BEFORE THE PUBLIC UTILITIES COMMISSION OF OHIO _ _ _ In the Matter of the 2018 : Long-Term Forecast Report : Case No. 18-501-EL-FOR of Ohio Power Company and : Related Matters. In the Matter of the : Application of Ohio Power : Company for Approval to : Enter Into Renewable : Case No. 18-1392-EL-RDR Energy Purchase Agreements for Inclusion : in the Renewable Generation Rider. : In the Matter of the Application of Ohio Power : Case No. 18-1393-EL-ATA Company for Approval to : Amend its Tariffs. _ _ _ PROCEEDINGS before Ms. Sarah Parrot and Ms. Greta See, Attorney Examiners, at the Public Utilities Commission of Ohio, 180 East Broad Street, Room 11-A, Columbus, Ohio, called at 9:00 a.m. on Friday, January 18, 2019. - - -VOLUME IV ARMSTRONG & OKEY, INC.

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880 1 Friday Morning Session, 2 January 18, 2019. 3 4 EXAMINER SEE: Let's go on the record. 5 Let's start with brief appearances of the 6 parties present. Let's go to the Company, first, and 7 work our way around the table. 8 MR. NOURSE: Thank you, your Honor. On 9 behalf of Ohio Power Company, Steven T. Nourse, 10 Christen M. Blend, Christopher L. Miller, 11 L. Bradfield Hughes, and Eric B. Gallon. 12 MS. WILLIS: Thank you, your Honor. On 13 behalf of the Consumers' Counsel and the residential 14 customers of the Ohio Power Company, Maureen Willis, 15 William Michael, and Christopher Healey. 16 MR. McNAMEE: For the staff of the PUCO, 17 Tom McNamee. 18 MR. OLIKER: Good morning. On behalf of 19 Interstate Gas Supply, Inc. and IGS Solar, LLC, Joe 20 Oliker and Michael Nugent. 21 MR. KURTZ: For OEG, Mike Kurtz. 22 MS. BOJKO: Good morning, your Honors. 23 For OMAEG, Kim Bojko and Brian Dressel. 24 MS. WHITFIELD: Good morning, your 25 Honors. On behalf of Kroger, Angie Paul Whitfield

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 1
     and Stephen Dutton.
 2
                 MR. STOCK: Good morning. For the Ohio
     Coal Association, John Stock and Orla Collier.
 3
                 MS. LEPPLA: Good morning, your Honors.
 4
 5
     On behalf of the Ohio Environmental Council, Miranda
 6
     Leppla.
 7
                 MR. MENDOZA: Good morning, your Honors.
 8
     On behalf of the Sierra Club, Tony Mendoza.
 9
                 MR. DOVE: Good morning, your Honors. On
10
     behalf of the Natural Resources Defense Council,
11
     Robert Dove.
12
                 MR. DARR: On behalf of IEU-Ohio, Frank
13
     Darr.
14
                 MS. GLOVER: On behalf of the Retail
15
     Energy Supply Association and Direct Energy, Rebekah
16
     Glover and Mark Whitt.
                 EXAMINER SEE: Okay. Mr. Mendoza.
17
18
                 MR. MENDOZA: Sierra Club would like to
     call Michael Goggin.
19
20
                 (Witness sworn.)
21
                 EXAMINER SEE: Cut your mic on, please.
2.2
                 Mr. Mendoza.
23
24
25
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882 1 MICHAEL GOGGIN 2 being first duly sworn, as prescribed by law, was examined and testified as follows: 3 4 DIRECT EXAMINATION 5 By Mr. Mendoza: 6 Would you please state your name for the Ο. 7 record. 8 Α. Michael Steven Goggin. 9 Ο. And do you have your direct testimony 10 with you? 11 Α. Yes. 12 And did you prepare that testimony? Q. 13 Α. Yes. 14 And would you answer the questions in Ο. 15 that testimony the same way today? 16 Α. Yes. 17 MR. MENDOZA: Your Honor, I would move 18 for the admission of Sierra Club Exhibit 1, subject 19 to cross-examination. 20 EXAMINER SEE: Mr. Goggin's testimony is 21 so marked. 22 (EXHIBIT MARKED FOR IDENTIFICATION.) 23 EXAMINER SEE: Any cross-examination for 24 this witness, Mr. --25 MS. WHITFIELD: Your Honor, would now be

883 a good time to address motions to strike? 1 2 EXAMINER SEE: Yes. 3 MS. WHITFIELD: Actually, I am going to 4 let Ms. Bojko speak first. 5 MS. BOJKO: Thank you, your Honor. 6 Sorry. A little confusion. She is going to do one 7 first. 8 MS. WHITFIELD: Sorry. It was a late 9 night and very early morning. 10 First, I would like, just for purposes of 11 preserving the issue on the record, move to strike 12 page 4, lines 8 to 10. 13 EXAMINER SEE: I'm sorry, sorry -- okay. 14 MS. WHITFIELD: Oh. Yeah. Mine is 15 not --16 EXAMINER SEE: Just a moment. 17 MS. BLEND: Ms. Whitfield, would you also 18 mind providing the question number? 19 MS. WHITFIELD: Yes. That's what I am 20 trying to pull up now. 21 MS. BLEND: Thank you. 2.2 MS. WHITFIELD: So --23 MS. BOJKO: Your Honor, this is a problem 24 where we didn't have line numbers on the original 25 version and so we took all of our notes on the

884 1 original version and now we got one with line 2 numbers. 3 MS. WHITFIELD: Did we get one with line numbers? 4 MS. BOJKO: Yes, we did, which I have 5 6 somewhere. I can help you. 7 MS. WHITFIELD: Yes. So that would be 8 Question 5, the answer to Question 5 where it starts "due to certain aspects," all the way down to "would 9 10 optimally serve the economic interests of AEP Ohio 11 customers." 12 Page 5, the paragraph that starts 13 "Finally," which if you have it lined, it's going to 14 be lines 9 and 10. It's all that entire sentence, 15 "Finally," all the way through "witnesses." 16 Page 30, line 1 to page 32, line 15, 17 which is actually, I think it's line 12 actually, not 18 line 15. 19 EXAMINER SEE: So it's page 32 to the end 20 of line 12? 21 MS. WHITFIELD: Yes. So page 30, line 1, 22 through page 32, line 12. And I just move to strike 23 those passages, your Honor, for the same reasons that 24 have been articulated numerous times on the record. 25 This information has nothing to do with the

885 1 determination of need of a facility based on resource planning projections and, under the Turning Point 2 3 decision, is irrelevant to Phase I of this proceeding and should be stricken. Thank you, your Honor. 4 5 MR. COLLIER: OCA joins. MR. MENDOZA: Your Honor, if I may? 6 7 EXAMINER SEE: Just a second, 8 Mr. Mendoza. 9 MR. MICHAEL: Your Honor, I would just 10 like to say OCC would join in the motions to strike. 11 MR. OLIKER: As would IGS and IGS Solar. 12 MS. BOJKO: As would OMAEG. 13 MR. DARR: And IEU. 14 EXAMINER SEE: Go ahead, Mr. Mendoza. 15 MR. MENDOZA: Your Honor, I believe all 16 these arguments have already been heard and rejected. 17 On page 4, the information on page 4 goes to the core 18 matter in this case, whether the -- whether the 19 competitive markets are developing adequate renewable 20 energy to serve Ohio customers and it's clearly 21 determination of need. 2.2 Also, your Honors have already reviewed, 23 the concepts of economic development benefit is well 24 within the parameters that the Commission can 25 consider for need and so the Commission should hear

1 that evidence, and I believe all these arguments have 2 already been rejected. 3 MS. BLEND: AEP Ohio supports Sierra Club's position for the reasons we've already 4 5 previously articulated numerous times this week and 6 would be happy to elaborate further if the Bench 7 would like. MS. WHITFIELD: Well, your Honor, if you 8 9 recall, intervenor testimony of certain witnesses, certain intervenor witnesses including Kroger's 10 11 witness was stricken because -- or deferred, 12 deferred, I'm sorry, to Phase II where it was 13 challenging the economic impacts and the calculations 14 of those economic impacts on the basis therefore, and 15 just -- and Sierra Club's, Mr. Goggin's testimony is 16 testimony of an intervenor on those same issues. 17 Just because AEP Ohio did not move to strike those 18 because it's favorable to them does not mean that it 19 should not likewise be deferred the same as --20 consistent with your order on January 14. 21 MS. BLEND: And, your Honor, I would like 22 to respond to that further. I don't believe it's a 23 fair characterization of the testimony that was 24 stricken that Ms. Whitfield just provided. 25 As the January 14, 2018, Entry recites,

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1	the intervenor testimony that was deferred for the
2	second phase of this hearing related to the request
3	for proposal that led to the execution of the REPAs,
4	the specific terms and conditions, and associated
5	cost of those REPAs, the cost recovery proposal, and
6	the rate issues and the Green Power Tariff that the
7	Company is proposing in another case. It did not
8	relate to general economic development or other
9	testimony or evidence.
10	MR. MENDOZA: Your Honor, I concur in
11	Ms. Blend's the points that Ms. Blend just made.
12	I would add that Mr. Goggin's testimony,
13	on page 30 through 32, he talks about the generic
14	benefits of economic development and not specific
15	projects. You'll note there is no reference to any
16	specific projects that have been proposed by the
17	utility in this case; and so it's clearly something
18	the Commission can consider as it determines the need
19	for further renewable development in Ohio.
20	EXAMINER SEE: Based on our previous
21	rulings, this motion to strike Mr. Goggin's testimony
22	is denied.
23	MS. WHITFIELD: Thank you, your Honor.
24	EXAMINER SEE: Ms. Bojko, you had another
25	motion to strike?

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MS. BOJKO: I do, your Honor. I have several. I am not sure if you want to handle it one by one.

Several of the footnotes and articles and 4 5 documents relied upon by Mr. Goggin in his testimony, 6 and I have those listed and can do that, but those 7 documents are inadmissible hearsay as well as 8 Mr. Goggin has a lack of foundation, lack of personal 9 knowledge. Through his deposition, we went through 10 each one of these articles, and Mr. Goggin explained 11 to me that he was not the author for a majority of 12 those and the ones that I will move to strike. He 13 had no part in drafting it. He merely pulled it from 14 another source or off of the website.

For -- if you want me to go through 15 16 those, for instance, if you look at one of the most 17 egregious ones, if you look to the back -- he cites 18 Money.CNN, a Facebook page, in Footnote 56. He talks 19 about AWEA organizational materials. He doesn't know 20 of those. I can list those specifically, your Honor. 21 MR. MENDOZA: Your Honor, may I respond 22 to those specific points? I think it will show the 23 lack of merit for all of Ms. Bojko's motions. 24 First of all, with respect to the 25 Facebook comment. Mr. Goggin interacted with

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1 Facebook at the time and has personal knowledge of 2 Facebook's decision to choose to locate that data 3 center in Texas as to Ohio. Furthermore, CNN is a 4 reputable source. 5 But again, Mr. Goggin has personal 6 knowledge because he was involved in the decision --7 he was not involved in the Facebook decision. He discussed the decision with Facebook at the time and 8 9 so he has personal knowledge. 10 Mr. Bojko -- Ms. Bojko did not ask 11 Mr. Goggin whether he had personal knowledge of all 12 these. If she had, she would have learned that he 13 did. 14 I'm sorry, what was the -- what was the 15 other one you raised? 16 MS. BOJKO: I wasn't finished with my 17 argument. 18 EXAMINER SEE: Just a minute. Let. 19 Ms. Bojko finish with her motion and then you will 20 have an opportunity to respond, Mr. Mendoza. 21 MS. BOJKO: Your Honor, we did go through 22 each footnote in painstaking detail. Just because 23 you have a conversation with somebody, it's still 24 hearsay. It's classic inadmissible hearsay. The 25 Facebook representative is not here to make the

1	comment. Many of the documents, he did not have any
2	involvement in.
3	So if you would like me to list those
4	specifically, your Honor, because I will not move to
5	strike PJM-type documents, but other footnotes where
6	he has admitted that he has no part in, we will move
7	to strike that as well as the associated testimony.
8	So if you look at Footnote No. 4,
9	Mr. Goggin admits that he's not the author. He's, in
10	previous years, been the author of these types of
11	reports but for this particular one, he is not the
12	author of.
13	Footnote 5, he did not review, he is not
14	the author, was not involved in it whatsoever.
15	For Footnotes 6 through 10, he stated
16	that he was not involved in the drafting, the
17	crafting of these documents. He neither verified or
18	could verify the accuracy of these documents.
19	If you go to Footnotes 11 through 13, he
20	had no involvement in any of these three documents
21	that he cites from, takes data from. He did not
22	confirm the data. He did not verify the accuracy of
23	the data.
24	Footnote 11 or 15, excuse me, is a
25	paper, Kleinman Energy, it's found on the PJM

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891 website. He stated he had no involvement in such 1 2 documents. He did not verify the accuracy and cannot 3 attest to it. I can't cross-examine him on these 4 documents. 5 16 is a PJM report, so we will not move to strike that one. Same with 17 and 18. 6 19, his name is not on the document. 7 He does claim that he contributed or could be accounted 8 9 for contributing to that document, but we have no way 10 of verifying that information because his name is not 11 on the document. 12 I will move to strike 23. This report 13 about --14 EXAMINER SEE: Ms. Bojko. 15 MS. BOJKO: Yes, I'm sorry. 16 EXAMINER SEE: 19 and then all the way to 17 23? 18 MS. BOJKO: Yes, your Honor. The others 19 are FERC and PJM documents. 20 EXAMINER SEE: Okay. Go ahead. 21 MS. BOJKO: And then, your Honor --22 EXAMINER SEE: I'm sorry, you didn't 23 finish your explanation about Footnote 23. 24 MS. BOJKO: Oh, I apologize. This is a 25 document about a capacity report from MISO Energy

892 1 CDN. It's not a document that he produced and he did 2 not verify the accuracy of it. The footnotes 24 and 25, similarly while 3 4 he may have drafted previous LBL documents, he 5 admitted he had not drafted this document. He did not check the accuracy of this document and he cannot 6 7 verify the contents of this -- these two documents on 24 and 25. 8 Similarly, on Footnote 26, just confirm, 9 10 your Honor, that is not one that he -- Footnote 26, I 11 believe he was not involved with and he did not 12 verify the accuracy of that one, so I would move 26. 13 28 is the same report that I already 14 discussed in a previous footnote. 15 Footnote 29, they're EconPapers. They 16 are nothing that Mr. Goggin's drafted or relied upon 17 or used and he could not verify the accuracy of those 18 documents when questioned in deposition. 19 Then I will skip to No. 37, your Honor, a 20 blog, a Joseph Daniel blog. This was not the work of 21 Mr. Goggin. He did not contribute to it, he was not 22 an author, and it should be stricken. 23 Similarly, your Honor, Footnotes 39, 40, 24 he was not a part of those two documents. He did not 25 have any involvement. He was not an author, and he

