mentioned Consumers Energy, that are -- NIPSCO that
18 are looking to basically go almost fully renewable by
19 some point in the future.

20 Q. And their state commissions would have to
21 go along with that, right?

22 A. Well, it's part of their integrated
23 resource plans but that's -- in both of those cases
24 the utilities are regulated. It's a little bit
25 different than Ohio where generation is not

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1 regulated.

2 Q. But that's your view of the future, 2040?

3 A. I am not saying I agree with it. I am
4 just saying it is utilities, that are serious
5 utilities that are out there, that's what they are
6 basically proposing for their future.

7 Q. Now, you mentioned a few minutes ago
8 the -- the Ohio's renewable mandate and how the --
9 how the in-state requirement had been eliminated. Do
10 you recall that?

11 A. Yes.

12 Q. And you talk a little bit about that on
13 page 31 of your testimony. And one of your
14 statements you make on line 10 is that "The
15 elimination of the in-state solar requirement
16 reflected higher costs associated with the in-state
17 procurement." Do you see that?

18 A. Yes.

19 Q. When you say "reflected," are you
20 saying -- are you claiming that the higher-cost Ohio
21 RECs was the reason the General Assembly eliminated
22 the in-state procurement mandate?

23 A. I believe that to be the case.

24 Q. What's your basis for that?

25 A. I was the auditor at that time for -- on

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1 behalf of the Commission for -- for AEP -- I mean,
2 chosen to be the auditor of AEP which is also
3 included the AER, and I believe it may have been
4 discussed in some of the meetings.

5 Q. Well, is there something in the statute
6 that says that?

7 A. The reason? Not to my knowledge.

8 Q. Okay. Are you aware of any
9 interstate-commerce issues that were raised about the
10 in-state requirement?

11 A. Not specifically.

12 Q. Do you know what "burden on interstate
13 commerce" means in a legal sense?

14 A. Yes, I do. The only thing I would point
15 out is these targets were put in place a number of
16 years before they were amended. So I guess the
17 challenge could be happening on an interstate basis,
18 I just wasn't aware of it.

19 Q. Okay. But you really -- did you talk to
20 any legislators that voted for Senate Bill 310?

21 A. No, I did not.

22 Q. Okay. Now -- well, let me ask you, at
23 the bottom of page 31, you are talking about the
24 derivative benefits in line 16 and 17 of in-state
25 solar. Do you see that?

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1 A. Yes.

2 Q. What are you referring to there?

3 A. What's being discussed in the current
4 proceeding, in terms of employment, et cetera.

5 Q. Jobs --

6 A. Jobs.

7 Q. -- as part of that? Additional tax
8 revenues as part of that?

9 A. Yes.

10 Q. Long-term capital investment in Ohio --

11 A. Yes.

12 Q. -- part of that?

13 A. Okay. By the way, on line -- the earlier
14 lines where there is a quote, that was actually the
15 quote from the audit report we prepared, so that's
16 the support.

17 Q. So you are quoting yourself?

18 A. Yes.

19 Q. Good. I saw that.

20 Okay. Let me ask you to turn to page 34.

21 A. 34 of which document?

22 Q. Your testimony. And at the bottom of the
23 page, line 29, could you read that sentence?

24 A. This is relating to Navigant on that
25 page?

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1 Q. The last line of page 34, there is a full
2 sentence in your testimony. Could you read that
3 aloud?

4 A. Yes. Sure. "Customers support the
5 development of renewables in Ohio if they are
6 cost-competitive."

7 Q. Okay. And do you agree that if the
8 Commission deems the price of utility-scale solar to
9 be competitive, that will support a finding of need?

10 A. No.

11 Q. And if ratepayers are going to
12 financially benefit from the proposal, would you
13 support the proposal?

14 A. No.

15 Q. Okay. Page 35, you raise a new topic
16 here starting at line 7, "More importantly, the
17 Settlement agreement," which is referring to the PPA
18 Rider settlement agreement, "contemplates bilateral
19 PPAs whose output would be purchased by retail
20 customers." Do you see that?

21 A. Yes.

22 Q. Okay. Now, so it's your understanding
23 this is -- well, you don't cite anything here. What
24 are you talking about?

25 A. I think if you go back to the beginning

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1 of my testimony, I do provide information that cites
2 that. I believe it refers to the Opinion and Order.
3 I don't seem to have the exact language here.

4 Q. Did you review the Opinion and Order?

5 A. Yes, I did.

6 Q. And you concluded that the Commission
7 directed AEP Ohio to pursue retail bilateral purchase
8 agreements?

9 A. I'm not sure I'd use the word "directed,"
10 but that could be done as well.

11 Q. Okay. And so, is it your understanding
12 that the Commission -- well, first of all, did you
13 read any other orders or pleadings in that case
14 relating to that topic?

15 A. Probably but I was trying to sort of do
16 the forensic work to figure out how the whole thing
17 evolved.

18 Q. Okay. But did you review the Company's
19 application on this exact topic --

20 A. I think.

21 Q. -- seeking clarification?

22 A. I think I looked mostly at the orders.

23 Q. Did you look at the Second Entry on
24 Rehearing that responded to the Company's application
25 for clarification?

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1 A. I saw that there.

2 Q. Okay. Well, if you were wrong about the
3 Commission's intention regarding retail purchase
4 agreements, then this would not be an additional
5 factor that the Commission should consider here,
6 right?

7 A. Correct.

8 Q. Okay. Can you turn to page 37. So on
9 line 15 you refer to merchant generators?

10 A. Yes.

11 Q. What's your definition of a merchant
12 generator?

13 A. A merchant generator is anybody who's not
14 getting cost recovery through a -- through
15 a regulated -- it's not getting cost recovery.

16 Q. Would you agree, relative to renewable
17 projects, that most utility-scale renewable projects
18 are supported by a long-term power purchase
19 agreement?

20 A. I think my point here is that that had
21 been the case and there is evolution in that market
22 as well. And the two citations I provide demonstrate
23 that PPAs or certainly a 20-year PPA may not be
24 needed.

25 (Pause in proceedings.)

1 Q. Okay. Ms. Medine, we were talking about
2 PPAs to support renewables, and is it your opinion
3 that the -- in the PJM market that large-scale or
4 utility-scale renewable projects can be developed
5 without the PPAs?

6 A. I think that's worth pursuing.

7 Q. And are you aware, in Ohio, of any
8 utility-scale renewable projects that have occurred
9 with or without PPAs?

10 A. I have seen a list of projects proposed.
11 I am not sure where they are in their development
12 process.

13 Q. Okay. And are you aware of any Ohio
14 renewable project that's utility scale that has been
15 developed without a PPA?

16 A. Not off the top of my head, but I'll
17 continue to go back to the AER obligations which, in
18 theory, would have supported such projects because of
19 the passthrough because of the rider, and I will note
20 that the recently-completed audit of the AEP AER
21 shows that the primary reason its costs are much
22 higher than other utilities is because of the use of
23 PPAs. So I am not sure that an example of history is
24 the way to say that because people did it one way is
25 the way to do it going forward.

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1 Q. Okay. We'll reserve your further
2 opinions on that until perhaps we meet again in the
3 AER proceeding in the future, Ms. Medine, but let
4 me -- let me shift to another topic.

5 So are you familiar with OVEC, the Ohio
6 Valley Electric Company?

7 A. Certainly.

8 Q. Okay. And you are familiar that OVEC has
9 coal units including a coal unit in Ohio?

10 A. Yes, I am.

11 Q. And do you support cost recovery, as part
12 of AEP Ohio's ESP, of the OVEC coal units?

13 MR. MICHAEL: Objection, relevance.

14 MR. COLLIER: Objection, that's not
15 right. That was a subject of a different proceeding.

16 MR. NOURSE: Well, your Honor, I am
17 trying to get a full understanding of her different
18 opinions and how they relate to regulatory policy, so
19 I think it's relevant.

20 MR. COLLIER: Different issue, different
21 case. Different circumstances.

22 EXAMINER PARROT: And I think, as we have
23 allowed with other witnesses, we've had some
24 questions on this subject. So go ahead, Ms. Medine.

25 A. I have not studied the outcome of the ESP

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1 case with respect to OVEC other than knowing that
2 there is an OVEC-related rider.

3 Q. So you have no opinion on whether that --
4 those coal units should be supported by regulatory
5 cost recovery?

6 A. It's obviously a much more complex
7 situation given the vintage of those units and their
8 role that they play in the State of Ohio, so I don't
9 think this is a simple answer to that question.

10 Q. Yes, it's always complex, isn't it?

11 A. It is always complex.

12 MR. NOURSE: All right. Thank you,
13 Ms. Medine. That's all I have for now.

14 EXAMINER PARROT: Any redirect?

15 MR. COLLIER: I think very briefly, your
16 Honor.

17 - - -

18 REDIRECT EXAMINATION

19 By Mr. Collier:

20 Q. Ms. Medine, you were asked questions
21 about what's been marked as AEP 19. Do you still
22 have that?

23 A. That's the PJM?

24 Q. Yes.

25 A. Yes.

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1 Q. All right. And this is -- what is this
2 document as you understand it?

3 A. It looks like something from the website
4 that talks to frequently asked questions related to
5 PJM fuel security.

6 Q. And I would like to direct your attention
7 to the sixth-frequently-asked question. And it
8 states: "No. PJM is fuel neutral." You were asked
9 questions about fuel diversity. Does PJM -- does PJM
10 take the position of fuel neutral?

11 A. Well, this is what PJM has said about
12 PJM, and I think what we talked about a little bit is
13 that given what their goal is, they may not be fuel
14 neutral which is fuel -- fuel supply security.

15 Q. What about reliability? What does PJM
16 conclude to reliability of the PJM system?

17 A. It's not on this document, right?
18 Obviously reliability is one of the reasons it
19 exists, so it's very concerned about reliability.

20 Q. Well, I will direct you to Question 5.

21 A. Okay.

22 Q. PJM has no reliability concern about the
23 system in the short term or the long term.

24 A. That question basically says that when
25 they had looked at reliability issues previously,

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1 they had not found a problem. Going forward, there
2 are concerns given the change in the mix of
3 generating resources. That's my summary.

4 Q. You were asked questions about the fuel
5 or the generation mix in the PJM system.

6 A. Yes.

7 Q. Do you remember that, I think in
8 reference to Mr. Murray's testimony, do you
9 understand fuel generation includes coal and natural
10 gas --

11 A. Yes.

12 Q. -- renewables?

13 A. Nuclear.

14 Q. Nuclear, other?

15 A. Other.

16 Q. And in terms of the relative generation
17 mix, coal, nuclear, and gas play a significant role
18 in the generation mix of PJM?

19 A. They do.

20 Q. You were asked questions about the
21 declining costs of solar which you address in your
22 testimony.

23 A. Yes.

24 Q. You understand the proposal here is to
25 have a fixed REPA for a 20-year term?

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1 A. That's my understanding.

2 Q. All right. So do you have any concern
3 with declining solar costs in light of a proposal to
4 fix a REPA for a 20-year term?

5 A. Yes.

6 Q. What are those concerns?

7 A. The concern is that evolution in the
8 market, first of all, historically we've seen a large
9 reduction in pricing for solar and wind; therefore,
10 committing to something on a 20-year basis sort of
11 limits the opportunity to take advantage of market
12 advances.

13 I generally think a 20-year contract is a
14 bad idea because somebody is going to be a winner and
15 someone is going to be a loser and, unfortunately,
16 it's the customers that are the loser and so it's not
17 a good strategy. We don't promote that in any areas,
18 particularly if there is no out for, perhaps, a
19 renegotiation or a buyout.

20 Q. You talked about wind production based on
21 the Production Tax Credit with Counsel. Do you
22 recall that?

23 A. Yes.

24 Q. The Company has indicated the value of
25 the Production Tax Credit is \$24 per megawatt-hour at

1962

1 least at this point in time.

2 A. That's correct.

3 Q. Is that your understanding?

4 A. That's my understanding.

5 Q. What implication for the market does it
6 have if wind receives a 24-percent per megawatt-hour
7 production capacity credit?

8 A. That -- because they only get the
9 Production Tax Credit when they produce, it basically
10 means that, you know, up to \$24 they are better off
11 selling it negative than not getting the value of
12 that, so that basically encourages negative pricing
13 overnight if the market is low in order to get
14 whatever value they can out of that Production Tax
15 Credit.

16 Q. You were asked questions leading up to
17 and including your conclusion at page 37 of your
18 report. Would you turn your attention to that.

19 A. Yes.

20 Q. And what is your ultimate conclusion, so
21 we can put this in context? Directing your attention
22 to the question at page -- at line 10.

23 A. My conclusion, and I think it's supported
24 by independent research from, or publications such as
25 EIA, is that solar growth is inevitable over time and

1963

1 it does not require subsidies to support it.

2 Q. Does not require special cost recovery
3 mechanisms to incent?

4 A. Sounds good, yes.

5 Q. And what are those special cost recovery
6 mechanisms to incent?

7 A. It could be a variety of things. It
8 could be sort of increasing the mandate, the
9 renewable mandates in the state, to go from where
10 they are to a higher level. They could be basically
11 not forcing the market to enter into -- forcing -- or
12 allowing, I should say, AEP Ohio to enter into a
13 20-year agreement, without any kind of outs, to take
14 advantage of changing market conditions. It ignores
15 the fact that there are merchant generators out there
16 or aggregators out there that would be willing to
17 sell that product in a different way without the risk
18 to customers.

19 Q. Is there anything, based on PJM, FERC, or
20 the Commission, that would preclude AEP energy or AEP
21 renewable resources to develop 400 megawatts on its
22 own?

23 A. I don't believe so. As long as it's not
24 being forced to sell that through a nonbypassable
25 rider. And the only other thing I would mention

1964

1 coming back to that is that to the extent there is
2 demand, there are other alternatives that could be
3 explored, further explored in the state, for example
4 as I mentioned earlier, community solar is basically
5 a way for the utilities to support the needs of
6 customers or the -- I shouldn't say needs -- the
7 desires of customers to support solar without
8 making -- making it on a voluntary basis.

9 In my testimony, I think I say 42 states
10 now have it. And believe me, if they can do it in
11 Alaska, they can do it anywhere. Because the only
12 place -- there is not a lot of solar resources in
13 Ohio but there is even less in Alaska. So that gives
14 customers an opportunity to participate.

15 There is no limit on how much community
16 solar could be developed and it's a way to basically
17 support the desires of customers to increase their
18 renewable generation without encumbering all
19 ratepayers through a nonbypassable rider.

20 MR. COLLIER: Thank you. That's all the
21 questions I have on redirect.

22 EXAMINER PARROT: Mr. Michael?

23 MR. MICHAEL: No questions, your Honor.

24 EXAMINER PARROT: Mr. Olikier?

25 MR. OLIKER: No, thank you, your Honor.

1965

1 EXAMINER PARROT: Mr. Dressel?

2 MR. DRESSEL: No questions, your Honor.

3 EXAMINER PARROT: Mr. Dutton.

4 MR. DUTTON: No questions, your Honor.

5 EXAMINER PARROT: Mr. Darr.

6 MR. DARR: No questions, your Honor.

7 EXAMINER PARROT: Ms. Glover.

8 MS. GLOVER: No questions, your Honor.

9 EXAMINER PARROT: Mr. McNamee.

10 MR. McNAMEE: No questions, your Honor.

11 Thank you.

12 EXAMINER PARROT: Mr. Kurtz.

13 MR. NOURSE: Ms. Medine --

14 EXAMINER PARROT: Mr. Kurtz, sorry.

15 MR. NOURSE: I am sorry. I didn't hear
16 that. Go ahead.

17 MR. KURTZ: Thank you. I'm thinking.

18 EXAMINER PARROT: I can tell.

19 - - -

20 RECROSS-EXAMINATION

21 By Mr. Kurtz:

22 Q. Just very briefly about the economic
23 impact. I appreciate you looking out for consumers,
24 that's good, but what's the worst-case scenario under
25 this fixed-price REPA for consumers?