893 1 can't verify the accuracy of those documents. 2 I'm not going to move 41. He claimed that he was a reviewer of that document, so we'll 3 leave 41. 4 5 Skipping over to 45, 46, these are documents that Mr. Goggin said he did not take part 6 7 He did not draft. He was not an author. He did in. 8 not contribute to those reports. 9 And then it's my understanding, your 10 Honor, he did contribute or provide reports -- he had 11 some involvement in 48 through 50. I am not going to 12 move to strike a Commission document. 13 So that takes us to --14 EXAMINER SEE: Just a minute, Ms. Bojko. 15 Go ahead. 16 MS. BOJKO: And then, your Honor, he was 17 not an author of Footnotes 54 and 55. He believed he 18 might have contributed, in the past, some piece or 19 part of that data, but he could not verify that he 20 was the author and that he actually drafted or 21 produced those documents. 2.2 As far as 56, I don't know why today we 23 now are talking about his personal experience with 24 Facebook. When I asked him if he wrote or 25 contributed to No. 56, Mr. Goggin's said no, and I

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1	can get the deposition transcript out as well, but he
2	said no.
3	MR. MENDOZA: That's because you asked
4	you didn't follow-up and ask if he had personal
5	knowledge of the information in this testimony.
6	MS. BOJKO: It doesn't matter. If he
7	didn't draft the document and if the Facebook
8	representative is not here, it is inadmissible
9	hearsay under the rules.
10	57 is an Energy News article. And that
11	article, he also said that he did not write and he
12	said that his client in this case was not a part of
13	the Senate Bill 310 debate and that he did not draft
14	that article.
15	So, your Honor, those conclude the
16	striking of the footnotes. There's related testimony
17	that goes with the footnote but I think maybe your
18	decision on the articles might lead to the rest of
19	the motions. Would you like me to tell you all of
20	them?
21	EXAMINER SEE: Do you have additional
22	motions to strike?
23	MS. BOJKO: No, your Honor, just the
24	related testimony; so if there is a footnote that was
25	cited or quoted from one of the articles, that would

also be stricken. 1 2 MR. MENDOZA: If I may? 3 EXAMINER SEE: Yes. MR. MENDOZA: Well, I would first like 4 5 to, you know, counsel has not even made a basis for 6 striking any of the testimony. She has -- any of his 7 actual testimony, putting aside the footnotes. 8 Mr. Goggin has personal knowledge of every sentence 9 of his testimony. And if counsel would like to cross-examine him about that, she could have done it 10 11 at the deposition. She chose not to. She could do 12 it -- she could do it today if she would like. But I 13 will go through each of her points. 14 First of all, with respect to Footnote 4, 15 the Lawrence Berkeley laboratory, that is part of the 16 Department of Energy, it's a federal agency. It's 17 very common for this Commission to take 18 administrative notice of federal-agency documents. 19 My understanding is the Lawrence Berkeley laboratory 20 produces information about renewable energy and other 21 energy issues, and experts in the field rely on it. 22 If Ms. Bojko would like to test Mr. Goggin's 23 knowledge of what the Lawrence Berkeley laboratory 24 does, she could do that. 25 But it's the Commission -- and I would

1 reiterate that for all these points that Mr. Goggin 2 has personal knowledge of the information in his 3 testimony and, in this case, can rely on what the 4 Lawrence Berkeley laboratory has said on these 5 topics. Footnote 5, I believe, is the same 6 7 federal government agency, the department -- an 8 agency of the Department of Energy. 9 Footnote 6 is the PJM Market Monitor. Ι 10 think it's fairly common in Commission proceedings 11 for this -- the Commission to take administrative 12 notice of Market Monitor Reports. The Market 13 Monitor's job is to monitor the PJM market and 14 provide information to stakeholders. It's obviously 15 valuable for the Commission to have that information. 16 As to -- SPP is a ISO that serves another 17 part of the country. A core part of this case is 18 whether the PJM markets are adequately developing 19 renewables and so some comparison to what is going on 20 in other ISOs is valuable and relevant. The 21 Commission can give it the weight it sees fit. 2.2 The next document is to -- the Market 23 Monitor of one of those other ISOs, and if the 24 Commission can take administrative notice of PJM 25 market documents, surely it can do the same for the

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1 Market Monitors of other ISOs whose job is to monitor 2 the market and provide information to people like the Public Utilities Commission of Ohio and stakeholders. 3 As for Footnote 9, that's the Energy 4 5 Information Administration of the United States 6 Government. Its job is to provide information about 7 energy issues. The Commission routinely takes administrative notice of information from that 8 9 government agency. I don't think more discussion of 10 that is merited. 11 The next one is another document from the 12 Lawrence Berkeley laboratory which again is a federal 13 agency. Footnotes 11 through 13, again, we're 14 15 talking about a Market Monitor Report. Very common to take administrative notice of Market Monitor 16 17 Reports. It is the job of the Market Monitor. 18 Footnote 12, I think she mentioned. Mr. 19 Goggin worked at the American Wind Energy Association 20 for many years. Many of the documents he cites to, 21 via website, are documents he himself wrote. Others 22 rely on criteria for collecting information that he 23 developed himself and so, therefore, can verify. 24 Even when the collection went on after -- after his 25 time there, he can verify the accuracy of that

1 information, how it was collected, why it was 2 reliable. Footnote 15, I believe was another one. 3 So this is a citation to a document on the PJM 4 5 website about the stakeholder process at PJM. 6 Mr. Goggin has participated in the PJM stakeholder 7 process, dozens of times, is my understanding Mr.--8 Ms. Bojko, excuse me, could ask him about his 9 experience participating in the PJM stakeholder 10 process over the many years he has done that if she 11 would like to do so. 12 And, again, the actual testimony 13 statement is something that he can support with his 14 own personal knowledge. The Commission can give the 15 document the Kleinman Energy article such -- whatever 16 weight it sees fit, but Mr. Goggin is very familiar 17 with the PJM stakeholder process. 18 I think Footnote 19 was the next motion. 19 Again, this is an AWEA blog that Mr. Goggin wrote and 20 so she can ask him about if she would like. 21 Footnote 23 is a MISO document which is, 22 again, another ISO. If the Commission can take 23 administrative notice of PJM documents, surely it can 24 take administrative notice of MISO documents and it 25 can take -- it can afford those documents the

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1 appropriate weight. Again, it goes to how the 2 competitive markets in Ohio are developing renewable 3 energy in a comparison to other ISOs is, I would, 4 argue relevant. 5 Footnote 25. Footnote 25 relates to --6 supports a statement that describes the operational 7 parameters of wind turbines. Mr. Goggin has personal 8 knowledge of every bit of information in that -- in 9 the sentence to which it relates. If they would like 10 to cross-examine him on that topic, surely they can 11 do that today. As to the document itself, the Hirth 12 Mueller article, the Commission can give that 13 document the weight it deems appropriate. 14 Footnote 29, again, relates to a 15 statement of which Mr. Goggin has personal knowledge 16 and can be cross-examined on. There's no prejudice 17 to any party to the inclusion of that footnote, and 18 the Commission can give the appropriate weight to it. 19 Footnote 37, I believe, was the next one. 20 So this is a blog written by expert -- I'm sorry. 21 EXAMINER SEE: Just --22 MR. MENDOZA: Footnote 37 relates to an 23 analysis by another expert. Mr. Goggin -- and I may 24 not have the facts exactly right and counsel could 25 cross-examine him on this topic if she would like, my

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900 understanding is Mr. Goggin interacted with this 1 2 expert as he was developing the analysis, verified his methodology, found it reasonable, and therefore 3 included this information in his testimony. And the 4 5 Commission can give it the appropriate weight. MS. BOJKO: Your Honor, may I quickly 6 7 respond? 8 MR. MENDOZA: I would like to get 9 through -- I think you had some other motions. 10 Footnote 39 is a consulting firm's 11 report, I believe, and Mr. Goggin has personal 12 knowledge of the information in the sentence to which 13 that relates, and the Commission can give the 14 footnote the appropriate weight. 15 I think Footnote 45 was -- oh, no, there 16 was a few more. Footnote 45 relates to an ERCOT 17 document. That's the ISO that serves Texas. Again, 18 if the Commission can take administrative notice of 19 PJM documents, surely it can take administrative 20 documents of ERCOT documents. 21 Footnote 55, I believe, was the next one. 22 This is the Environmental Protection Agency of the 23 United States Government. It's fairly common to cite 24 to federal government agency documents as reliable 25 sources. Mr. Goggin used a tool provided by the

1 Environmental Protection Agency to offer some 2 predictions on the public health impact -- excuse me, 3 the emissions impact of renewable -- building generic renewable projects in Ohio. If counsel would like to 4 5 cross-examine him on the way he used that tool, they 6 are free to do so. I don't think there is any doubt 7 that the EPA document is a reliable source and, of 8 course, the Commission can give it the weight that it sees fit. 9

10 Footnote 56, so this is the Facebook 11 decision-making around siting projects in Texas over 12 Ohio. my understanding is that Mr. Goggin interacted 13 with Facebook personnel at the time and has personal 14 knowledge of that -- of that information, and I would 15 add that CNN is a reputable news source and the 16 Commission can give it the weight it sees fit. The 17 same arguments apply to the Energy News article. 18 MS. BOJKO: Your Honor, quickly, the 19 standard for hearsay in the state is -- 801 is the 20 rule -- is an out-of-court statement made by somebody 21 that is not here in order to testify and verify the

22 accuracies of their statement. There are exceptions 23 to the hearsay rule. The one -- the footnotes that I 24 did not ask to be stricken are exceptions. Things 25 like CNN news is not a learned treatise. LBL is not

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902 1 a federal agency. It is not a learned treatise. It 2 operates on behalf of --3 MR. MENDOZA: Your Honor, that was a 4 false representation. MS. BOJKO: It's not a federal agency. 5 It works on behalf of a federal agency. It's not --6 7 it doesn't fall within one of the exceptions. 8 Additionally, a Market Monitor's report, the Market Monitor is an advocate. This Commission 9 10 has received comments and intervention status from PJM's Market Monitor. This Commission has 11 12 historically held that the Market Monitor is not the 13 same as a government agent or PJM itself. 14 As for Texas and ECOT -- ERCOT, those 15 Texas statements are irrelevant to the case here. 16 So, under 401 those are irrelevant. 17 MR. MENDOZA: Your, Honor, all those 18 motions --19 EXAMINER SEE: Just a minute, 20 Mr. Mendoza. 21 MS. BOJKO: It's classic hearsay. 22 EXAMINER SEE: You will have your 23 opportunity. 24 MS. BOJKO: He can testify to information 25 of his personal experience, but he cannot use this

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1	Commission as a document dump. This is not a comment
2	period. This is not a place where we're accepting
3	all kinds of research that the witness himself did
4	not conduct. He can talk about his personal
5	experience. He can talk about his expertise. He can
6	testify to his expertise, but he cannot dump
7	documents in the record from other experts that are
8	not here to testify. They do not fall within the
9	exceptions of the hearsay and they are inadmissible
10	and a lot of them are irrelevant.
11	MR. MENDOZA: May I respond, your Honor?
12	EXAMINER SEE: Yes.
13	MR. MENDOZA: I would just note that she
14	started out her motion to strike for hearsay and now
15	has invented a relevancy motion, you know, on reply
16	or something. The Commission can decide what is
17	relevant.
18	I would argue that if you are going to
19	understand the competitive market in Ohio is
20	developing adequate renewable energy to serve Ohio
21	customers, it's worth considering what's going on in
22	other markets. Those you know, people who work in
23	this industry think about how PJM relates to other
24	ISOs all the time. I think it's relevant. In any
25	case, the Commission can decide what it considers

904 relevant. There is no point in spending all morning 1 2 debating that issue. 3 As for -- I would just point out, you 4 know, the hearsay rule applies to statements. As I 5 said, every statement in his testimony is something 6 that Mr. Goggin can support with personal knowledge 7 or cites to a reputable source of which -- for which this Commission routinely takes administrative 8 9 notices. And I think that's enough on this topic for 10 now. 11 MR. OLIKER: Your Honor, can I respond to 12 something? 13 EXAMINER SEE: Briefly. 14 MR. OLIKER: What does the capacity 15 factor of a wind turbine in Texas have to do with 16 this case? It's simply irrelevant. It provides no 17 probative value except for misstating the record. 18 EXAMINER SEE: Thank you, Mr. Oliker. 19 MR. KURTZ: Your Honor? No. Okav. 20 EXAMINER SEE: Ms. Bojko, your motion to 21 strike the numerous footnotes in Mr. Goggin's 22 testimony is denied. You had other motions? 23 MS. BOJKO: Your Honor, just for the 24 record, I take it you're similarly denying the motion 25 to strike associated with the testimony?

905 1 EXAMINER SEE: And the testimony in the 2 footnotes as well as the testimony related to. 3 MS. BOJKO: No, your Honor. I assume I am free to cross Mr. Goggin on every single one of 4 5 these articles that he cites to and claims to have 6 used, and I would just note for the record this is a 7 departure from your prior rulings, and for appeal 8 purposes would like to --9 EXAMINER SEE: Ms. Bojko, your motion has 10 been denied. You can cross-examine him. 11 Mr. Kurtz, you had--12 MR. KURTZ: Excuse me. You've ruled, so 13 I have nothing further. 14 EXAMINER SEE: Okay. Was there a --15 okay. 16 Cross-examination for -- of this witness. 17 Mr. Dove. 18 MR. DOVE: No, your Honor. 19 EXAMINER SEE: Ms. Leppla. 20 MS. LEPPLA: No, your Honor. 21 EXAMINER SEE: Mr. Kurtz. 2.2 MR. KURTZ: I do, just very briefly. 23 24 25

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1	CROSS-EXAMINATION
2	By Mr. Kurtz:
3	Q. Good morning, Mr. Goggin.
4	A. Good morning.
5	Q. Your testimony runs through a whole
6	series of perceived flaws in the PJM market as it
7	relates to renewable generation; is that correct?
8	A. That's correct.
9	Q. That would include the Minimum Offer
10	Price Rule, capacity performance penalties,
11	calculation of capacity value for renewables, energy
12	price caps and other things?
13	A. That's correct.
14	Q. Do you think it's the Commission's job
15	here to fix perceived flaws in the PJM energy and
16	capacity markets?
17	A. I don't. The purpose of the statements
18	in my testimony was to illustrate why renewable
19	development in the wholesale market and PJM has
20	lagged that of other regions, pointing out that these
21	aspects of the market design are disincentivizing the
22	development of renewable energy that would be
23	economic for customers.
24	Q. Do you agree that it's the Commission's
25	job here to enforce Ohio law given the realities of

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1 the PJM market?

2	MS. BOJKO: Objection. Your Honor, this
3	witness has not been established as an attorney and
4	now Mr. Kurtz is asking him to opine on Ohio law and
5	what the Commission should or should not do under
6	that Ohio law.
7	MR. KURTZ: Do I need to respond? I am
8	not asking for a legal opinion. The question is
9	whether there is a capacity need, et cetera, under
10	that provision of the Revised Code, so I am asking my
11	question in that context.
12	EXAMINER SEE: Well, rephrase your
13	question, Mr. Kurtz.
14	Q. (By Mr. Kurtz) Do you think it's the
15	Commission's job here to make a determination of need
16	given the realities of the PJM market?
17	MS. BOJKO: Objection. Again, it calls
18	for a legal conclusion. This witness has not been
19	established even to be a regulatory expert in Ohio on
20	Ohio law. He has not been asked there is no
21	foundation that he even knows what the law says and
22	now you are asking him to opine upon what the
23	Commission should or shouldn't find under that law.
24	MR. KURTZ: Do I need to respond to that?
25	This whole case is about need.

908 I think he needs to establish 1 MS. BOJKO: 2 foundation, your Honor, which he has not done. Ι 3 don't recall Mr. Goggin citing to the statutory provision that Mr. Kurtz is asking about. 4 5 MR. KURTZ: All the Orders in this case 6 made this Phase I about need. So if it's not about 7 need, the testimony is not relevant. Maybe it isn't, but --8 9 MS. WHITFIELD: There you go. 10 MS. BOJKO: I support that motion to 11 strike, your Honor. 12 MS. WHITFIELD: Ding, ding, ding. 13 EXAMINER SEE: You can answer the 14 question, Mr. Goggin. THE WITNESS: Could you repeat the 15 16 question? 17 Ο. (By Mr. Kurtz) Do you believe that it's 18 the Commission's job here to make a determination of 19 need based upon the realities of the PJM market as 20 those realities currently exist? With --21 Α. So while I am not an expert on Ohio 22 statute, I believe that AEP Ohio has done an economic 23 analysis of the value of these projects and I found 24 it compelling and reasonable. My testimony notes a 25 number of reasons why PJM market design is not

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1	allowing the development of the
2	economically-efficient renewable resources and that's
3	the point of my testimony.
4	MR. MICHAEL: Your Honor, I would move to
5	strike Mr. Goggin's response regarding his views on
6	what AEP has done. It's irrelevant. That's not what
7	his testimony is about and it's also nonresponsive to
8	the question, so the extent to which Mr. Goggin
9	thinks what AEP has done is reasonable or compelling
10	should be stricken.
11	EXAMINER SEE: Denied.
12	Q. (By Mr. Kurtz) You're aware that the
13	Federal Government has various investment tax credits
14	and production tax credits that are designed to
15	incentivize the development of renewable generation,
16	are you not?
17	A. That is correct. Although, those are
18	currently in the process of phasing down or have
19	almost entirely phased out at this point.
20	Q. Should those federal tax incentives be
21	taken into account by the Commission as a reason for
22	denying a need finding?
23	MS. WHITFIELD: Just note my objection to
24	this.
25	MR. KURTZ: This is a question you should

1 like.

2	MS. WHITFIELD: Again, it's calling for a
3	legal conclusion. You are wanting him to put himself
4	in the position of the Commission.
5	MS. BOJKO: Witnesses aren't supposed to
6	say what the Commission is going to do.
7	MR. KURTZ: There is a reason these
8	hearings go until 8:30 at night. I am not asking for
9	a legal conclusion. This is not friendly. This is
10	anti-friendly, Ms. Bojko.
11	EXAMINER SEE: Mr. Goggin, you can answer
12	the question.
13	A. I believe again, I'm not a legal
14	expert, but I believe the Commission's mandate is to
15	serve the best interest of Ohio customers, and the
16	availability of federal tax credits that reduce the
17	cost to Ohio customers of procuring renewable energy
18	would be in those consumers' interests.
19	Q. But why should the Commission take into
20	account in this case all the bad things you cite
21	about PJM and renewables and not take into account
22	all the good things the federal tax code does for
23	renewables? Aren't they equally as
24	MR. MENDOZA: Objection.
25	Q. Why should the Commission do that?

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1 MR. MENDOZA: Objection. It misstates 2 his previous answer. He said the Commission should 3 consider the production tax credit and the investment tax credit. 4 5 Ο. (By Mr. Kurtz) Well, let me rephrase. Should the PTC and ITC be a reason to 6 7 deny a need? 8 Α. The federal production tax credit and 9 investment tax credit were created to incentive the 10 development of renewable energy, accounting for the 11 value that those resources provide, economics, 12 environment benefits, public health benefits, et 13 cetera. The market-design flaws that I've identified 14 in the PJM market were not intended to serve any such 15 public need and, therefore, are different and they are not correcting for an externality unlike the PTC 16 17 and ITC at the federal level. 18 I am not asking for a legal conclusion. Ο. But isn't it the role of a Commission to enforce 19 20 it -- its responsibilities, given the realities of 21 PJM and the realities of the federal tax code, you 22 are not suggesting the Commission has any re --23 any -- any way to change those realities, are you? 24 No, I am not. Α. 25 MR. KURTZ: Okay. Thank you, your Honor.

912 1 EXAMINER SEE: Mr. Michael. 2 MR. MICHAEL: Thank you, your Honor. 3 4 CROSS-EXAMINATION 5 By Mr. Michael: 6 Good morning, Mr. Goggin. I am over here Ο. 7 on the far right. There is a great deal of 8 uncertainty regarding how capacity value of 9 renewables will be treated with regard to the pending 10 MOPR rule, correct? 11 Α. That's right. 12 0. And it's possible that the renewables 13 proposed by AEP here will not clear the capacity 14 market, correct? 15 Α. At this point that's highly speculative 16 given that, as we just noted, the Federal Energy 17 Regulatory Commission has not yet ruled on how what 18 it deems subsidized resources will be treated in 19 PJM's capacity market; that ruling is pending, 20 expected any day. 21 And beyond that, there's always 22 significant uncertainty about how any individual 23 resource would clear the capacity market. There's 24 the expectations of bidding behavior and all types of 25 things that go into that.

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1	I would note that the proposals that PJM
2	put forward to the Federal Energy Regulatory
3	Commission for the Minimum Offer Price Rule contained
4	a number of options including the, you know, fixed
5	resource requirement or the resource carve-out option
6	that would allow AEP Ohio to potentially value the
7	capacity that renewable resources would provide even
8	if those resources don't clear the capacity market.
9	Q. Mr. Goggin, you recall that I took your
10	deposition within the last 10 days, correct?
11	A. That's correct.
12	Q. And you were under oath during that
13	deposition?
14	A. That's correct.
15	MR. MICHAEL: Your Honor, may I approach?
16	EXAMINER SEE: Yes.
17	Q. (By Mr. Michael) Mr. Goggin, I've handed
18	you a copy of the transcript from your deposition
19	that was taken January 10, 2019. Just review that
20	document real quick and confirm that's what it is,
21	please.
22	A. It is.
23	Q. And I am going to draw your attention to
24	page 9.
25	A. Okay, I'm there.

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1	Q. Line 10. And the Question is: "Okay, but
2	I guess the question I'm asking is there's no doubt
3	that some renewables have but it's possible that
4	these will not, correct?"
5	A. That's correct. That's what it says.
6	Q. And then Mr. Mendoza and I have a
7	discussion, and I would draw your attention now,
8	Mr. Goggin, to page 10, line 9. Are you there with
9	me?
10	A. Yes.
11	Q. And it states or you state, during the
12	deposition, "Yeah, I would say I mean the rules for
13	the capacity market are influx at the moment, and you
14	know, PJM has delayed its capacity market option
15	until FERC it provides certainty and finalizes
16	what the rules are going to be. So, it's difficult
17	to say so certainly yes, it is possible that they
18	would not clear, again, because the rules have yet to
19	be determined."
20	Did I read that correctly?
21	A. That's correct.
22	MR. MENDOZA: Objection, your Honor.
23	This is improper impeachment. There seems to be a
24	misunderstanding of a deposition in this hearing. If
25	a witness gives a slightly varying answer to a

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1 question that is open-ended, it is not appropriate 2 impeachment to show this witness answered the same question slightly differently a week ago. We are --3 human beings are not capable of giving the exact same 4 5 answer from memory to a complex question. Mr. Michael asked this witness if there 6 is uncertainty in the PJM market rules. It is a --7 it is a -- it's a paradigmatically open-ended 8 question. Excuse me. Mr. Goggin's answer in both 9 10 cases focused on how there is flux in what the market 11 rules will say, there is uncertainty. And I would --12 and besides what Mr. Kurtz said a few moments ago 13 that there is reason why these hearings go on until 14 8:30 at night, because people are unwilling to, in 15 this case, use depositions for the appropriate 16 purpose. 17 MS. BOJKO: Your Honor, I am going to 18 object. 19 MR. MICHAEL: Your Honor, let me respond 20 first since I was the one crossing. I think 21 Mr. Mendoza ought to pay closer attention to my 22 questions because the question that I asked him was 23 very specific, very to the point, and it was "It's 24 possible that the renewable proposed by AEP here will 25 not clear the capacity market, right?" Very clear.

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1	In his deposition testimony, he said it's
2	possible they won't clear. That is not the answer he
3	just gave. It wasn't even close, all right? So if
4	the Commission wants to decide whether
5	EXAMINER SEE: We're off the record.
6	MR. MICHAEL: impeachment was proper,
7	that's fine.
8	EXAMINER SEE: Thank you, Mr. Michael.
9	We're off the record. Everybody needs a
10	break.
11	(Recess taken.)
12	EXAMINER SEE: Let's go back on the
13	record.
14	Ms. Michael.
15	MR. MICHAEL: Thank you, your Honor.
16	Q. (By Mr. Michael) Mr. Goggin, most of
17	PJM's proposed rules, that are being discussed right
18	now, will effectively exclude renewables from
19	receiving capacity market clearance, correct?
20	A. As proposed, yes, that's correct. But,
21	again, the Commission has not yet ruled on, the
22	Federal Energy Regulatory Commission, has not yet
23	ruled on what rules it will accept.
24	MR. MENDOZA: Can I just clarify,
25	Mr. Michael, you are asking about the MOPR rules?

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1	MR. MICHAEL: Yes. Thank you.
2	Q. Setting aside you're familiar with the
3	fixed resource requirement, correct, Mr. Goggin?
4	A. That's correct.
5	Q. And if I refer to that as FRR, you will
6	understand to what I am referring, correct?
7	A. That's correct.
8	Q. Setting aside FRR and self-supply, if the
9	renewables don't clear the capacity market, the cost
10	of the Renewable Generation Rider will increase,
11	correct?
12	A. That is correct. If you again set aside
13	those two possible exemption routes that PJM
14	proposed, the FRR and the resource carve-out or
15	self-supply option, that's correct.
16	Q. Thank you.
17	If if the renewables that we are here
18	discussing, Mr. Goggin, were designated a fixed
19	resource, the renewables output would be used for
20	AEP's own customers, correct?
21	A. That's correct.
22	Q. And Mr. Goggin, those customers would
23	come from one of two places, either current SSO
24	customers, or customers being served by competitive
25	retail electric suppliers, correct?

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1	A. That's my understanding, yes, but I am
2	not an expert on retail rates in Ohio.
3	Q. Mr. Goggin, I would like to draw your
4	attention to page 4 of your testimony, if I might.
5	A. Okay. I'm there.
6	Q. And you assert, on page 4 of your
7	testimony, that the PJM market is falling short of
8	the level that would primarily serve the economic
9	interests excuse me optimally serve the
10	economic interests of AEP Ohio's customers, correct?
11	A. That's correct.
12	Q. And you believe that the Public Utilities
13	Commission of Ohio has the authority to determine
14	what is in what is necessary to optimally serve
15	the economic interests of AEP Ohio service customers,
16	correct?
17	A. That's correct.
18	Q. You are aware, Mr. Goggin, that a number
19	of certified retail electric suppliers provide
20	renewable energy options to Ohioans, correct?
21	A. That's correct.
22	Q. And you are aware, Mr. Goggin, that some
23	of those options are 100-percent renewable energy,
24	correct?
25	A. That's correct.

Q. So in the State of Ohio, Ohioans are empowered to decide for themselves what level of renewable energy optimally serves their economic interests, correct?

5 Α. That is correct. I would note that many 6 of the options offered and many of the options 7 procured by customers through these renewable energy 8 credit purchases either rely on national renewable 9 energy credits that are produced somewhere else in 10 the country, typically not in this region, and, 11 therefore, the environmental, economic, and 12 job-creation benefits tend to accrue outside of this 13 region.

Even the renewable credit offerings that are sourced from PJM, via a regional energy credit, that would have less in-state economic development benefits, potentially other less smaller benefits, as opposed to direct procurements of renewable energy in the State of Ohio.