1966

1 A. For consumers' energy? Oh, "consumer"
2 customers?

3 Q. Yes.

4 A. I thought you were asking about
5 consumers' energy. Oh, that the price will be way
6 out of market.

7 Q. Well, I mean, the price is basically
8 fixed at \$36 million a year, right?

9 A. Okay.

10 Q. Okay. So what -- so if -- and they are
11 going to sell it, they are going to sell it at the
12 PJM market price and recover or credit the
13 difference. What's the worst-case scenario for
14 consumers?

15 A. Can I cite my Exhibit ESM-1, even though
16 it's deferred but it's not really relevant to the
17 deferral items?

18 MR. NOURSE: I mean, if Mr. Kurtz is
19 asking about the ultimate costs, I think that is a
20 Phase II issue.

21 MR. KURTZ: No, I am asking about the
22 generic one.

23 A. Obviously it's significant. Every dollar
24 counts, and I don't think customers would appreciate
25 paying more money than they need to, so there's --

1967

1 whatever that number is, divided by 2 or divided by
2 -- or times .2, you know, .75 or divided by whatever,
3 there is a downside risk.

4 Q. Well, let me just ask: How many megawatt
5 hours does AEP have, retail, in Ohio?

6 A. I don't have those numbers.

7 Q. 43 million today?

8 A. I guess I sort of disagree with the
9 fundamental part of your question. If there is a
10 customer risk, I don't think regardless of whether it
11 is 1 megawatt-hour or a million, that one should
12 ignore the fact that you are knowingly entering into
13 a contract that has a high risk that it's going to be
14 out of the money.

15 Q. There's also a -- there's also a
16 possibility, probability, that it will be in the
17 money, depending on what PJM market prices do. Isn't
18 that true?

19 A. If I were a betting person, I would guess
20 it would not be.

21 MR. KURTZ: Okay. Thank you, Ms. Medine.

22 EXAMINER PARROT: Mr. Dove?

23 MR. DOVE: No questions.

24 EXAMINER PARROT: Mr. Mendoza.

25 MR. MENDOZA: Briefly, your Honor.

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RECROSS-EXAMINATION

By Mr. Mendoza:

Q. Ms. Medine, do you recall questions your counsel asked about PPAs and REPAs?

A. Yes.

Q. I believe you said a 20-year contract is generally a bad idea?

A. Subject to the specific terms of the contract, yes.

Q. Okay. And you would agree with me that the current OVEC contract is a 30-year contract, right?

A. I really am not focused on that, I'm sorry.

Q. Okay. Let's assume, subject to check, that when the OVEC contract was renewed in 2010, it was extended until 2040, just as a hypothetical, would you think that a 30-year coal contract is generally a good idea?

MR. COLLIER: Objection. The question assumes so many variables and assumptions and contested proceedings and prior findings and rationale for it that have nothing to do with this and, more importantly, the witness has not expressed

1969

1 any opinion on the OVEC issue, and OVEC is not a
2 renewable that is subject to this case.

3 MR. MENDOZA: Your Honor, in response to
4 one of Mr. Nourse's questions, the witness said she
5 was very familiar with OVEC. But in any case, I
6 asked her to assume, for the sake of a hypothetical,
7 that it's a 30-year contract and, you know, I think
8 it minimally goes to bias if the witness thinks that
9 a 20-year solar contract that's at a much smaller
10 cost is generally a bad idea, and so I just want to
11 know what she thinks about that, a 30-year coal
12 contract.

13 EXAMINER PARROT: The objection is
14 overruled.

15 Go ahead, Ms. Medine.

16 A. So, first of all, if it goes to 2040,
17 that means those units are going to be 85 years old,
18 so I am assuming that basically the agreement
19 requires -- includes closure of those plants at some
20 place along the way and it's dealing with, I assume,
21 liabilities related to legacy plants. So it's a
22 totally different subject than making a new decision.

23 Q. I understand, but my question is, do you
24 think it was a good idea or not a good idea.

25 A. To enter into that agreement? As I said,

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1 I have not read the agreement. I have to assume
2 there is a retirement date in there because, as good
3 as those plants are, they are not going to be
4 operating in 2040.

5 Q. So you don't have an opinion either way?

6 A. I don't know. I can't have an opinion
7 because I haven't seen the terms of the agreement.

8 MR. MENDOZA: Okay. Thank you, Ms.
9 Medine.

10 EXAMINER PARROT: Mr. Nourse.

11 MR. NOURSE: Thank you, your Honor.

12 - - -

13 RECROSS-EXAMINATION

14 By Mr. Nourse:

15 Q. Ms. Medine, in your own summation of your
16 position earlier, you said that essentially the
17 future solar costs are going to be lower, therefore,
18 no need to act now, correct?

19 A. Let me just rephrase the answer a little
20 bit. When I look at the economics that's been
21 presented, in fact it's showing a loss for the first
22 four or five years.

23 Q. I am not asking you about the issues that
24 are part of Phase II. I am asking you about your
25 statement earlier, on redirect, where you said that

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1 you expect solar costs to decline in the future and,
2 therefore, there is no need to act now. Did I state
3 that correctly?

4 MR. COLLIER: Your Honor, I would ask
5 that the witness be permitted to answer the question
6 and not be cut off in the middle of her answer.

7 MR. NOURSE: I don't think I cut her off,
8 but I apologize.

9 A. I think that there's reason to believe
10 that renewable economics are going to improve over
11 time, particularly related to the introduction of
12 enhanced storage capabilities that change the profile
13 of renewables, and I think making long-term
14 commitments that potentially preclude moving in that
15 direction may be premature.

16 Q. Would you agree that if a state is
17 looking at an integrated resource plan and determines
18 there is a need for resource addition, that they look
19 at least reasonable costs based on today's costs?

20 A. No. I think that it would be, first of
21 all, when an IRP is done, they need to look at all
22 resources including existing resources. So if you
23 are suggesting that ignoring some existing resources
24 that may be lower cost in the near term is not an
25 option, I think that would be a mistake.

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1 With respect to solar, obviously you're
2 going to have a perspective. In my experience, and
3 I've read more IRPs in the last three years than I
4 care to even think about, is they tend to do scenario
5 analysis where they have different expectations, and
6 the reason to do scenario analysis is to see how
7 robust the results are.

8 Q. Okay. The focus of my question is in the
9 context of IRPs. If a state commission determines
10 there is a need, do they look at current costs of
11 various options or do they try to project future
12 costs and rely on that?

13 A. Both.

14 Q. Can you give me an example of the latter?

15 A. Sure. That's just what I was trying to
16 tell you.

17 Q. No, you were going into --

18 MR. COLLIER: Objection. Please let the
19 witness answer the question.

20 MR. NOURSE: Well, she -- I am asking my
21 question, and I was focused on a specific example.

22 Q. IRP, already been determined there's
23 need, and so do they look at current costs or some
24 projection of future costs to meet the need?

25 A. Obviously I am telling you they look at

1973

1 both when they are doing their IRP. If you are
2 saying that the IRP is independent of resources,
3 that's not my experience and that they do look at
4 that. Obviously if you are going to make a
5 commitment today, you would look at what the cost of
6 that commitment is. But when you consider the
7 commitment today, you would also think about what's
8 going on in the market.

9 MR. NOURSE: Thank you. That's all I
10 have.

11 EXAMINER PARROT: All right.
12 Mr. Collier, I believe you've already moved for the
13 omission of OCA Exhibit 3.

14 Are there any objections?

15 MR. NOURSE: Your Honor, just with the
16 understanding of the motion-to-defer ruling, no
17 additional objections.

18 EXAMINER PARROT: OCA Exhibit 3 is
19 admitted with the caveat that certain portions have
20 been deferred to Phase II.