20 MR. MICHAEL: And, your Honor, I would 21 move to strike everything after his answer to my 22 question which was yes or correct. I forget 23 precisely what word he used but he acknowledged that 24 I was accurate. Everything after that statement, I 25 think, is nonresponsive. We -- I didn't ask him

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920 1 anything about the economic development or where the 2 resources were located. Obviously, if Sierra Club's counsel would like to bring those facts out, he is 3 free to do so on redirect examination. 4 5 MR. MENDOZA: Your Honor, if I may? 6 EXAMINER SEE: As with the other 7 witnesses, we are going to allow him to put some 8 context around his answer. 9 MR. MICHAEL: Thank you, your Honor. 10 EXAMINER SEE: Move on, Mr. Michael. 11 MR. MICHAEL: Thank you, your Honor. 12 (By Mr. Michael) Mr. Goggin, you're not Ο. 13 offering an opinion whether the AEP proposal is 14 needed from a resource planning perspective, right? 15 Α. No, I am not an expert in need as defined 16 in Ohio law. I, you know evaluated their proposal and found it reasonable, but I am not offering that 17 18 as a demonstration of need. 19 Thank you. Ο. 20 There's more than enough generating 21 capacity in PJM to serve customers in the PJM states, 22 correct, Mr. Goggin? 23 Α. That is correct. 24 If you would turn to pages -- let's start Ο. 25 with page 4, Mr. Goggin, of your testimony if we

921 1 could, please. 2 Α. Okay. 3 And you'll see in response to Question 6 Q. there's a paragraph that begins with "Second, I 4 5 discuss how capacity markets," et cetera. Do you see 6 that? 7 That's correct. Α. And I wanted to draw your attention to 8 Ο. what I will describe as 2.1, which would be the first 9 10 numbered paragraph under that. Are you with me? 11 Α. Yes, I am. 12 Ο. And there you talk about the tendency of 13 capacity market payments to incentivize, et cetera, 14 correct? 15 Α. That's correct. 16 Ο. And it's true, Mr. Goggin, that in that 17 particular point you are taking issue with the 18 current PJM market construct, correct? 19 Α. That's correct. 20 Ο. And if could I draw your attention to 21 Item 2.2, Mr. Goggin. It begins with "A proposal to 22 deny...." 23 Α. Yes. 24 And once again, Mr. Goggin, there, you 0. 25 are critiquing the current PJM market construct,

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1 correct?

	correct?
2	A. That is a critique of the MOPR proposal
3	that is pending, so it is not yet in force. Last
4	summer, the Federal Energy Regulatory Commission
5	rejected PJM's proposals and so there's not yet a
6	proposal in place on this. So it is not a current
7	aspect. It is a proposed aspect of the PJM market.
8	Q. Well put, Mr. Goggin. So, in any event,
9	it is a critique of a potential alteration to the PJM
10	market construct, correct?
11	A. That's correct.
12	Q. And Item 2.3, Mr. Goggin, on the top of
13	page 5.
14	A. Yes.
15	Q. Once again, that is a critique by you of
15 16	Q. Once again, that is a critique by you of existing and proposed PJM market constructs, correct?
16	existing and proposed PJM market constructs, correct?
16 17	existing and proposed PJM market constructs, correct? A. That is correct.
16 17 18	existing and proposed PJM market constructs, correct? A. That is correct. Q. And Item 2.4 is a critique that you have
16 17 18 19	<pre>existing and proposed PJM market constructs, correct? A. That is correct. Q. And Item 2.4 is a critique that you have of a PJM market construct issue, correct?</pre>
16 17 18 19 20	<pre>existing and proposed PJM market constructs, correct? A. That is correct. Q. And Item 2.4 is a critique that you have of a PJM market construct issue, correct? A. That is correct.</pre>
16 17 18 19 20 21	<pre>existing and proposed PJM market constructs, correct? A. That is correct. Q. And Item 2.4 is a critique that you have of a PJM market construct issue, correct? A. That is correct. Q. And if we could go to the sentence</pre>
16 17 18 19 20 21 22	<pre>existing and proposed PJM market constructs, correct? A. That is correct. Q. And Item 2.4 is a critique that you have of a PJM market construct issue, correct? A. That is correct. Q. And if we could go to the sentence beginning third, still on page 5, Mr. Goggin.</pre>
16 17 18 19 20 21 22 23	<pre>existing and proposed PJM market constructs, correct? A. That is correct. Q. And Item 2.4 is a critique that you have of a PJM market construct issue, correct? A. That is correct. Q. And if we could go to the sentence beginning third, still on page 5, Mr. Goggin. A. Yes.</pre>

923 PJM market construct, correct? 1 2 Α. That's correct. 3 Ο. And the same could be said or you would say for paragraph "Fourth"? 4 5 Α. Yes. To the extent that you consider the 6 transmission planning and cost allocation and 7 generator interconnection processes to be an aspect of the market design, it is a part of PJM, yes. 8 9 Ο. And it sets up the fact that your 10 testimony is a critique of PJM market construct, 11 correct? 12 Α. Yes. 13 Ο. Thank you. 14 Mr. Goggin, in your testimony you say 15 that PJM has good wind and solar resources, correct? 16 That's correct. Α. 17 Ο. And then you also discuss taller towers 18 and longer blades on wind turbines, correct? 19 Α. That's correct. 20 Ο. And that is taller towers and longer 21 blades as compared to turbines in other regions, 2.2 correct? 23 Α. Yes. 24 So PJM has as, you say, good wind and Ο. 25 solar resources so long as taller towers with longer

924 1 blades are built in the PJM region, correct? 2 MR. MENDOZA: Mr. Michael, would you mind 3 pointing him to the testimony you are referring to? MR. MICHAEL: Certainly. He may be able 4 5 to get it faster than I, Tony, and if you are 6 Mr. Goggin --7 Α. Yes, page 6, Question 8, looks like lines 8 5 through 13. 9 Ο. That's correct. That's the portion of 10 the testimony I'm discussing, thank you. 11 Sorry, the question was? Α. 12 Q. I was going to request that it be reread 13 if I could, please. 14 (Record read.) 15 Α. Yes, that's correct. 16 And how do the costs, Mr. Goggin, of the Ο. 17 taller towers with longer blades compare with the 18 cost of towers with the blades in other regions? 19 Α. They tend to be slightly higher. 20 Department of Energy data indicates that costs in 21 this region are I think in the range about 10 to 15 22 percent higher on an installed-cost basis than they 23 are in many other regions, some of the other regions 24 that have lower costs. That said, you know, the 25 higher productivity more than offsets that cost and

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so it does reduce the cost of -- on net of the wind 1 2 resource. 3 Ο. And it's correct they are building these taller towers with longer blades in other regions, 4 5 correct, Mr. Goggin? That's correct. Other regions are also 6 Α. 7 utilizing these larger turbines and larger towers and longer blades. 8 9 Ο. And it's true that if you build a taller 10 tower with longer blades in the other regions, that 11 increases the output of those wind turbines, correct? 12 It does but to a lesser extent it does in Α. 13 this region. The wind resource in PJM tends to 14 increase more as you go higher above the earth 15 surface as opposed to in other regions. There is 16 more gain in this region than in other regions. 17 Q. Lower capacity payments, Mr. Goggin, 18 under current PJM structure, is a function of the 19 variability of the output of the renewables, correct? 20 Α. That is one factor. I mean, the aspects 21 in which -- by which PJM calculates the capacity 2.2 value are also a significant factor. 23 Q. If I could direct your attention to page 24 32 of your testimony, Mr. Goggin. 25 Α. Yes.

926 1 Ο. In response to Question 36, you mention 2 large corporations' interest in renewables, correct? 3 Α. That's correct. And you believe that, based upon their 4 Ο. 5 track record, those large corporations have the 6 credit ratings sufficient to procure renewables, 7 correct? 8 Α. In some cases. I mean, obviously the 9 ones that have developed renewable or procure 10 renewable energy did have a sufficient credit rating 11 to do so. Whether it would be as good as the credit 12 rating or the other qualifications that AEP Ohio has, 13 I would be skeptical in many cases but not 14 necessarily all. 15 And based on those large corporations' 0. 16 track record, Mr. Goggin, they have the experience 17 and access to capital to build those projects, 18 correct? 19 Α. Again, reflective of the fact they have completed those projects, that indicates that they 20 21 were able to. Whether they did so at a higher cost, 22 it seems likely they would have incurred higher costs than other entities that have better access to 23 24 capital. 25 Q. All right. I would like to ask you a

927 hypothetical question, Mr. Goggin. So I am going to 1 2 ask you to assume for the purpose of the question the 3 truth of certain factors and if, at any time, you don't understand one of the assumptions I am asking 4 5 you to make, you just ask me to clarify it, okay? 6 Α. Okay. Okay. So first, I would like you to 7 Ο. 8 assume that there is no fixed resource requirement 9 option? And then I would like you also to assume the 10 institution of the Minimum Offer Price Rule. And I 11 would lastly like you to assume, Mr. Goggin, the 12 renewables we are here discussing don't clear the market. Okay? 13 14 Α. Okay. 15 Q. Given those --MR. MENDOZA: Objection, your Honor. 16 Incomplete hypothetical. Bill, could you define what 17 18 you mean by "Minimum Offer Price Rule" in your 19 question? 20 Certainly, and I would like to do so, if 0. I could, by: You're familiar with the Minimum Offer 21 2.2 Price Rule being discussed at FERC and PJM, correct, 23 Mr. Goggin? 24 PJM has put forward a proposal of what Α. 25 that would be, but I think the details of how that

928 would be calculated and what the minimum offer price 1 2 would be for different resources have not yet been 3 determined, and certainly this is still pending the final rulemaking at the Commission, the Federal 4 5 Energy Regulatory Commission. Certainly. Is it true, Mr. Goggin, that 6 Ο. 7 you are familiar with the concept of what is a Minimum Offer Price Rule? 8 9 Α. Yes. 10 Okay. And could you just give a short Ο. 11 description of what that is, please? 12 Α. A Minimum Offer Price Rule in an attempt 13 to account for out-of-market incentives for the 14 development of resources; sets a price floor at which 15 the resources must offer into the market that subtracts out the cost of the value of those 16 17 incentives and if -- because it institutes a price 18 floor that tends to make it more difficult for 19 resources to clear the market because they are forced 20 to bid at a higher rate than they might have 21 otherwise. 2.2 Ο. Okay. Thank you. 23 And, Mr. Goggin, I appreciate you going 24 back and defining that term. Do you recall the 25 assumptions I asked you to make, Mr. Goggin, or do

929 1 you need me to go through those again? 2 You said no fixed resource requirement, Α. the use of MOPR. 3 And the renewables don't clear the 4 Ο. 5 market. 6 And the renewables don't clear, yes. Α. 7 Q. If those -- given those assumptions, 8 consumers would be paying twice for generation were 9 AEP's plan to be approved; once for cleared 10 generation and then again through the Renewable 11 Generation Rider, correct? 12 Α. I would point out that there is another 13 option, the self-supply or the resource carve-out 14 option that PJM proposed to the Federal Energy 15 Regulatory Commission and that would be another 16 option than the fixed resource requirement that AEP 17 Ohio could use to realize the capacity value that new 18 renewable resources would provide even if they were 19 subject to the MOPR and did not clear the market. 20 Okay. That's a fair point, Mr. Goggin. 0. 21 Let's set aside the self-supply option. So we'll add 2.2 that to the number of assumptions I asked. 23 Α. Okay. 24 So, given those assumptions, you would 0. 25 agree that consumers would be paying twice for

1 generation; once for generation that cleared the 2 market and then once for generation through the 3 Renewable Generation Rider, correct? 4 Α. Yes, assuming all those hypotheticals are 5 true, yes. 6 And, Mr. Goggin, in a deregulated state, Ο. 7 designating a resource as a fixed resource 8 requirement with dedicated customers, you would 9 agree, is a return to vertical integration of electric utilities, right? 10 11 It would be a move to move more in that Α. 12 direction. The FRR construct in PJM is typically 13 used in more vertically-integrated states. I would 14 note that the resource carve-out or self-supply 15 option does not have that limitation. It could be 16 used more freely by entities that are not in a 17 vertically-integrated state. 18 Mr. Goggin, you're familiar with the fact Ο. 19 that, stated generally, the way the Renewable 20 Generation Rider would work would be that the 21 renewable resources would be bid on to the PJM 2.2 wholesale markets and then consumers would either be 23 charged or credited the different -- the net of the 24 revenue and the cost of the REPAs, correct? 25 Α. That's my understanding based on the AEP

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1 filing in this case.

2 And given that construct, Mr. Goggin, Q. isn't it true that that would transfer the business 3 risks associated with the renewable generation 4 5 resources from AEP to consumers? I would note that renewable resources are Α. 6 7 available to offer, typically, a fixed-price 8 contract, a PPA that has a fixed price that is known 9 upfront and over, typically, a significant duration, 10 10 or 20 years in many cases, and so I think it tends to net reduce the risk that consumers face due to 11 12 fuel prices and other factors that could affect the 13 economics of other resources because renewables don't 14 have to procure fuel and have very low ongoing 15 operating costs. In this case, there would be a PPA 16 in place, that risk would be minimized. But, yes, in 17 terms of the -- the other type of risk of price 18 deviations in the PJM market, then, yes, that would 19 be potentially for the customers. 20 Ο. Transferring the risk from AEP to 21 consumers, correct? 22 Α. Just as any -- any type of resource has

23 that risk, as PJM prices fluctuate and that's

24 inherent in the wholesale market, yes.

25

MR. MICHAEL: Thank you, Mr. Goggin. I

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932 1 have no further questions. 2 MS. BLEND: Your Honor, I don't know, I 3 think you may have missed AEP in your order, unless you were planning to get to us at the end. 4 5 EXAMINER SEE: The plan was for AEP to go 6 last. 7 MS. BLEND: Okay. Just wanted to check. 8 Thank you. 9 EXAMINER SEE: Ms. Glover. 10 MS. GLOVER: No questions, your Honor. 11 EXAMINER SEE: Mr. Nugent. 12 MR. NUGENT: My colleague, Mr. Oliker, will. 13 14 EXAMINER SEE: Good timing. 15 Mr. Oliker. 16 MR. OLIKER: Thank you, your Honor. 17 18 CROSS-EXAMINATION 19 By Mr. Oliker: 20 Q. Good morning, Mr. Goggin. 21 Good morning. Α. 22 Just a few questions for you this Ο. 23 morning. 24 Α. Okay. 25 Q. Going to your testimony and I believe

933 this is on page 6, Question 8, where you identify a 1 2 capacity factor of 39.3 percent. Am I correct this is from the Great Lakes region? 3 Α. That's correct. 4 5 Ο. And would you agree that the Great Lakes 6 region includes states besides Ohio? 7 Α. That's correct. 8 Ο. And some of those other states are 9 windier than Ohio, correct? 10 Some are, yes. Α. 11 Okay. And, for example, there are Ο. 12 portions of Indiana and Illinois that are windier 13 than the windiest part of Ohio? 14 Certainly I think those states have a Α. 15 total larger resource and I do believe that, yes, 16 there are likely to be sites that would at least be 17 comparable if not better than those in Ohio, but 18 again it's difficult to say there is no place in Ohio 19 has a -- is worse than -- I'm sorry -- is better than 20 any place in those other states. 21 Ο. Okay. And turning to your testimony 22 where you cite to PJM in Footnote 5. You've 23 identified a 20 percent capacity factor for a fixed 24 utility solar resource. 25 Α. That's correct, yes.

934 1 Ο. Am I correct that the 20 percent capacity 2 factor is not specific to Ohio alone? 3 That's correct. Α. 4 Ο. And am I correct also that you are not an 5 engineer? That's correct. 6 Α. 7 And what is your degree? Q. Social studies. 8 Α. 9 Ο. And with respect to the potential 10 capacity factor of a solar resource in Ohio -- and am 11 I correct you have not done any specific engineering 12 modeling? 13 Α. T have not. 14 And the type of modeling that would have Ο. 15 to be done for that type of projection would utilize 16 something like a helioscope model and predicting the 17 irradiance of the sun coupled with the location of a 18 unit? 19 Α. That's correct, yes. 20 Q. It's true you haven't performed that type 21 of analysis? 2.2 Α. I have not. I have used historical data 23 to reflect past performance. 24 And earlier you were discussing the 0. 25 proposals before PJM, correct?