21 (EXHIBIT ADMITTED INTO EVIDENCE.)

22 EXAMINER PARROT: Mr. Nourse, your
23 exhibit.

24 MR. NOURSE: Your Honor, I would move for
25 admission of Exhibit 19, AEP Ohio Exhibit 19.

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1 EXAMINER PARROT: Are there any
2 objections?

3 All right. That exhibit is also
4 admitted. Thank you very much, Ms. Medine.

5 (EXHIBIT ADMITTED INTO EVIDENCE.)

6 EXAMINER PARROT: All right. Let's take
7 a 10-minute recess.

8 (Recess taken.)

9 EXAMINER SEE: Let's go on the record.
10 Mr. Oliker.

11 MR. OLIKER: Thank you, your Honor.
12 Interstate Gas Supply, Inc., and IGS Solar, LLC,
13 would call Joseph Haugen.

14 (Witness sworn.)

15 EXAMINER SEE: Thank you. Have a seat.

16 - - -

17 JOSEPH HAUGEN

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

20 DIRECT EXAMINATION

21 By Mr. Oliker:

22 Q. Good afternoon, Mr. Haugen.

23 A. Good afternoon.

24 MR. OLIKER: Your Honor, I would like to
25 mark the direct testimony of Joseph Haugen on behalf

1975

1 of Interstate Gas Supply, Inc., and IGS Solar, LLC, I
2 believe Exhibit 10.

3 EXAMINER SEE: So marked.

4 (EXHIBIT MARKED FOR IDENTIFICATION.)

5 Q. Mr. Haugen, do you have what's been
6 marked as Interstate Gas Supply, Inc., and IGS Solar,
7 LLC, Exhibit 10 in front of you?

8 A. I do.

9 Q. Does that contain your prefiled direct
10 testimony?

11 A. It does.

12 Q. And was this testimony prepared by you or
13 under your direction?

14 A. It was.

15 Q. And do you have any changes you would
16 make to this testimony?

17 A. I do not.

18 Q. And if you were asked the same questions
19 again today, would your answers be the same?

20 A. They would.

21 MR. OLIKER: With that, your Honor, I
22 would move for the admission of the exhibit and
23 tender the witness for cross-examination.

24 EXAMINER SEE: Any cross-examination for
25 this witness, Ms. Willis?

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1 MS. WILLIS: No, your Honor.
2 EXAMINER SEE: Mr. Dressel?
3 MR. DRESSEL: Not at this time, your
4 Honor.
5 EXAMINER SEE: Mr. Dutton?
6 MR. DUTTON: No, your Honor.
7 MR. STOCK: No, your Honor.
8 EXAMINER SEE: Mr. Stock?
9 MR. STOCK: No.
10 EXAMINER SEE: Mr. Darr?
11 MR. DARR: No questions.
12 EXAMINER SEE: Ms. Glover?
13 MS. GLOVER: No questions, your Honor.
14 EXAMINER SEE: Mr. Dove?
15 MR. DOVE: No questions, your Honor.
16 EXAMINER SEE: Mr. Mendoza?
17 MR. MENDOZA: No questions, your Honor.
18 EXAMINER SEE: Mr. McNamee?
19 MR. McNAMEE: No questions, your Honor.
20 EXAMINER SEE: And counsel for -- Ms. --
21 I'm sorry.
22 MR. KURTZ: You forgot. No questions.
23 Thank you.
24 EXAMINER SEE: Counsel for AEP?
25 MS. BLEND: Yes, thank you, your Honor.

1977

1 EXAMINER SEE: Ms. Blend.

2 - - -

3 CROSS-EXAMINATION

4 By Ms. Blend:

5 Q. Good afternoon, Mr. Haugen.

6 A. Good afternoon.

7 Q. My name is Christen Blend. I represent
8 Ohio Power Company in this proceeding.

9 Mr. Haugen, you are not an attorney,
10 correct?

11 A. I am not.

12 Q. And the opinions you present in your
13 testimony are not legal opinions, correct?

14 A. Correct.

15 Q. And that includes your opinions regarding
16 FERC Docket EL18-178?

17 A. They are not legal opinions, but they are
18 opinions from a market-based aspect.

19 Q. But you are not testifying as to any
20 legal issues when you talk about that proceeding --

21 MR. OLIKER: Objection.

22 Q. -- in your testimony?

23 MR. OLIKER: I'm sorry. I didn't mean to
24 step on your question.

25 Q. I'll rephrase.

1978

1 You are not offering any legal testimony
2 regarding a legal interpretation of any issues raised
3 in FERC Docket EL18-178 in your direct testimony,
4 correct?

5 A. That's correct.

6 Q. And if I refer to the FERC Docket
7 EL18-178 as the "MOPR docket," will you understand
8 what I mean?

9 A. I will.

10 Q. You testify or indicate on page 3 of your
11 prefiled testimony that you've previously testified
12 before this Commission, correct?

13 A. That's correct.

14 Q. None of your prior testimony addressed
15 utility applications in forecast proceedings, seeking
16 a finding of need for generation resources, correct?

17 A. Not specifically but they were related to
18 the need for the OVEC units.

19 Q. And you agree that the question of -- the
20 proceeding related to the OVEC units was not a
21 forecast proceeding.

22 A. That's correct.

23 Q. And you have no specific expertise,
24 training, or experience with utility forecasts,
25 correct?

1979

1 MR. OLIKER: Objection. The question is
2 vague. I don't know what a "utility forecast" means.

3 EXAMINER SEE: The witness can answer the
4 question. Objection is overruled.

5 A. With my time at Buckeye Power, I was -- I
6 did work with our group that did their forecasting
7 for their generation needs into the future.

8 Q. For -- and Buckeye Power is a coop?

9 A. A generation transmission cooperative,
10 correct.

11 Q. You have no specific expertise, training,
12 or experience with electric distribution utility
13 forecasts.

14 A. I do not.

15 Q. And you have no specific expertise,
16 training, or experience with electric distribution
17 utility resource planning.

18 A. I do not.

19 Q. You state on page 4, lines 1 through 3,
20 of your testimony, that IGS sees potential to develop
21 solar resources with customers through bilateral
22 contract arrangements, correct?

23 A. That's correct.

24 Q. I'm sorry. Through bilateral
25 arrangements.

1980

1 A. That's correct.

2 Q. You would agree that IGS can still pursue
3 bilateral arrangements regardless of whether the
4 Commission finds there is a need for 900 megawatts of
5 renewable energy resources in this case, right?

6 A. I agree that IGS can continue to pursue
7 those arrangements but at the detriment of other
8 resources.

9 Q. So the answer to my question was yes?

10 MR. OLIKER: Your Honor, I think the
11 witness answered the question, and I think she is
12 trying to get a better -- better answer than she had
13 before.

14 MS. BLEND: Which Mr. Olikier has done
15 during his cross-examinations of the Company's
16 witnesses in this case.

17 EXAMINER SEE: The witness can answer the
18 question.

19 A. Yes, we could continue to operate as a
20 solar provider to companies at the detriment of other
21 resources that are outlined here.

22 Q. How many bilateral arrangements to
23 develop solar resources has IGS entered into in Ohio?

24 MR. OLIKER: Objection to the extent it
25 may be confidential but I don't -- if the witness

1981

1 even knows the answer. Maybe I will withdraw that.

2 EXAMINER SEE: You can answer the
3 question, Mr. Haugen.

4 A. I would not be the best witness to ask
5 that question, so I don't know the specific numbers.
6 Witness Rengstorf would be a much more appropriate
7 witness for that question.

8 Q. So when you testified there is potential
9 to develop solar resources with customers through
10 bilateral arrangements, you don't have a starting
11 point for how many such arrangements IGS currently
12 has or has entered into?

13 A. I don't have the exact numbers. I can
14 speak to a few of those that I know I've been
15 involved with helping them develop, if that would be
16 helpful.

17 Q. To your knowledge, has IGS entered into
18 fewer than 10 bilateral arrangements in Ohio?

19 A. I'm not sure.

20 Q. Okay. Do you think it's -- do you know
21 what -- what the size of the largest bilateral
22 arrangement in terms of megawatts IGS has entered
23 into in Ohio?

24 A. I'm not sure off the top of my head but,
25 again, that would be a question that Witness

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1 Rengstorf could answer.

2 Q. You would agree that not all customers
3 are able to bilaterally contract with IGS for solar
4 resources?

5 MR. OLIKER: Objection. I think this was
6 already covered by another witness and, as he
7 indicated, the bilateral transactions would be better
8 described by Witness Rengstorf.

9 MS. BLEND: And, your Honor, I am not
10 asking now about specific bilateral arrangements
11 which he's deferred to Witness Rengstorf. I'm asking
12 whether he would agree that not all customers are
13 able to bilaterally contract with IGS for solar
14 resources based on his understanding.

15 EXAMINER SEE: The witness can answer the
16 question.

17 A. I cannot foresee any specific reasoning
18 why a customer could not bilaterally transact on a
19 solar agreement with IGS at this time. We do have a
20 100-percent solar renewable product in the
21 marketplace right now.

22 Q. Do you know whether all retail customers
23 of AEP Ohio are able to shop for generation service?

24 A. It's my understanding that the majority
25 of them are. I can't think of any specific reasons

1983

1 why they couldn't at this time.

2 Q. Are you aware that PIPP customers are not
3 allowed to shop?

4 A. I do agree with that.

5 Q. So with that agreement then, you would
6 agree not all customers are able to bilaterally
7 contract with IGS for solar resources?

8 A. We could bilaterally contract with them
9 by installing a solar panel on their individual
10 household.

11 Q. Would you expect that someone who has an
12 income that qualifies them for the Percentage of
13 Income Payment Program would be financially able to
14 contract for solar rooftop?

15 A. So we are specifically looking at
16 communities that are under-economically-developed for
17 those specific reasons.

18 Q. And if a PIPP customer is also renting,
19 you would agree that rooftop solar wouldn't be an
20 option for them?

21 A. We are talking with several apartment
22 complex owners on ways that we could serve them with
23 solar rooftops.

24 Q. The specific customer tenant, though,
25 couldn't contract with IGS for rooftop solar,

1984

1 correct?

2 A. They could not contract for the rooftop
3 solar, but they do have the ability to purchase the
4 RECs from us directly which gives them the right to
5 claim they have solar rooftop. But there are several
6 customers which we sell RECs to directly who are not
7 under retail agreements.

8 Q. Several PIPP customers that you sell RECs
9 to directly?

10 A. There are not at this time but we are
11 looking at that specifically in one area close to
12 Dayton.

13 Q. Is that in AEP Ohio's service territory?

14 A. It is not, but it is with the expectation
15 that if we can prove out the business model in one
16 area, it can be spread to anywhere in Ohio.

17 Q. Not -- you would agree that not all
18 customers are able to bilaterally contract for
19 utility-scale solar resources?

20 A. The renewable energy credits are
21 independent of which resource provides the solar
22 attributes.

23 Q. Right. So I -- moving on from RECs --

24 A. Okay.

25 Q. -- my next question is: You would agree

1985

1 that not all customers can bilaterally contract for
2 utility-scale solar resources. For instance, you
3 would agree a residential customer likely could not
4 contract for utility-scale solar resources.

5 A. I'm not sure how they couldn't. So the
6 way the process works is when a solar panel creates
7 energy and they are given the renewable energy credit
8 as an attribute, that renewable energy credit is
9 tracked to whichever resource it's defined through,
10 in this instance the PJM GATS system. So we go in
11 and purchase the REC from a solar producer, if it's a
12 solar -- a community solar plant, then that REC for a
13 community solar project will flow directly to any
14 customer.

15 Q. Thank you. I will ask a slightly
16 different question.

17 You would agree that not all customers
18 are able to bilaterally contract to own utility-scale
19 solar resources, physically own utility-scale solar
20 resources.

21 MR. OLIKER: Objection. What's -- what's
22 the relevance? Nobody here in this proceeding is
23 going to own any utility-scale solar.

24 MS. BLEND: The relevance, your Honor, is
25 IGS -- Mr. Haugen has indicated that there is a

1986

1 potential to develop solar resources with customers
2 through bilateral arrangements. I'm simply probing
3 what opportunities or potential there actually is.

4 EXAMINER SEE: The objection is
5 overruled. Mr. Haugen can answer the question.

6 A. So we have multiple examples of this
7 throughout the State of Ohio and AEP. I would prefer
8 not to get into specific details on pilots that we
9 are running right now. But there is no reason that
10 any customer could not purchase any sort of renewable
11 energy credit and claim the rights to any solar
12 project in Ohio at this time.

13 Q. It's your testimony that any customer
14 could bilaterally contract for a 100-megawatt, for
15 example, solar array?

16 MR. OLIKER: Counsel, can I have
17 clarification? Are you asking whether any specific
18 customer could own an entire 100-megawatt solar
19 facility?

20 MS. BLEND: I'm -- your Honor, I think my
21 question was pretty clear and I think the questions
22 leading up to my question have been pretty clear and
23 I'd ask the witness answer the question that I asked.
24 I assume he can. If I need to ask another one, I
25 will.

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1 EXAMINER SEE: And if the -- Mr. Haugen,
2 if you need any clarification, you can ask for it or
3 put your answer in context. With that, go ahead and
4 answer the question.

5 THE WITNESS: Can you please restate the
6 question?

7 Q. (By Ms. Blend) Sure. You talked earlier
8 about the opportunity -- customers have the
9 opportunity to contract with IGS for, for example,
10 rooftop solar, correct?

11 A. Correct.

12 Q. Okay. Do you agree that not every
13 customer is able to bilaterally contract for solar --
14 a physical solar installation at a utility-scale
15 size?

16 A. I cannot think of an instance where they
17 would not have the right to. But, again, I would
18 defer those questions to Rengstorf, specifically if
19 it's regarding which customers we are bilaterally
20 contracting with.

21 Q. Thank you.

22 Mr. Haugen, would you agree that not all
23 customers may want to contract with a competitive
24 retail electric service provider for solar resources?

25 A. That's the benefit of having choice in a

1 deregulated market, that it's up to a customer to
2 determine what they would like to be served through.

3 Q. Would you agree that a customer who wants
4 to have access to solar resources should have the
5 opportunity to obtain those resources from the retail
6 electric service provider of their choice?

7 A. I absolutely do which is why we provide
8 that product to our bid today.

9 Q. Would you agree that those customers that
10 we were just talking about in our last question and
11 answer should have the right to choose to obtain
12 solar resources from a Standard Service Offer
13 provider?

14 MR. OLIKER: Objection. It's outside the
15 scope of this case. There's no proposal here saying
16 the SSO is going to be a renewable product, and
17 specifically the Green Tariff has been deferred to
18 Phase II.

19 MS. BLEND: I am -- your Honor, I am not
20 asking about the SSO. I was using "Standard Service
21 Offer provider" to be broader than AEP Ohio. If we
22 wanted to replace SSO with EDU, that would be fine
23 too. Again, this line of questions goes to
24 Mr. Haugen's statement that there is a potential to
25 develop solar resources with customers through

1 bilateral arrangements and what customers want is
2 relevant to that.

3 EXAMINER SEE: The objection is
4 overruled. Mr. Haugen can answer the question.

5 MR. OLIKER: Can I have the question
6 reread? I am not sure I remember it, or the witness.

7 (Record read.)

8 A. The Standard Service Offer currently is
9 generation independent. It doesn't look at one
10 generation source over the over, so by creating one
11 product in a Standard Service Offer that's different
12 than everyone else, I don't think that would be
13 within the realm of what should happen.