935 1 Α. That's correct. 2 Are you familiar with any of the history Ο. 3 behind FERC's decision to reexamine the capacity markets? 4 5 Α. So you are referring to the decision in 6 July 2018, I believe it was, to reject the PJM 7 proposals? 8 Q. Yes. That's part of my question. 9 Α. Yes. 10 And are you familiar with --Ο. 11 MR. MENDOZA: Mr. Oliker, would you 12 explain the other part of your question, please, so 13 we are all on the same -- just so we know what order 14 proposal you are talking about. 15 MR. OLIKER: We will get there in due 16 course, Mr. Mendoza. 17 MR. MENDOZA: Okay. 18 (By Mr. Oliker) Are you familiar with the Ο. 19 complaint that was filed by Calpine at FERC, 20 regarding the Minimum Offer Price Rule? 21 Α. I'm generally aware that that was filed, 2.2 but I don't believe I've read it in detail. 23 Am I correct that one of the reasons why Ο. 24 FERC is reexamining the capacity markets is because 25 there have been concerns raised that subsidized

1 resources could, in the long term, jeopardize 2 reliability of the transmission grid? That has been one of the stated reasons. 3 Α. The other is, you know, would result in rates that 4 5 are not just and reasonable. And the conclusion is that if rates are 6 Ο. not just and reasonable, then capacity resources 7 8 won't be paid enough to continue to operate? 9 Α. That was the argument that was made by 10 some entities, yes. 11 And I believe you indicated some Ο. 12 familiarity with the proposal that PJM has pending before FERC now? 13 14 Α. That's correct. 15 Q. And if I were to present that proposal to 16 you, would you be able to identify it? 17 Α. I think so, yes. 18 MR. OLIKER: May I approach, your Honor? 19 EXAMINER SEE: Yes. 20 MR. OLIKER: And I would like to mark the 21 document I've placed in front of the witness as IGS 2.2 Exhibit 6. 23 EXAMINER SEE: So marked. 24 (EXHIBIT MARKED FOR IDENTIFICATION.) 25 Q. (By Mr. Oliker) Mr. Goggin, am I correct

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937 that the document that's marked as IGS Exhibit 6 1 2 contains the initial submission of PJM Interconnection, LLC, from October 2, 2018, in FERC 3 Docket No. EL16-49-000, et al.? 4 5 Α. That's correct. 6 And does this appear to be PJM's initial Ο. 7 submission to FERC, regarding potential modifications 8 to the capacity market? 9 That's correct. Α. And earlier you spoke with counsel for 10 Ο. the -- the Consumers' Counsel about a fixed resource 11 12 requirement alternative; is that correct? 13 Α. That's correct. 14 And am I correct that in your analysis of Ο. 15 PJM's submission, you were focused on how 16 fixed-resource-requirement resources would be 17 compensated as opposed to how PJM would perform the 18 capacity auction outside of that compensation? 19 Α. That was one element. I also was talking 20 about self-supply or resource carve-out option. 21 Ο. Okay. And there is also an extended 22 resource carve-out that would apply to a 23 fixed-resource-requirement resource, correct? 24 My understanding is that the -- while Α. 25 they are similar, the resource carve-out option and

938 1 the extended resource carve-out option would -- could 2 be eligible -- more resources could be eligible for 3 that. And the extended resource carve-out is 4 Ο. 5 discussed at page 64 of the filing, correct? 6 Α. That's correct. 7 Could you turn to that page. Q. 8 Α. I'm there. 9 Ο. And am I correct that the opening 10 sentence reads: "As noted in the Overview to this 11 submittal, the terms and conditions PJM proposes for 12 the Resource Carve-Out will not fully protect 13 capacity clearing prices from the effects of awarding 14 capacity commitments to uneconomic resources"? 15 Α. That's correct what it says. 16 Ο. And then if you go down to the last 17 sentence on the page, it says "Extended RCO is 18 designed to preserve competitive clearing prices 19 notwithstanding RCO's assignment of capacity 20 commitments to resources whose owners are required by 21 MOPR to submit a competitive offer price, but instead 2.2 elect the Resource Carve-Out." 23 Α. That's what it says. 24 MS. BLEND: Your Honor, at this point, I 25 am going to raise an objection. It's one thing for

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1	Mr. Oliker to put this document in front of the
2	witness and to ask him about it and to ask him about
3	his understanding of it. We are now passed that
4	point and Mr. Oliker is just reading various
5	sentences of the document, which was prepared by PJM
6	and not prepared by this witness, into the record,
7	and asking the witness only that the document says
8	that.
9	MR. OLIKER: Your Honor
10	MS. BLEND: It's inappropriate.
11	MR. OLIKER: I am sorry to interrupt,
12	Christine.
13	I am laying a foundation to ask some
14	questions what that means and, to be clear, he does
15	cite to this proposal selectively in his testimony,
16	so I am trying to determine what the rest of the
17	proposal may have in store for Ohio.
18	MS. BLEND: And I'll just briefly, Your
19	Honor. The witness has already testified he is
20	familiar with the document and he has read it, so I
21	believe it would be appropriate for Mr. Oliker to
22	just ask his question and then if he needed to
23	establish further foundation he could do so with the
24	document.
25	EXAMINER SEE: Mr. Oliker, go ahead with

1 your questioning. 2 MR. OLIKER: Is there a pending question 3 or did he answer my last question? 4 EXAMINER SEE: There is no pending 5 question. There is not a pending question, 6 Mr. Oliker. 7 MR. OLIKER: That's what I thought. 8 Q. (By Mr. Oliker) Now, if we turn to page 9 65, there is a header that says "Basic Elements of 10 the Extended RCO Proposal." Am I correct this 11 section describes how the capacity auction would be 12 operated in the event of an extended resource 13 carve-out? 14 Α. That's correct. 15 Ο. And below the graph, can you tell me if -- if you know -- where it describes a second 16 17 stage to the auction to determine a competitive 18 price? Am I correct that PJM would add the demand 19 associated with the carved-out resource back into the 20 auction for purposes of establishing the capacity 21 price? 2.2 MR. MENDOZA: And you are referring to 23 the graph on page 66 or page 67? 24 MR. OLIKER: 66. 25 MR. MENDOZA: Thank you.

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1	A. Yes, that's what it says. I would note
2	this is, again, the extended resource carve-out
3	option. Immediately prior to this, PJM had put
4	forward the general resource carve-out option that
5	did not have that price-correction element.
6	Q. Okay. And to be clear, if the extended
7	resource carve-out option is approved by FERC, the
8	second stage of the auction would, all else being
9	equal, result in higher capacity prices?
10	A. So I would note that I know PJM has put
11	two proposals to the Commission, one is the resource
12	carve-out, the second is the extended resource
13	carve-out. You are correct that under the extended
14	resource carve-out, it would have the effect of
15	driving capacity market prices higher. I would note
16	on that element that even if that were to happen,
17	that would be widespread throughout the PJM
18	footprint. It would not be localized to Ohio or
19	even, you know, AEP Ohio service territory.
20	Q. But you would agree that those higher
21	capacity prices would be paid by customers in Ohio?
22	A. Yes. If the extended resource carve-out
23	option was utilized instead of the plain resource
24	carve-out option. And that would apply to all PJM
25	customers, not just Ohio customers; but yes, to the

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942 1 extent Ohio, because Ohio is part of PJM, then yes. 2 And earlier you discussed the eligible Ο. 3 self-supply entities; is that correct? Was it with regard to the fixed resource 4 Α. 5 requirement discussion or? 6 You mentioned self-supply. Is that Ο. 7 outside of the fixed resource requirement? 8 Α. So I was using self-supply to kind of refer to this -- the resource carve-out as --9 10 So let's turn to page 32 of the filing. Ο. 11 Α. Okay. 12 So when you use the term "self-supply," Ο. 13 you are not referring to the one that is described on 14 page 32 that states "PJM is proposing to limit the 15 exemption to "Public Power Entities," which include cooperatives and municipal utilities, "Single 16 17 Customer Entities," and Vertically Integrated 18 Utilities." 19 MR. MENDOZA: Mr. Oliker, I don't see the 20 sentence you are referring to. Could you help me? 21 MR. OLIKER: Very last paragraph. 22 MR. MENDOZA: The one that starts with "Just like"? 23 24 MR. OLIKER: Yep. 25 MR. MENDOZA: Okay. Thank you.

943 This is a separate provision than I 1 Α. Yes. 2 was directly referring to. 3 Okay. Good. And you agree that there's Ο. utility-scale solar projects which are in front of 4 5 the meter and then there are behind-the-meter 6 distributed generation projects as well? 7 Α. That's correct. 8 Ο. And one of the concerns that you have 9 described in your testimony is the treatment of 10 in-front-of-the-meter distributed generation 11 resources in the capacity market, correct? 12 Yes, that would -- they would be Α. 13 potentially affected by these rules, yes. 14 Would you agree that one of the benefits Ο. 15 of behind-the-meter distributed generation is that it 16 may allow a customer to avoid their capacity obligation without actually having to bid into the 17 18 capacity market? 19 So that gets complex because it deals Α. 20 with the retail rate structure that's used to assign 21 demand charges and other things to individual 22 customers. You know, my testimony is focused on the 23 bulk -- bulk power system impacts and so it's --24 there is a retail rate question there that I am not 25 really equipped to answer.

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1	Q. Do you know how PJM assigns capacity
2	obligations to customers or load-serving entities?
3	A. Vaguely. I think it's based on
4	historical data.
5	Q. Do they use the five highest hours of
6	usage between the months of June and September?
7	A. That sounds correct, yes.
8	Q. And if a customer reduces their demand in
9	the five highest hours of usage through a distributed
10	generation resource, would you agree that they'll
11	have a lower capacity obligation in the following
12	year?
13	A. I believe for most well, it depends on
14	the customer class and things like that, but I think
15	it's typically aggregated at the load-serving entity
16	level so, again, it gets into a question of the
17	retail rate structure that I am not equipped to
18	answer.
19	Q. So the answer is it could?
20	A. Yes, that's fair.
21	Q. And my apologies for jumping around, but
22	on page 28 of your testimony you identify that
23	MISO first, can you identify what MISO stands for?
24	A. It's the Midcontinent Independent System
25	Operator.

	945
1	Q. And that's the transmission system to the
2	west of Ohio, correct?
3	A. That's correct.
4	Q. And you identify the way that MISO
5	allocates transmission costs, correct?
6	A. That's correct.
7	Q. In a nutshell, your testimony criticizes
8	PJM because it imposes interconnection costs on the
9	generator; whereas, MISO allocates more
10	interconnection costs across the entire footprint?
11	A. That's one element. The other advantage
12	of MISO is the primary advantage of MISO's
13	approach is that it plans transmission to serve
14	multiple purposes simultaneously; hence, the term
15	"multi-value projects." Whereas, PJM transmission
16	planning is segregated into different categories, one
17	being generator interconnection.
18	Q. And have you done any comparative
19	analysis of transmission rates in MISO against
20	transmission rates in PJM?
21	A. I have not.
22	Q. And going back to the multi-value
23	statement you just made, is what you're saying in
24	another way that all of MISO benefits from all of the
25	transmission projects that are undertaken within

946

1 MISO?

-	
2	A. MISO designates projects as
3	multiple-value projects and they create a portfolio
4	of those projects that are designed to provide net
5	benefits across the MISO footprint. I don't think
6	MISO has ever claimed that any individual element of
7	that, any individual line or project would
8	necessarily benefit all of MISO, but the portfolio of
9	those projects does.
10	Q. Okay. Do you know whether any Ohio
11	utilities were formerly members of MISO?
12	A. My recollection is that they were, but I
13	don't recall exactly the history there.
14	Q. And so, to be clear, you don't recall if
15	one of the reasons why Ohio utilities left MISO was
16	concerns that multi-value projects would
17	significantly increase transmission rates for
18	customers?
19	A. I'm not sure.
20	Q. And are you familiar with any of the
21	litigation that has occurred within PJM regarding the
22	allocation of transmission costs between the east and
23	the west?
24	A. Not particularly. I think I vaguely
25	heard about it, but I haven't followed it closely.

947 Moving to the portion of your testimony 1 Ο. 2 where you discuss congestion. 3 Α. Do you have a page number? If you give me one minute, I should be 4 Ο. 5 able to give it to you. Α. I see it. It's further down that page. 6 I see it. Page 28. 7 8 Ο. Perfect. And regarding the congestion 9 you discuss in your testimony, have you performed a 10 load flow analysis for any transmission line or 11 resource in Ohio? 12 Α. No, I have not. 13 Q. And are you familiar with what a load 14 flow analysis is? 15 Α. Yes. Could you give a description of it for 16 Ο. 17 the court reporter? 18 Α. Sure. I think it's also commonly called 19 a power flow analysis. It involves studying the 20 physical flow of power on the transmission system for 21 the variety of potential assumptions for supply and 2.2 demand. 23 Okay. And turning back to page 9 in your Q. 24 testimony, where you discuss the renewable energy 25 credit market?

948 1 Α. Yes. 2 And am I correct that you're citing Ο. 3 higher renewable energy credit prices as the basis for there being insufficient renewable development in 4 5 PJM? 6 My explanation is that the price of Α. 7 renewable energy credits reflects the balance of 8 supply and demand and so, therefore, if the demand 9 for renewable energy credits is greater than the 10 suppliers, the price will be higher, which is the 11 case in PJM. 12 Ο. And you cite New Jersey, in Footnote 14, 13 as one of those REC references, correct? 14 Α. That's correct. 15 Q. And that's for the price of a solar REC 16 in New Jersey? 17 Α. That's correct. 18 And am I correct that New Jersey's Ο. 19 statutory structure has a relatively aggressive 20 renewable portfolio standard that requires in-state 21 development of solar resources? 2.2 Α. That's correct. 23 And so that we can understand what that 0. 24 means, if I were to construct a solar resource in 25 Pennsylvania, I could not receive the REC price in

949 1 New Jersey, correct? 2 Α. That's correct. 3 Ο. And you have some familiarity with the statutory structure for the retail electric market in 4 5 Ohio, correct? 6 Α. A relative small amount but yes. 7 And that understanding is largely related Q. 8 to the renewable portfolio standards that are in 9 place in Ohio? 10 Α. That's correct. 11 Ο. And am I correct that although Ohio has a 12 renewable portfolio standard, there is not 13 specifically a requirement to source renewable power 14 or renewable energy credits from resources that are 15 physically located within the state of Ohio? 16 Α. That's my understanding, yes. 17 Ο. Although Ohio previously had that 18 requirement in place, did it not? 19 Α. That's correct. 20 Q. You do agree there are currently options 21 available to customers to access renewable energy in 2.2 the competitive market in Ohio? 23 Α. Yes. 24 And some of those options may involve Ο. products that are actually sourced within the state 25

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1 of Ohio and some of them may involve products that 2 are sourced from outside of Ohio, correct? 3 Α. I am not sure exactly what products are offered. As I noted earlier, my general impression 4 5 is that most of the offerings and the most popular 6 offerings tend to be the ones that either utilize, in 7 most cases, national RECs and, to a lesser extent, 8 regional RECs. 9 Ο. And to the extent that there was a 10 consumer preference for more locally-based products, 11 would you agree that that would be the product that a 12 customer would choose? 13 Α. If that preference overrode the 14 potentially different costs, then, yes. 15 Ο. And likewise if -- if it determined --16 let me strike that question. 17 If it turned out that there was a specific consumer preference for locally-sourced 18 19 products, the competitive market would likely be scrambling to provide those to customers, correct? 20 21 Α. If customers were aware of the value of 22 that and were -- yes. 23 And turning back to page 31 in your Q. 24 testimony. 25 Α. Okay.