14 Q. So is it your position then that
15 customers who do not want to obtain retail electric
16 service from a CRES provider should not have access
17 to renewable energy resources?

18 A. As I stated earlier, any customer, even
19 if they are on the SSO load, we are willing to sell
20 them renewable energy credits so they can claim that
21 they do get their power from renewable sources.

22 Q. And I appreciate that. My question is,
23 if someone doesn't want to purchase from a -- any
24 product or service from a competitive retail electric
25 supplier, is it your position that that customer

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1 should not have access to renewable energy resources?

2 A. It's my opinion that the marketplace
3 should be what drives the availability of the
4 resources.

5 Q. So if a customer, who is in the
6 marketplace, does not want to purchase renewable
7 energy resources from a competitive retail electric
8 supplier, whether in the form of RECs or generation
9 service, is it your position that that customer
10 should not have access to renewable energy resources?

11 MS. WILLIS: Can I have that question
12 reread, please?

13 (Record read.)

14 MR. OLIKER: Your Honor, I assert my
15 objection that it's a completely irrelevant line of
16 cross. It doesn't relate to anything that's been put
17 before the Commission in this case. And it also
18 misstates the facts that the portion of the SSO is,
19 in fact, renewable energy resources, so therefore --
20 the question --

21 MS. BLEND: Your Honor, this --

22 EXAMINER SEE: Your objection is
23 overruled, Mr. Oliker.

24 Mr. Hagen -- Haugen, sorry.

25 THE WITNESS: That's okay.

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1 A. I'm unsure.

2 Q. Mr. Haugen, much of your testimony
3 discusses the pending MOPR docket at FERC, doesn't
4 it?

5 A. It does.

6 Q. And you are familiar with that proceeding
7 as your testimony reflects.

8 A. Much of it.

9 Q. Is it your understanding that the
10 Commission's concern in that proceeding relates to
11 out-of-market payments provided or required by
12 certain states for the purpose of supporting the
13 entry or continued operation of preferred generation
14 resources that may not otherwise be able to succeed
15 in a competitive wholesale capacity market?

16 A. There's a little more to it, but, at a
17 high level, I would agree with that.

18 Q. And your testimony references and
19 discusses PJM's initial submission in the MOPR
20 docket, filed October 2, 2018.

21 A. It does.

22 Q. If you'll turn to pages 5 and 6 of your
23 testimony. On these pages of your testimony, you are
24 summarizing some of PJM's proposals in that docket,
25 correct?

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1 A. Yes.

2 Q. On line 9 of page 5, at the end of the
3 line, you make reference to -- and continue onto line
4 10, you make reference to a "new rule." Your
5 reference here is to PJM's proposal in the MOPR
6 docket, correct?

7 A. That's correct.

8 Q. You are not referring to any actual rule
9 that FERC has approved or adopted.

10 A. That's correct.

11 Q. And are you aware, Mr. Haugen, that even
12 PJM agrees that seeking perfect market outcomes, such
13 as would be the case by just applying a MOPR, leaves
14 the states no practical option to pursue
15 generation-related public policy goals?

16 MR. OLIKER: Objection. To the extent
17 that she has a PJM position or document, I think she
18 should show it to the witness, rather than ask him to
19 say what PJM thinks.

20 MS. BLEND: Your Honor, I am asking the
21 witness his understanding of PJM's position, and I
22 think it's a fair question that he can answer, and we
23 can go from there based on his answer. He's offering
24 testimony in this proceeding, as he's just indicated,
25 discussing what he believes and understands PJM's

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1 position to be in the MOPR docket.

2 EXAMINER SEE: Mr. Haugen can answer the
3 question.

4 A. There are ways that specific resources
5 can be -- can receive revenue through state actions,
6 specifically FRR.

7 Q. And -- so is the answer to my question
8 that "even PJM agrees that seeking perfect market
9 outcomes, such as would be the case by just applying
10 the MOPR, leaves the states no practical option to
11 pursue generation-related public policy goals," yes?

12 A. Looking at their filing, I believe that
13 only applying MOPR would be difficult for states to
14 allow policy which is why there are several options
15 in the docket including resource carve outs.

16 MS. BLEND: Does counsel for IGS have a
17 copy of IGS Exhibit 6 available for the witness to
18 refer to? So that I can refresh his recollection.

19 MR. OLIKER: Can you refresh my memory of
20 what 6 is?

21 MS. BLEND: It's the Initial Submission
22 of PJM Interconnection, LLC, filed in the MOPR docket
23 on October 2, 2018.

24 THE WITNESS: I have it here.

25 MS. BLEND: Great.

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1 Q. (By Ms. Blend) Mr. Haugen, if you could
2 turn to the bottom of page 4 of IGS Exhibit 6. The
3 last sentence in the last paragraph that begins with
4 the word "But." Second-to-last line of page 4.
5 Would you just read to yourself that sentence. And
6 let me know if it refreshes your recollection about
7 whether PJM agrees that seeking perfect market
8 outcomes, such as would be the case by applying just
9 the MOPR, leaves states no practical option to pursue
10 generation-related public policy goals?

11 A. And I believe my answer was congruent
12 with this statement.

13 Q. Okay. And, Mr. Haugen, you would agree
14 that FERC has not issued any decision in the MOPR
15 docket.

16 A. That's correct.

17 Q. And you would agree that it's unknown
18 when FERC will issue a decision or --

19 A. It is unknown when, but they did state,
20 in a June filing, that they would like to have a
21 decision made before the next PJM auction which is
22 why the auction was delayed until August.

23 Q. So fair to say that while we would
24 expect, based on that filing, that FERC will have a
25 decision before August 2019, there is no guarantee

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1 that that will be the case. It's still unknown.

2 A. Any timing with FERC would be an act of
3 futility.

4 Q. If you'll look at page 4 of your
5 testimony, line 14, you reference "a final ruling on
6 PJM capacity market constructs...." Do you see that?

7 A. Can you say it again where that was?

8 Q. Sure. Page 4, line 14.

9 A. Yes.

10 Q. When you say "a final ruling," do you
11 mean a ruling by FERC or a final non-appealable
12 order? What do you mean when you use that term?

13 A. I believe that a final ruling on this
14 case that we are discussing right now, the solar
15 projects, should wait until the final rules are in
16 place before using the analysis that was provided.

17 Q. Okay. But my question was when you --
18 you would agree when you use the term "final ruling"
19 on line 14 of page 4, you are talking about a final
20 ruling on PJM capacity market constructs, correct?

21 A. That's correct.

22 Q. So what do you mean by "final ruling" in
23 the context of that statement?

24 A. In the context of this statement, I am
25 referring to the current FERC EL18-178 to determine

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1 how resources will be allowed to participate in
2 capacity auctions going into the future if they have
3 an actionable state subsidy.

4 Q. Would you agree, Mr. Haugen, that there
5 could be further proceedings regarding the MOPR -- a
6 FERC MOPR decision, either at FERC or in federal
7 courts, after FERC issues a decision in that docket?

8 A. There is always the option that rulings
9 will be appealed.

10 Q. And it could be months or years after
11 FERC issues a ruling in the MOPR docket before there
12 would be a final non-appealable order regarding the
13 MOPR rules, correct?

14 A. It could be months or years. It could be
15 days or weeks. The timeline is indeterminate.

16 Q. And, Mr. Haugen, you are aware there are
17 numerous parties to the MOPR proceeding.

18 A. That's correct.

19 Q. And there have been thousands of pages of
20 comments filed in the MOPR proceeding.

21 A. That's correct.

22 Q. Would you agree that in those thousands
23 of page of comments, the parties to the MOPR
24 proceeding have made numerous and different proposals
25 to FERC, regarding the future design of the PJM

1997

1 capacity markets?

2 A. There are numerous proposals. If you are
3 going to refer to anyone specifically, I would like
4 to see it before we discuss it further.

5 Q. Fair enough.

6 Have you reviewed filings made by parties
7 other than PJM in the MOPR docket?

8 A. Only on a high level.

9 Q. Are you aware that under several parties'
10 proposals, the resources -- resources like those that
11 are at issue in this case, would not be deemed a risk
12 if you had an actionable state subsidy?

13 MR. OLIKER: Objection. I think the
14 witness just said if you ask me about somebody else's
15 proposal, I want to see it.

16 MS. BLEND: And I haven't asked about
17 anyone's specific proposal. Again, I am asking this
18 witness, who's holding himself out as an expert
19 offering testimony regarding the MOPR docket, what he
20 knows or understands about the proposals in that
21 docket.

22 EXAMINER SEE: The witness can answer the
23 question.

24 A. There are many proposals out there.
25 Specifically I can recall even just the status quo is

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1 a proposal and, in that instance, under the status
2 quo, then this wouldn't be an actionable state
3 subsidy.

4 Q. Are you familiar with the initial
5 comments that American Electric Power Service
6 Corporation and Duke Energy Corporation filed in the
7 MOPR docket on October 2, 2018?

8 A. I am not.

9 Q. You did not review those comments?

10 A. I did not.

11 Q. Are you familiar with AEP's and Duke's
12 reply comments filed November 6, 2018?

13 A. I am not. I typically do not read a lot
14 of very specific companies' filings until there is a
15 direction where we think the proceeding is going to
16 head. It's really an act of futility to read, you
17 know, 100-plus proposals until you have some sort of
18 direction of which of those proposals are likely to
19 have a foot to stand on.

20 Q. Mr. Haugen, you are offering an opinion
21 in this case about how IGS believes the MOPR
22 proceeding impacts this proceeding, correct?

23 A. That's correct.

24 Q. And the purpose of your testimony was to
25 discuss the pending current filings in that MOPR

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1 docket, right?

2 A. Yes, and I specifically leaned on the PJM
3 Interconnection because they are one of the leading
4 authorities for the way their capacity markets are
5 operated, so it's my belief that they have a great
6 weight in FERC's determination of how these rulings
7 will, at the end of the day, shape out.

8 MS. BLEND: Your Honor, I move to strike
9 everything in Mr. Haugen's last answer after "yes."
10 I was asking what the purpose of his testimony was,
11 and as he indicates on page 4, line 10, the purpose
12 is to address pending current filings at FERC
13 regarding the MOPR docket.

14 MR. OLIKER: And, your Honor, she asked
15 an open-ended question, and he simply answered the
16 question and then provided the context. He deserves
17 the ability to do that just like every other witness
18 who has testified in this proceeding up until this
19 time.

20 EXAMINER SEE: And Mr. Haugen's answer
21 will stand.

22 MS. BLEND: Thank you, your Honor.

23 Q. (By Ms. Blend) Mr. Haugen, were you
24 aware, at the time you prepared your direct testimony
25 for this case, that AEP had filed comments in the

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1 MOPR proceeding?

2 A. I was not specifically aware but there is
3 a reasonable assumption that they would have.

4 Q. And yet, you didn't review whether AEP
5 had filed comments in reaching your -- before you
6 reached opinions in this case?

7 A. I did not.

8 Q. And you didn't actually review the
9 comments in reaching your opinions in this case.

10 A. From AEP specifically, I did not.

11 Q. Did you review any party to the MOPR
12 docket's comments besides PJM's?

13 A. I don't recall any specific comments that
14 I've reviewed.

15 Q. So -- so, no, you didn't review any other
16 parties' comments besides PJM's?

17 A. I know that I have read several of them
18 but I cannot recall which ones specifically.

19 Q. Mr. Haugen, do you agree it's possible
20 that FERC could adopt some or all of the proposals
21 that parties other than PJM are advancing in the MOPR
22 docket?

23 MR. OLKER: Objection. Asking whether
24 or not FERC could adopt proposals of parties, of
25 which Mr. Haugen is not necessarily familiar with,

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1 calls for speculation.

2 MS. BLEND: Your Honor, he testified he's
3 reviewed FERC proposals generally. He can't recall
4 which one specifically. I think it's a fair
5 question.

6 EXAMINER SEE: The objection is
7 overruled. Mr. Haugen, go ahead and answer.

8 A. It is difficult to determine which
9 direction the FERC will eventually file at the end of
10 the day, but I do put a lot of weight on PJM's filing
11 because this is the second time that they have done
12 this and it does address many of the questions that
13 FERC brought up back in June.

14 Q. You put a lot of weight on PJM's filing
15 even though you didn't review what other filings were
16 in the docket?

17 A. That's correct.

18 Q. Mr. Haugen, do you agree it's possible
19 that FERC could decline to adopt any of PJM's
20 proposals that PJM has advanced in the MOPR docket?

21 A. Absolutely. As I mentioned earlier, one
22 of the proposals is just the status quo.

23 Q. And, Mr. Haugen, just to clarify, you are
24 not arguing that this Commission, the Ohio
25 Commission, has ceded any jurisdiction it may have

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1 over facilities used for the generation of electric
2 energy to PJM or FERC, correct?

3 MR. OLIKER: Objection. Calls for a
4 legal conclusion. If Counsel would restate the
5 question with that caveat, I will withdraw the
6 objection.

7 MS. BLEND: Your Honor, I specifically
8 established with Mr. Haugen, at the outset of my
9 cross-examination, that he is not a lawyer and he is
10 not offering legal opinion testimony here, so I think
11 there's an understanding that this is a -- I am not
12 asking him in a legal capacity. He's provided
13 arguably quasi-legal testimony in his direct
14 testimony, so I think it's a fair question.

15 EXAMINER SEE: Mr. Haugen, you are not an
16 attorney, are you?

17 THE WITNESS: I am not.

18 EXAMINER SEE: With that understanding,
19 you can answer the question.

20 A. With all that, can you restate it?

21 Q. You are not arguing that the Ohio
22 Commission has ceded any jurisdiction it may have
23 over facilities used for the generation of electric
24 energy to PJM or FERC, correct?

25 A. I am not making a legal determination on

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1 who is ceding power under a jurisdictional claim.
2 What my argument states is that the analysis that was
3 provided relies on these rules and the operation of
4 these resources under the market constructs as
5 outlined and under the jurisdiction of the FERC. So
6 if you are going to rely on analysis that relies on
7 these constructs, you have to wait until you fully
8 understand what the constructs are.

9 Q. Thank you. That leads into my next
10 question.

11 You state on page 4, under the question
12 "What is the purpose of your testimony?", that you
13 believe that a determination on this case should
14 either be delayed until a final ruling in the MOPR
15 docket or an analysis -- I believe the word "is"
16 needs to be inserted, or an analysis is provided to
17 determine the impact to customers without the
18 reliance on revenue from PJM capacity markets? Let
19 me try that again.

20 Mr. Haugen, you recommend that
21 determination on this case should either be delayed
22 until a final ruling on PJM capacity market
23 constructs or an analysis is provided to determine
24 the impact to customers without the reliance on
25 revenue from PJM capacity markets; is that correct?

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1 A. That's correct.

2 Q. If an analysis has been provided to
3 determine the impact to customers of the Company's
4 proposed generic wind and solar projects without the
5 reliance on revenue from PJM capacity markets, do you
6 agree that there would be no need for the Commission
7 to delay determination on this case?

8 MR. OLIKER: Objection. Assumes facts
9 not in evidence.

10 MS. BLEND: I disagree with that
11 characterization, your Honor. And he -- Mr. Haugen
12 has provided an either/or recommendation. I'm simply
13 trying to confirm that it is an either/or
14 recommendation.

15 EXAMINER SEE: I am going to let the
16 witness answer the question as best you can.

17 A. The purpose of that statement is that if
18 you take out the reliance on wholesale market rules,
19 that's under the jurisdiction of the FERC, out of the
20 analysis, then it will provide a much more accurate
21 view at this time.