		951
1	Q.	You discuss corporate renewable goals?
2	А.	Yes.
3	Q.	And isn't it true that many corporations
4	are bilatera	ally contracting for renewable energy when
5	they have a	specific renewable target?
6	Α.	That's correct.
7	Q.	And some corporations are doing that in
8	Ohio, correc	t?
9	Α.	Yes.
10	Q.	And some municipalities are doing that in
11	Ohio as well	, correct?
12	Α.	I believe that's the case. I can't say
13	for certain.	
14	Q.	Are you familiar with the 4 megawatt
15	solar facili	ty that my company is constructing in
16	Cleveland?	
17	Α.	I am not.
18	Q.	Are you familiar with any of the solar
19	facilities t	hat are being constructed by Cleveland
20	Public Power	?
21	Α.	I don't believe so.
22	Q.	And on page 3 when you discuss credit
23	ratings.	
24	Α.	Yes.
25	Q.	Do you have any experience working for a

1 credit rating agency? 2 Α. No. My explanation here is informed by the work I've done at the American Wind Energy 3 Association and elsewhere on the policy-design side 4 5 to make sure that sufficient creditworthy entities 6 were able to sign contracts and things like that. I 7 haven't done that type of work myself. 8 Ο. And am I correct that you are not 9 familiar with any of the financial structures that 10 are often used to develop behind-the-meter 11 generation? 12 Α. I have some vague familiarity with it, 13 but I am not an expert in it. 14 And are you aware that many rooftop Ο. 15 residential solar projects are financed through 16 purchase power agreements between the developer and 17 the customer? 18 I have heard of that, but I am not an Α. 19 expert in it. 20 Ο. And earlier there was a discussion with 21 Mr. Michael, I think you indicated you are not an 2.2 expert in Ohio, correct? 23 Α. That's correct. 24 And so I understand, you did not do any Ο. 25 independent analysis of whether the 900 megawatts of

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953 solar or wind that have been proposed by Ohio Power 1 Company will result in additional cost or credits to 2 3 customers? Α. I have not. 4 5 MR. OLIKER: Thank you, Mr. Goggin. 6 Those are all the questions I have. 7 THE WITNESS: Thank you. 8 EXAMINER SEE: Ms. Bojko? 9 MS. BOJKO: Thank you, your Honor. 10 11 CROSS-EXAMINATION 12 By Ms. Bojko: 13 Ο. Good morning, Mr. Goggin. 14 Α. Good morning. 15 Q. As I am sure you expected, I would like 16 to go through some of your footnotes and some of the 17 reports that you cite in your testimony. 18 Α. Okay. 19 Mr. Goggin, let's start with page 5, 0. 20 Question 7. In this question you cite a figure 21 regarding a national percentage of generation for 2.2 wind and solar; is that correct? 23 Α. That's correct. 24 And you obtained that statistic from the Ο. 25 EIA, correct?

1 Α. That's correct, that's the Energy 2 Information Administration of the Department of 3 Energy. And throughout your testimony, you also 4 Ο. 5 site statistics that you obtained through the PJM's 6 website regarding the amount of wind and solar that 7 is in the PJM territory, correct? That's correct. I believe all the PJM 8 Α. 9 numbers were on the share of generation, not 10 capacity. Thank you for that clarification. 11 0. And 12 you are not involved -- you have not worked at PJM 13 and you are not involved in the PJM research that led to the data that you regurgitate in your testimony, 14 15 correct? 16 I did not. Α. 17 And on page 6 of your testimony, line 11, Q. it's Footnote 4. First of all, you would agree with 18 19 me that Lawrence Berkeley lab is not a federal 20 agency, correct? 21 Α. It is not. This report is a joint 22 product of the Department of Energy and the Lawrence 23 Berkeley National Laboratory. Lawrence Berkeley 24 National is totally, I believe totally a DOE-funded 25 national laboratory.

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1	Q. Thank you for that clarification.
2	You are not the author of the report that
3	developed the statistics that you cite in Footnote 4
4	in the corresponding testimony, correct?
5	A. So in prior this report is issued by
6	the Department of Energy and Lawrence Berkeley
7	National lab every year. During my tenure at the
8	American Wind Energy Association that extended until
9	February of 2018, I was typically a reviewer of this
10	report and listed in the acknowledgments of it.
11	I did not review the absolute latest
12	version of this report because it was published in
13	August of last year after I had left the American
14	Wind Energy Association. However, the data
15	collection methods and analytical methods that go
16	into the report carry over from year to year, so I
17	am I have been a reviewer of the methods that were
18	used in this analysis.
19	Q. But as far as this specific report goes,
20	you were not listed in the acknowledgments and you
21	are not an author, correct?
22	A. The most recent report, that's correct.
23	Q. And just for clarity, you have not worked
24	at the Department of Energy previously or the
25	Lawrence Berkeley lab, correct?

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956 1 Α. In the job I had prior to the American 2 Wind Energy Association, I was a consultant to the 3 Department of Energy but I did not directly work there. 4 5 Ο. And you have not directly worked at the 6 Lawrence Berkeley lab; is that correct? 7 Α. That's correct. 8 Ο. On page 7, Footnotes 6 through 10, you 9 cite numerous reports. And first, you state that 10 coal set PJM's energy market clearing price only 32 percent of the time 2017, is that correct, on the 11 12 bottom of page 7? 13 Α. That's correct. 14 I'm sorry. I don't have line numbers on Ο. 15 my version, but if you need line numbers, please let 16 me know and I'll find those for you. 17 Α. Okay. 18 And you -- you received the report that Ο. 19 you cite to that particular data, that was created by 20 Monitoring Analytics; is that correct? 21 Α. That's correct. 22 Ο. And you were not involved in the creation 23 of the report, were you? 24 Α. No. 25 Q. And the same would be true for a southern

957 1 power pool report or a MISO report that you cite in 2 the footnotes; is that correct? That's correct. 3 Α. 4 MR. MENDOZA: Just for the record, it's 5 Southwest Power Pool. MS. BOJKO: I'm sorry, did I say 6 7 "southern"? My apologies. Southwest Power Pool. Q. 8 (By Ms. Bojko) And in Footnote 10 from 9 the Lawrence Berkeley lab, you -- you are supporting 10 your testimony about the average annual -- average 11 energy market value of solar; is that correct? 12 Α. That's correct. And again, this is a 13 report that's co-issued by the Department of Energy 14 and Lawrence Berkeley National Lab which is a DOE-funded lab. 15 And turning to page 8 of your testimony, 16 Ο. 17 related to Footnote 11, so it's at the top of the 18 page, you cite a Monitoring Analytics report to 19 support your testimony that the average energy market 20 price for solar should be significantly higher than 21 the PJM average entry price, correct? 2.2 Α. That's correct. 23 And you had no involvement in the Q. 24 creation of this report, correct? 25 Α. That's correct.

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1 0. Let's turn to page 10 now. The Kleinman 2 Energy report that's cited in Footnote 15 and at the 3 top of page 10, you had no involvement with the 4 creation of the Kleinman Energy report; is that 5 correct? I did not. The reason I was citing this 6 Α. 7 is to illustrate the point, which I do have personal 8 knowledge, is that stakeholders use the PJM 9 stakeholder process to pursue their own economic 10 self-interest and that was simply this is an academic 11 article documenting the fact I have personal 12 knowledge and have observed myself. 13 Ο. Right. But you don't have personal 14 involvement in the drafting of the report. 15 Α. I do not. Your point is you have participated in 16 Ο. 17 the PJM market as a market participant, correct, or 18 representative. 19 Α. Representative of market participants, 20 yes. 21 Ο. And that market participant was AWEA? 2.2 Α. That's correct. 23 On page 17 of your report, Footnote 29, Q. 24 this is a document used to support testimony at the 25 bottom of page 17. Do you see that?

1 Α. Yes. 2 And for this statement that renewable Ο. 3 resources are disadvantaged in capacity accrediting rules. This report is from -- or conclusion is from 4 5 the EconPapers that you cite in Footnote 29, correct? Yes. I have done work with at least two 6 Α. 7 of the authors of that report and I discuss their 8 methods as they are working on this paper, and I, you 9 know, have personal knowledge of the methods that are 10 used to account for the capacity value contributions 11 of conventional generators, namely that their 12 correlated outages are not accounted for. Basically 13 you just use the standard forced outage rate and 14 assume that those events are statistically 15 independent. And as we have seen and as I've observed 16 17 from MISO and PJM data during the polar vortex, 18 events like that, the actual outages greatly exceeded 19 those, so do I have those levels that are assumed 20 under the statistical independent forced outage rate 21 of method, so I do have personal knowledge of that 22 based on my own observations. 23 Right. But my question went to did you Q. 24 author or are you listed as a contributing author of 25 this report?

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960 1 Α. I am. 2 Let's turn to page 23, please. Page 23 Ο. footnote 37 which is a citation to a testimony at the 3 top of page 23. Do you see that? 4 5 Α. Yes. Ο. And one of the citations is a blog; is 6 7 that correct? 8 Α. That's correct. 9 Ο. And these sources are regarding coal 10 plants operating at a loss; is that correct? 11 Α. That's correct. 12 The other report is from the United Q. 13 States Association for Energy Economics, correct? Α. 14 Yes. It's an article that was accepted in the academic group, yes. 15 And then the third source is a -- is a --16 Ο. 17 appears to be -- is that the same source? 18 Yes, that's two sources that's all part Α. 19 of that. 20 Thank you. And you were not involved in Ο. 21 writing either of these sources; is that a fair 2.2 characterization? 23 I corresponded with the author when he Α. 24 was working on this analysis and I've done some 25 similar analysis myself but no, I am not a listed

961 1 author of the report. 2 You didn't attach your personal written Ο. 3 analysis to this footnote response, did you? Α. I did not. 4 5 Ο. On page 32, Footnotes 54 and 55, you cite 6 to two reports in support of the testimony regarding 7 pollution; is that correct? 8 Α. That's correct. 9 Ο. And you did not authorize -- author either of these reports, did you? 10 11 I consulted with the authors as they were Α. 12 developing their methodology and to provide advice on 13 how to -- what data sources to use as inputs into the 14 EPA tool. I did my own analysis for the purposes of 15 this testimony using that same EPA tool. But I was 16 not a listed author of either of those reports. 17 Ο. All right. And you didn't attach your 18 analysis or cite to your analysis in this footnote, 19 did vou? 20 Α. Not in this footnote. The preceding page 21 outlines my analysis that I did using the same tool. 2.2 I was talking about those two reports in Ο. 23 the footnote. You were not an auth -- you were not a 24 listed author or acknowledged as a contributor in 25 those reports, correct?

962 1 Α. I certainly wasn't a listed author. Ι 2 have been cited in the acknowledgments, I'm not sure. 3 Q. Let's look at page 33, Footnotes 56 and 57 are newspaper articles; is that correct? 4 5 Α. That's correct. And you are not the author of those 6 Ο. 7 newspaper articles? That's correct. These citations were 8 Α. used to refer to information that I also have 9 10 personal knowledge of from my own experience working for the American Wind Energy Association. 11 12 I can appreciate that, but I was asking Ο. 13 if you are an author of the two newspaper articles that you cite to. 14 I was not. 15 Α. And is it your understanding that through 16 Ο. 17 the Application in this case, AEP is seeking to enter 18 into generation supply contracts with customers? 19 Α. Yes. 20 Ο. And it's your understanding that AEP will 21 retire associated RECs? 2.2 Α. I believe that's correct, yes. 23 And I believe you mentioned this to Q. 24 Mr. Oliker, but you would agree that the companies can currently, today, purchase renewable energy 25

963 1 credits or RECs through the GATS system or the 2 Generation Attribute Tracking System that is housed with PJM? 3 Yes, that's correct. 4 Α. And you have not researched to determine 5 Ο. 6 the number of Ohio-sited RECs that are currently 7 available in the market for purchase, have you? 8 Α. I have not. 9 Ο. And, sir, do you know the price of an 10 Ohio solar renewable energy credit sitting here 11 today? 12 Α. I don't. 13 Ο. And you did not do any analysis of the 14 price of Ohio's specific solar renewable energy 15 credits, correct? 16 Α. I did not. 17 Q. And you cannot offer testimony today as 18 to whether or not there is sufficient Ohio renewable 19 energy credits that could be purchased by customers 20 to satisfy their desires, correct? 21 Α. T could not. 22 And you are also not testifying today as Ο. to whether there is sufficient Ohio renewable energy 23 24 credits available sited -- excuse me -- Ohio-sited 25 renewable energy credits available to satisfy

964 customers' desires? 1 2 Α. I could not. 3 Ο. On pages 32 and 33 of your testimony, sir, you mention specific companies and the 4 5 companies' activities associated with renewable 6 energy projects; is that correct? 7 Α. That's correct. 8 Ο. And, sir, you are aware that companies, 9 such as those listed in your testimony, large 10 corporations, are able to obtain renewable energy 11 through on-site generation, correct? 12 Α. Yes, but as I noted a little bit later on 13 the next page, often that's done at a significantly 14 higher cost than it would be under this type of 15 procurement. 16 Well, you haven't done any analysis to Ο. 17 determine to what extent Ohio companies have 18 satisfied their renewable desires through on-site 19 generation, correct? 20 I have not. Α. 21 Ο. And you are though, however, aware that 22 some customers -- companies have already implemented, 23 developed, installed on-site generation, correct? 24 Α. Yes. 25 Q. You also have not reviewed the extent to