22 To go on a little further, if you are
23 relying on a market construct, you have to know what
24 the market construct is going to be in order to fully
25 provide the analysis. If you aren't going to rely on

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1 the markets in general, then it would negate the
2 reason to delay the ruling.

3 Q. So let me make sure I understand your
4 last answer. If the -- if an analysis of the
5 benefits and costs associated with the generic solar
6 and wind projects that are the subject of this
7 proceeding is provided or were to be provided, that
8 takes out any reliance on revenue from the PJM
9 capacity markets, you would agree the Commission
10 doesn't need to delay the determination on this case
11 until the MOPR docket -- until a final order in the
12 MOPR docket has been issued?

13 A. With regard to my testimony, I would say
14 that's accurate.

15 Q. Mr. Haugen, would you agree that PJM
16 market rules change frequently?

17 A. Can you define "frequently"?

18 Q. I am asking however you define
19 "frequently" to answer the question.

20 A. I can tell you that is a risk that we
21 model into all of the projects we develop. So there
22 are rule changes that happened in the past that have
23 been very impactful to retail providers and solar
24 developers, and we are constantly taking on that risk
25 as we develop these products.

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1 Q. And you have no reason to believe that
2 there would not be rule changes in the future,
3 correct?

4 A. It would be difficult for me to say we
5 will ever reach an instance where we have a perfect
6 market; and until that occurs, there will be tweaks
7 to the rules.

8 Q. Mr. Haugen, yesterday, IGS witness Rever
9 testified that IGS declined to bid on AEP Ohio's RFP
10 for renewable resources. Can you explain your
11 understanding of why it chose not to do so?

12 MR. OLIKER: Objection. She's asking
13 about another witness without identifying whether
14 Mr. Haugen was here, heard the testimony, or
15 establishing any foundation that Mr. Haugen was
16 involved in that decision at all.

17 MS. BLEND: I can lay a foundation, your
18 Honor.

19 EXAMINER SEE: Go ahead.

20 Q. (By Ms. Blend) Mr. Haugen, do you know
21 whether IGS Solar or IGS bid on an AEP Ohio RFP for
22 renewable resources?

23 A. I do not know. I was not a part of those
24 conversations.

25 Q. Mr. Haugen, you recall earlier you talked

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1 about a REC program that IGS is developing for PIPP
2 customers, or that could be available to PIPP
3 customers?

4 MR. OLIKER: I just object to the extent
5 Mr. Haugen talked about some things that IGS may be
6 doing that may be proprietary, and I would just
7 caution the witness that if he wades into those
8 waters, to measure his statements carefully.

9 MS. BLEND: I don't intend to ask about
10 any confidential information. At this point I am
11 just trying to refresh the witness's recollection of
12 what we have talked about so far during cross.

13 EXAMINER SEE: You can answer,
14 Mr. Haugen.

15 A. Yes, IGS has been working on several
16 programs to provide renewable energy credits to any
17 customers that we either serve or don't serve.

18 Q. When did IGS begin work on those
19 programs?

20 A. I don't recall the timing, but it's been
21 at least a year, maybe more.

22 Q. It was before September 2018?

23 A. Yes.

24 Q. Are those programs, programs that combine
25 RECs with the sale of electricity?

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1 A. We offer both.

2 Q. Both programs that combine RECs with the
3 sale of electricity and those that would just sell
4 RECs to, for instance, PIPP customers or any
5 customers that want to buy them?

6 A. Correct. And we have executed on some of
7 those agreements with various customers.

8 Q. Does IGS have any credit requirements for
9 customers to participate in the renewable product
10 offerings that you've described today?

11 A. We do not have credit requirements
12 because we -- I do not know of any credit
13 requirements that occur because we typically require
14 prepay for the renewable energy credits.

15 Q. So a customer would have to have the
16 financial ability to prepay for RECs if they wanted
17 to participate in the REC programs that IGS is
18 offering?

19 A. So we make them very affordable. For
20 instance, an average residential house would have the
21 capability of buying a renewable credit for a year
22 for 10 to 15 dollars.

23 Q. And they would have to prepay for that
24 product?

25 A. That's how we've done it before but

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1 that's not necessarily how we will always do it in
2 the future.

3 Q. But under the current program, they have
4 to prepay for that product.

5 A. To my knowledge that's how they do it,
6 but I'm not 100-percent accurate with regards to how
7 the customers are billed.

8 Q. And do you know whether the RECs that are
9 used for that product are Ohio RECs or RECs from
10 outside of Ohio?

11 A. We give the customer the option. We can
12 offer RECs from various sources anywhere that we
13 operate. So we have Ohio-specific RECs that we can
14 offer, we have national wind RECs, we have Texas
15 RECs, we have Pennsylvania RECs, New Jersey RECs.

16 Q. Was the 10- to 15-dollar price that you
17 gave me, a price for national RECs?

18 A. Yes.

19 Q. How many RECs does that 10 to 15 dollars
20 cover?

21 A. Just a ballpark number, it would cover
22 around 15 RECs. National wind RECs are running
23 around 80 cents per REC. And we typically have these
24 products as a passthrough as a valued and not as a
25 margin requirement.

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1 Q. Do you know -- I think you testified
2 earlier that IGS offers a 100-percent Ohio REC
3 product to customers?

4 A. We do.

5 Q. Do you know when IGS started offering
6 that product?

7 A. I'm not sure exactly the timing, but it
8 would have correlated with the building of the
9 Cuyahoga solar project up in northeast Ohio.

10 Q. Do you know whether it was before or
11 after January 1, 2019?

12 A. I'm not sure of the date.

13 MS. BLEND: Thank you, Mr. Haugen. No
14 further questions.

15 EXAMINER SEE: Any redirect, Mr. Olikier?

16 MR. OLIKER: Just 2 or 3 minutes. If we
17 do, it won't be much. May I meet with the witness?
18 Your Honor, can I have 2 to 3 minutes with the
19 witness?

20 EXAMINER SEE: Sure.

21 MR. OLIKER: Thank you.

22 (Pause in proceedings.)

23 MR. OLIKER: Your Honor, we have no
24 redirect.

25 EXAMINER SEE: Okay. Mr. Olikier, I do

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1 not recall whether or not you moved for the admission
2 of your exhibit.

3 MR. OLIKER: We did, but I will do it
4 again, your Honor. Interstate Gas Supply, Inc., and
5 IGS Solar, LLC, will move for the admission of
6 Exhibit 10.

7 EXAMINER SEE: Are there any objections
8 to IGS and IGS Solar Exhibit 10?

9 MS. BLEND: No, your Honor.

10 EXAMINER SEE: IGS Solar and IGS Exhibit
11 10 is admitted into the record. Thank you,
12 Mr. Haugen.

13 (EXHIBIT ADMITTED INTO EVIDENCE.)

14 THE WITNESS: Thank you.

15 EXAMINER SEE: Let's go off the record
16 for a second.

17 (Discussion off the record.)

18 EXAMINER SEE: Let's go back on the
19 record.

20 We will resume tomorrow promptly at 9
21 o'clock. Thank you.

22 (Thereupon, at 1:17 p.m., the hearing was
23 adjourned.)

24 - - -
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CERTIFICATE

I do hereby certify that the foregoing is a true and correct transcript of the proceedings taken by me in this matter on Thursday, January 24, 2019, and carefully compared with my original stenographic notes.

Karen Sue Gibson, Registered
Merit Reporter.

Carolyn M. Burke, Registered
Professional Reporter.

(KSG-6682)

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Case No(s). 18-0501-EL-FOR, 18-1392-EL-RDR, 18-1393-EL-ATA

Summary: Transcript CORRECTED - in the matter of the Long-Term Forecast Report of the Ohio Power Company hearing held on 01/24/19 - CORRECTED - Volume VII electronically filed by Mr. Ken Spencer on behalf of Armstrong & Okey, Inc. and Gibson, Karen Sue Mrs.