1 which companies have entered into power purchase 2 agreements to satisfy their renewable energy desires, 3 have you? Not specific to Ohio. When I was at the 4 Α. 5 American Wind Energy Association, I did work on a report that documented trends in corporate purchases 6 7 of renewables on a national basis. 8 Ο. In your testimony on page 33, you reference that Facebook's Data Center in Columbus 9 10 will cover 100 percent of its electricity through 11 renewable energy purchases, that's correct? 12 Α. That's correct. 13 Ο. But you have not researched that 14 particular project to determine from where Facebook 15 is purchasing the renewable energy, correct? 16 Α. I have not. 17 You also don't know what form of Q. renewable energy Facebook intends to use to satisfy 18 19 its desires, do vou? 20 Α. I don't. 21 Ο. You would also agree that Facebook made 22 the announcement of this -- of its plan to procure or 23 purchase renewable energy in August 2017, correct? 24 Α. I think that's correct, yes, yeah. 25 Ο. So it's your understanding Facebook made

966 1 this announcement without any regard or knowledge of 2 AEP's application to develop at least 900 megawatts of renewable power in this case, correct? 3 4 Α. I guess not assuming it was before that, 5 yeah. You talked a little bit about the state 6 Ο. 7 of renewable portfolio standards in Ohio with Mr. Oliker. Are you familiar with 4928.64? 8 9 Α. Not that specific -- I don't know that 10 specific number but I am familiar with the renewable 11 portfolio standard. 12 Fair enough. And your understanding is Ο. 13 that there was legislation passed in 2014, known as 14 Senate Bill 310, that modified the then renewable 15 portfolio standards in the State of Ohio? 16 Α. That's correct. 17 Q. And I think you would accept my 18 representation, subject to check, that Senate Bill 19 310 eliminated the in-state requirement for renewable 20 energy. 21 Α. That's my understanding, yes. 22 Ο. And, sir, are you familiar with what 23 AEP's Ohio position was on that issue? 24 Α. I don't recall. 25 Q. You actually were involved in Senate Bill

967 1 310 on behalf of AWEA, correct? 2 That's correct. I testified before the Α. Senate Committee, I believe it was the Public 3 Utilities Committee, in support of -- or I quess in 4 5 opposition to freezing the RPS. In support of the 6 status quo at that point. I wasn't engaged on the 7 in-state requirement issue because that was a legal 8 issue outside the area of my expertise. 9 Ο. And do you not recall or you were not 10 aware of AWEA's position on the removal of the 11 in-state requirement was at that time, are you? 12 Α. I don't recall. 13 Q. And you explained to us just now that 14 Senate Bill 310 had to do with freezing the renewable 15 energy standards too, correct? 16 Α. That's correct. And are you aware of AEP Ohio's position 17 Ο. 18 at the time with regard to the freezing of Ohio's 19 renewable portfolio standards? 20 Α. I don't recall. 21 Ο. And you would agree with me, sir, that if 22 renewable portfolio standards were increased for 23 Ohio, such a development could have similar benefits 24 as the ones you identified for AEP's particular 25 projects?

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1	A. It would be similar but it would be less.
2	And that's because once the in-state requirement has
3	been removed from RPS, that renewable development can
4	occur. Typically, in most PJM states the rule is it
5	must be somewhere within the PJM footprint and that
6	means that the renewable resources would, in many
7	cases, not be developed in the State of Ohio and,
8	therefore, the economic development benefits but also
9	some of the consumer savings and potentially
10	reliability benefits of renewables would be realized
11	less by Ohio consumers than they would be relative to
12	a procurement such as under such as proposed here
13	by AEP Ohio.
14	Q. And you talked with Mr. Oliker about the
15	New Jersey renewable portfolio standard requirements.
16	A. That's correct.
17	Q. Are you and the in-state requirement
18	that New Jersey has, correct?
19	A. For solar. The solar element, yes.
20	Q. Thank you for that clarification.
21	You are also aware that PJM excuse me.
22	You are also aware that Pennsylvania recently enacted
23	a new law that creates an in-state requirement for
24	Pennsylvania solar renewable energy credits.
25	A. I don't think I actually was aware of

969 1 that. 2 Although your testimony criticizes the Q. PJM market construct, you are not testifying here 3 today that PJM does not have sufficient energy and 4 5 capacity to meet AEP's customers' load, correct? 6 Α. That's correct. 7 0. And you would agree with me that Ohio -the Ohio Commission, Public Utilities Commission of 8 9 Ohio's role in PJM is that of a stakeholder, correct? 10 Can you repeat the question? Α. 11 Ο. Sure. 12 You would agree that the Public Utilities 13 Commission of Ohio's role in PJM is that of a stakeholder, they file comments, just as any other 14 15 stakeholder would file comments. 16 Α. That's correct. 17 Q. It's fair to say that the Ohio Commission 18 has no jurisdiction over -- over PJM, correct? 19 Α. Not total certainly, but through the 20 stakeholder process they, you know, do have some 21 input. 22 But they cannot order PJM to change its Ο. 23 market construct in the manner that you suggest in 24 your testimony, correct? 25 Α. Well, no, they cannot, but just to

970 1 clarify, my testimony was not directed at 2 recommending the Ohio Commission do anything to PJM 3 market rules. It was simply pointing out the ways in which the PJM market rules disadvantage renewable 4 5 resources. 6 Fair enough. And my comment is that the Ο. 7 Ohio Commission does not have jurisdiction to order 8 PJM to modify or address the concerns that you 9 outline in your testimony, correct? 10 MR. MENDOZA: Asked and answered. 11 EXAMINER SEE: It was. 12 MS. BOJKO: Okay. Thank you, your Honor. 13 With that, may I have just one minute, 14 please? 15 EXAMINER SEE: Sure. MS. BOJKO: That's all I have. 16 Thank 17 you, your Honor. 18 Thank you, Mr. Goggin. 19 THE WITNESS: Thank you. 20 EXAMINER SEE: Ms. Whitfield. 21 MS. WHITFIELD: Yes, your Honor. I don't 22 have any further or additional questions for this 23 witness. 24 EXAMINER SEE: Mr. Collier? Mr. Stock? 25 MR. STOCK: No witness -- no questions.

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1	EXAMINER SEE: Mr. Darr?
2	MR. DARR: Thank you, your Honor.
3	
4	CROSS-EXAMINATION
5	By Mr. Darr:
6	Q. I would like to return to page 9 of your
7	testimony. There you state that the capacity markets
8	tend to reduce the prices in wholesale markets for
9	energy, correct?
10	A. That's correct.
11	Q. And on page 7 of your testimony, you
12	provided renewable energy prices for various regions,
13	correct?
14	A. That is the energy market prices that are
15	realized by wind resources in specific regions, yes.
16	Q. And one of those that you provide prices
17	for energy or wind energy is for ERCOT, correct?
18	A. That's correct.
19	Q. And that would be for the Texas region,
20	correct?
21	A. That's correct.
22	Q. ERCOT does not have a capacity market,
23	correct?
24	A. That's correct.
25	Q. In your testimony you indicate that the

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972 average wind price is \$17.10 per megawatt-hour? 1 2 Α. That's correct. 3 Ο. Also on page 7, you reference the Southwest Power Pool, correct? 4 5 Α. That's correct. Now, Southwest Power Pool has a day-ahead 6 Ο. 7 energy market, a realtime energy market, and a process called reliability assessment, correct? 8 9 Α. That's correct. 10 And reliability assessment is a Ο. 11 day-to-day evaluation of the need for additional 12 capacity to meet energy needs, correct? 13 Α. I believe so, yes. 14 It is not a three-year forward capacity Ο. 15 market, correct? It is not. However, the Southwest Power 16 Α. 17 Pool does have resource adequacy requirements that it 18 requires to be maintained which is a distinction to the ERCOT market which does not have such a 19 20 construct. 21 Ο. But, again, there is no capacity, 22 three-year forward capacity market, in the Southwest Power Pool, correct? 23 24 There is no centralized market, but there Α. 25 is a resource as a requirement that is imposed on

973 1 entities. 2 And that is implemented through the Ο. 3 reliability assessments, correct? Α. I'm not sure. 4 5 Ο. And you note on page 7 of your testimony, 6 that the average wind energy price is \$14.05 per 7 megawatt-hour in the Southwest Power Pool, correct? 8 Α. That's correct. 9 Ο. You also provide a price for wind energy 10 in the PJM marketplace, correct? 11 That's correct. Α. 12 And the average wind energy price that Q. 13 you identify is \$24.59 a megawatt-hour, correct? 14 Α. That's correct. 15 Ο. And PJM has both a day-ahead, realtime 16 and, as we've just discussed repeatedly over the last 17 few hours, a forward capacity market, correct? 18 Α. That's correct. 19 So at least with respect to the Ο. 20 information that you've provided in your testimony, 21 the rank order of wind-based energy prices, from highest to lowest, is PJM which has a capacity 22 23 auction, ERCOT which does not have a capacity 24 auction, and the Southwest Power Pool which also does 25 not have a capacity auction.

974 1 Α. So one clarification is that --2 Is the answer to my question -- am I Ο. 3 correct in those statements, sir? Yes, but as outlined in the paragraph 4 Α. 5 above this and below this, there are a number of 6 other factors that go into energy market prices. 7 As I outlined in the paragraph above, the 8 price of fossil fuels, the price of coal is a 9 critical determinant of energy prices in these 10 regions; the Southwest Power Pool and ERCOT, given 11 their geographic proximity to lower-cost coal 12 resources, tend to have lower-cost coal available 13 than PJM does. 14 The other relevant number is the share of 15 time that a resource is setting the marginal fuel 16 price, and those regions have coal, which tends to be 17 lower priced than natural gas, setting the market 18 clearing price at a much higher rate than PJM does --19 As I outlined in the paragraph below this 20 one, in those markets, particularly the Southwest 21 Power Pool and in ERCOT, you have more renewable 22 generation setting market clearing prices which tends 23 to suppress them. Whereas, PJM, because of its 24 less -- lower penetration of renewable resources, 25 does not have that as a significant -- as a large --

1 as a phenomena as those regions. 2 And then I also would clarify, as I just 3 explained in answer to a prior question, the 4 Southwest Power Pool does have a resource adequacy 5 requirement. Okay. So the bottom line is the region 6 Ο. 7 with the resource adequacy requirement, the Southwest Power Pool, has the lowest price, correct? 8 9 Α. And again, that's heavily driven by coal 10 price, the coal being a shared generation mix, and 11 the wind penetration, and that's particularly because 12 these prices are -- the wind realized price, and so 13 localized transmission congestion, for example in 14 western SPP, has driven this wind-realized price to a 15 much lower level. The annual energy price in SPP for 16 all load is significantly higher. It's not as high 17 as PJM's, but it's certainly higher than the \$14 18 number. 19 Given the amount of additional Ο. 20 explanation that you've provided to the explanation 21 of the rank ordering, is it fair to say that the rank 22 ordering is essentially meaningless in determining 23 whether or not a capacity market does or does not

24 have an effect on the price of energy in that

25 particular market?

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1	A. It's certainly not meaningless. It's a
2	very relevant factor.
3	Q. But it's more complicated than that,
4	isn't it, sir?
5	A. There are a number of factors
6	MR. MENDOZA: Your Honor, I would ask
7	that the witness be allowed to answer his question.
8	MR. DARR: He paused. I thought that was
9	the case. If he has more to add, certainly under the
10	rules we are operating under, he can add to it.
11	A. I would say there are a number of factors
12	that go into it and the capacity market design for or
13	lack thereof is a very important factor. Obviously
14	fundamental economic factors such as fuel prices, the
15	share of the generation mix for each fuel, and other
16	factors like that are also very relevant factors.
17	Q. On page 10 of your testimony you note a
18	concern about the effect of capacity markets
19	producing excess capacity, correct?
20	A. That's correct.
21	Q. And you allege that due to capacity
22	markets, there is an adverse effect on energy prices,
23	correct?
24	A. That's correct.
25	Q. And we discussed the Southwest Power Pool

977 1 has a reliability assessment process and a 2 reliability requirement but no forward three-year market, correct? 3 Α. That's correct. 4 5 Ο. You are aware of the fact that Southwest 6 Power Pool currently has a reported capacity that is 7 30 percent higher than the peak load, with planning capacity level of 12 percent, correct? 8 9 Α. I wasn't aware of that. That was in regard to SPP? 10 11 Q. Yes. 12 Okay. I haven't studied those numbers. Α. 13 I can't testify to that. 14 You prepared a report entitled "Customer Ο. 15 Focused and Clean.... You are one of the coauthors of that; is that correct? 16 17 Α. That's correct. 18 MR. DARR: I'm not intending to mark this 19 as an exhibit but, for purposes of the record, may I 20 approach and provide the witness with a copy of the 21 report? 2.2 EXAMINER SEE: Yes. 23 MR. MENDOZA: Mr. Darr, could you 24 identify, if it was in a footnote, what footnote it 25 was, just so I can track it down, or if you have

978 1 another copy? Thank you. 2 (By Mr. Darr) Do you have in front of you Ο. 3 your report that we were just talking about? Α. 4 Yes. 5 Ο. And could you turn to page 33 of that 6 report? 7 MS. BLEND: Mr. Darr, would you mind 8 identifying what the report is? 9 MR. DARR: I thought I had, but I'll do 10 it again. 11 MS. BLEND: I don't know that you did. 12 MR. DARR: Yes. It's called "Customer 13 Focused and Clean: Power Markets for the Future." 14 MS. BLEND: And do you have additional 15 copies for other parties? 16 MR. DARR: Again, I am not intending to 17 move it, but if I may, your Honor? 18 EXAMINER SEE: Sure. 19 (By Mr. Darr) I directed your attention Ο. 20 to page 33. This is a list of citations, correct? 21 Α. Yes. 22 Ο. Do you see a citation to the Market 23 Monitor's Report for the Southwest Power Pool? 24 Α. Yes. 25 Q. So in preparation of this article or

979 1 report that you prepared called "Customer Focused and 2 Clean...," you had an opportunity to review that report, did you not? 3 Α. That's correct. 4 5 Ο. Now, do you have in front of you the 6 Southwest Market -- sorry -- Southwest Power Pool 7 State of the Market Report? 8 Α. Yes. 9 MS. BLEND: Mr. Darr, do you have a copy 10 of that for counsel for the Company? 11 MR. DARR: Yes. It's on its way. 12 And would you turn to page 10, Section Ο. 13 1.7, first paragraph, and review that and see if that 14 refreshes your recollection. 15 Α. Yes. 16 Ο. And is it fair to say that currently and 17 is it your understanding that currently the Southwest 18 Power Pool, according to the Market Monitor, 19 estimates that capacity is 30 percent higher than the 20 peak load in 2017 and, at that time, the planning --21 the planning capacity was 12 percent? 2.2 Α. Yes, that's what it says. And I would 23 note that SPP has a resource adequacy requirement, as 24 I discussed. 25 Q. Based on your testimony that's been

980 1 prefiled and the discussions we've had today, I 2 believe your conclusion is the PJM transmission 3 organization is not an environment that supports the development of renewable resources. That's the gist 4 5 of your testimony, correct? Α. That's correct. 6 7 And this conclusion is based on several Ο. 8 factors that lead to a lower energy revenue, as 9 reflected in the Minimum Offer Price Rule, 10 disadvantage in terms of calculating capacity 11 credits, capacity performance penalties that you 12 identify, and the energy market transmission rules, 13 correct? 14 Α. I will just clarify that's it's a Yeah. 15 lower capacity market revenue. I think you said 16 "energy revenue" but, yes. 17 Ο. Well, you also indicate that it 18 suppresses energy revenues, correct? 19 Α. That's definitely true as well. 20 Ο. And all of these effects are likely to 21 have a suppressed -- revenue suppressive effect in 22 general, correct? It would reduce the revenue for renewable 23 Α. 24 generators, yes. Okay. So if I take all those factors 25 Q.

1 together, the solution you're advocating to the 2 Commission today is to assign the risk of the price 3 suppression, under a contract for differences approach -- contract for differences approach, to the 4 customers of AEP Ohio, correct? 5 6 When you say "price suppression," you're Α. 7 referring to the impact of renewables on the market 8 price? 9 Ο. No. I am referring to the impact of the 10 capacity rules that -- and all the other rules that 11 you've identified, that if those result in price 12 suppression that the risk of that price suppression 13 is to be borne by the customers of AEP Ohio. 14 To the extent that the PJM market rules Α. 15 continue to procure excessive levels of capacity and, 16 again, many of those rules are currently being 17 determined at the Federal Energy Regulatory 18 Commission, then, yes, excess levels of capacity will 19 reduce energy market prices. 20 And under the paradigm that is being Q. 21 presented in this case, the risk of that price 22 suppression is to be borne by the customers of AEP Ohio, correct? 23 24 Α. Yes. 25 MR. DARR: Thank you. Nothing further.

982 1 EXAMINER SEE: Mr. McNamee. 2 MR. McNAMEE: Mr. Michael has already 3 asked my questions, so I have nothing further. EXAMINER SEE: Ms. Blend. 4 5 MS. BLEND: Thank you, your Honor. Just 6 a couple of questions. 7 8 CROSS-EXAMINATION 9 By Ms. Blend: 10 Mr. Goggin, do you recall questions Ο. 11 you've answered regarding the currently-pending 12 Minimum Offer Price Rule --13 Α. Yes. 14 Ο. -- proceeding at FERC? 15 Α. Yes. 16 And you answered some questions in 0. response -- some questions from counsel for IGS 17 18 regarding an initial submission that PJM filed in 19 that proceeding, correct? 20 Α. That's correct. 21 Ο. PJM's -- you would agree that PJM's 22 position in that proceeding is being contested by other parties in that proceeding? 23 24 Α. That's correct. 25 Q. And you would agree that FERC has not

983 issued any ruling on any of the merits of the issues 1 2 in that proceeding? That's correct. 3 Α. And do you recall some questions that you 4 Ο. 5 received from Ms. Bojko, counsel for OMAEG, regarding SB 310? 6 7 Yes, that was the RPS freeze, yes. Α. 8 Ο. And you answered a question that she 9 asked about the in-state requirements, and I believe 10 you said that you considered those requirements to be a legal issue? 11 12 Α. That's correct. 13 Ο. What did you mean when you used the term 14 "legal issue"? 15 Α. So I am not a lawyer but my understanding 16 is that there have been concerns that in-state 17 renewable requirements run afoul of the Dormant 18 Commerce Clause and, therefore, could arguably not be 19 within the state's right to implement. 20 MS. BLEND: I have no further questions. 21 Thank you. 2.2 EXAMINER SEE: Any redirect, Mr. Mendoza? 23 MR. MENDOZA: Your Honor, I would like to 24 note, in the legal argument that we had this morning, 25 I made a comment about Mr. -- Ms. Bojko representing

984 1 that the Lawrence Berkeley Laboratory was not an 2 agency of the Federal Government. And for the 3 record, I would like to say she was correct, and my comment was unfortunate. It's contracted with the 4 5 Department of Energy. It is not an agency of the 6 U.S. Government, although it does have a .gov web 7 address, and I just wanted to clear the record on 8 that. 9 And, yes, I would like to have a few 10 minutes with my witness. 11 EXAMINER SEE: Certainly. 12 Let's go off the record. 13 (Discussion off the record.) 14 EXAMINER SEE: Let's go back on the 15 record. 16 Mr. Mendoza. 17 MR. MENDOZA: Thank you, your Honor. 18 19 REDIRECT EXAMINATION 20 By Mr. Mendoza: 21 Ο. Mr. Goggin, do you recall questions from various counsel about the opportunity for residential 22 23 people in Ohio to develop rooftop solar and for 24 companies to develop, you know, on-site solar? 25 Α. Yes.

985 1 Q. Might there be economic advantages to a 2 utility's development of solar in Ohio as opposed to those options that customers have? 3 4 Α. Certainly. There is a large cost 5 difference in the scale of installation. Larger 6 installations are much cheaper, typically around --7 utility-scale solar is running around \$1 per watt 8 installed cost today. Most rooftop solar is in the 9 \$2 to \$3 per watt cost range, depending on the size 10 of the installation and things like that. 11 And moreover, as I outlined in my 12 testimony, there's specific cost advantages for 13 companies like AEP Ohio in terms of their cost of 14 capital, their ability to, you know, expertise 15 involving projects like this and other factors like 16 that that also tend to reduce the cost. 17 MR. MENDOZA: Thank you, your Honor. We 18 have no further questions. 19 EXAMINER SEE: Mr. Dove, any recross? 20 MR. DOVE: No, your Honor. Thank you. 21 EXAMINER SEE: Ms. Leppla? 2.2 MS. LEPPLA: No, your Honor. Thank you. 23 EXAMINER SEE: Mr. Michael? 24 MR. MICHAEL: No, thank you, your Honor. 25 EXAMINER SEE: Ms. Glover?

986 1 MS. GLOVER: No, your Honor. 2 EXAMINER SEE: Mr. Oliker? 3 4 RECROSS-EXAMINATION 5 By Mr. Oliker: 6 Ο. Mr. Goggin. 7 Α. Yes. 8 Q. You agree that, in general, solar costs 9 are trending down over time, correct? 10 Α. That is correct. I would note that the 11 difference in cost for utility-scale generation and 12 rooftop generation is actually increasing over time 13 and that utility-scale costs are coming down faster 14 than rooftop and that's because there are higher 15 fixed costs and other things associated with rooftop 16 installations that have not been coming down as fast 17 as the module costs that are a much larger share of 18 the total cost in utility-scale projects. 19 And you're not specifically in the 0. 20 business of developing solar, are you? 21 Α. No. I consult for companies that do, 22 though. And did you read witness Torpey's 23 Q. 24 testimony? 25 Α. I don't recall. Who was that on behalf

987 1 of? 2 Do you know who witness Torpey works for? Ο. 3 I don't. Α. And do you know if any AEP witness 4 Ο. 5 provided projections of solar resources over time? 6 MR. MENDOZA: Your Honor, I think this 7 goes beyond redirect. 8 MR. OLIKER: Your Honor, he just brought into the record cost trends over time. And I am 9 10 laying a foundation of whether he looked at any of 11 the other evidence in this case. 12 MR. MENDOZA: And I would be happy to 13 have Mr. Oliker asking questions about costs changing 14 over time, but talking what about AEP witnesses say, 15 I think is outside the scope. 16 EXAMINER SEE: And I agree, Mr. Mendoza. 17 Ο. (By Mr. Oliker) And am I correct you have 18 not read Bloomberg New Energy's Forecast of Solar Resources? 19 20 Α. I've read it in previous years. I can't 21 say for sure I have seen the most recent one. 2.2 MR. OLIKER: Those are all the questions 23 I have, your Honor. Thank you. 24 EXAMINER SEE: Ms. Bojko? 25 MS. BOJKO: No, thank you, your Honor.

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1	EXAMINER SEE: Ms. Whitfield.
2	MS. WHITFIELD: No questions, your Honor.
3	EXAMINER SEE: Mr. Collier? Mr. Stock?
4	MR. STOCK: No, your Honor.
5	EXAMINER SEE: Mr. Darr?
6	
7	RECROSS-EXAMINATION
8	By Mr. Darr:
9	Q. In your answer to the question from
10	counsel concerning the you mentioned utility-scale
11	solar projects. What do you consider a utility-scale
12	solar project?
13	A. It's typically the size and where it's
14	deployed. That would be in contrast to a
15	customer-sited project that's typically they're
16	often behind-the-meter but often it's located at
17	the, you know, on the customer's premises. Whereas,
18	utility scale would typically be not that. It would
19	be developed somewhere else and serving the whole
20	power system.
21	Q. And some of these would be developed by
22	utility companies, correct?
23	A. Some of which?
24	Q. AEP, for example, or one of its
25	subsidiaries?

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1	A. The utility-scale projects?
2	Q. Yes.
3	A. Yes.
4	Q. And there are also private developers
5	that develop utility-scale projects, correct?
6	A. That's correct.
7	Q. And, in fact, are you aware that there
8	are currently pending or approved eight utility
9	scale what are called major utility facilities
10	here in the State of Ohio?
11	A. I was not aware of that.
12	MR. DARR: Thank you. Nothing further.
13	EXAMINER SEE: Mr. McNamee.
14	MR. McNAMEE: No questions. Thank you,
15	your Honor.
16	EXAMINER SEE: Ms. Blend?
17	MS. BLEND: No further questions, your
18	Honor. Thank you.
19	EXAMINER SEE: Mr. Mendoza.
20	MR. MENDOZA: No further questions, your
21	Honor.
22	EXAMINER SEE: No, no.
23	MR. MENDOZA: I'm sorry?
24	EXAMINER SEE: The exhibit.
25	MR. MENDOZA: I would move for the

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1	admission of Sierra Club 1, yes.
2	EXAMINER SEE: Are there any objections
3	to the admission of Sierra Exhibit 1?
4	MS. BOJKO: Your Honor, I would just
5	renew my objections to the footnotes and the articles
6	and related testimony where the witness agreed on the
7	stand that he had not authored those articles; and
8	that the Commission review those, if my motion to
9	strike is not granted, that the Commission review
10	those and give them the weight that they desire.
11	EXAMINER SEE: Sierra Club Exhibit 1 is
12	admitted into the record.
13	MS. BOJKO: Thank you.
14	EXAMINER SEE: The motion is denied.
15	MR. MENDOZA: Thank you, your Honor.
16	(EXHIBIT ADMITTED INTO EVIDENCE.)
17	EXAMINER SEE: Mr. Oliker.
18	MR. OLIKER: Your Honor, IGS would move
19	for the admission of Exhibit 6.
20	EXAMINER SEE: Are there any objections
21	to the admission of IGS Exhibit 6?
22	MS. BLEND: Yes, your Honor. AEP Ohio
23	objects to the admission of IGS Exhibit 6. As I
24	indicated during Mr. Oliker's questioning of
25	Mr. Goggin regarding this document, PJM's the

entirety of PJM's submittal in this case is not
relevant to relevant to the case. It's not
relevant to the scope of Mr. Goggin's testimony. And
it's inappropriate to just dump in, wholesale,
several an over 100-page document in connection
with relatively limited questioning in response to
one sentence of this witness's testimony.
And alternatively, your Honor, the
Company would request that the Commission take
administrative notice of the entire FERC MOPR docket,
not just this one limited filing.
Mr. Goggin's testimony, that I believe
was the basis for Mr. Oliker's use of this document,
discusses the numerous flaws in PJM's assumptions
contained in this document. And the other filings in
the MOPR docket, made by other parties to that
docket, discuss those flaws as well. And so, if this
document is within the scope, then the remainder of
the filings in the docket are also in the scope and
they should be taken administrative notice of.
MR. OLIKER: Your Honor, may I respond?
The document that I asked the witness to look at was
the specific document that he cites to in his
testimony. He criticizes PJM's proposal. I showed
him the document. We had the discussion about it.

And we cleared up the record from some statements
 that were made.

3 Now, what I am hearing from counsel for AEP is they now want to bring all of the other 4 5 provisions of that case which were not talked about 6 and which they could have offered in their own 7 testimony or Mr. Goggin could have asked for in his 8 testimony. So now to just dump all of those 9 documents, which were not discussed at all, into this 10 case, really blows the door open for AEP to cite to 11 anything it wants when we didn't have a chance to 12 discuss it here in this record. We would oppose it, 13 your Honor. I limited the questions to the specific 14 document he referred to.

MS. BLEND: We're simply suggesting, your Honor, if we are going to start dumping in filings from the MOPR proceeding, that a holistic view of the MOPR proceeding be available in the record for the Commission.

20 MR. OLIKER: And again, they could have 21 showed those documents to the witness which he may or 22 may not have seen. I mean, now we're potentially 23 bringing in documents the witness can't even 24 identify.

25

MS. BLEND: Mr. Oliker was reading things

1 into the record just out of the brief from PJM that 2 the witness didn't testify that he had -- could 3 identify.

4

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EXAMINER SEE: Thank you, both.

5 IGS Exhibit 6 is admitted into the 6 record, but I remind the parties that the only portions that were -- are part of the record were 7 8 those pages -- those limited number of pages and references that were referred to, I believe on three 9 10 or four pages within the document, not -- not other 11 portions of IGS 6 or the entire docket, the entire 12 FERC docket.

(EXHIBIT ADMITTED INTO EVIDENCE.)

MR. OLIKER: Your Honor, the one thing I will say, we are trying to determine whether the witness has cited to the specific link in his testimony to know if that's consistent. I am objecting with that ruling, your Honor. But it may be creating some confusion, that's the only thing I would -- I am concerned about.

MS. BOJKO: Your Honor, my point was you already admitted his testimony in its entirety, over my objections, the exact objections that are being raised again. So if it is in a footnote and it's linked, it would already be admitted.

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994 1 EXAMINER SEE: So the entire docket is 2 what you --3 MS. BOJKO: No. That particular document that IGS used. He just printed off the link that was 4 5 cited. MR. OLIKER: I can't confirm that because 6 7 my computer is rebooting. I'm trying to --MS. BLEND: Your Honor -- I don't mean to 8 9 cut you off, Mr. Oliker. Sorry about that. It's my 10 understanding the document is not linked. I believe 11 the discussion is on page 12 of Mr. Goggin's 12 testimony, beginning at line 11. And he -- while he 13 generally characterizes PJM's proposed assumptions 14 for the calculation of the minimum offer price, he 15 does not cite to a link to PJM's filing in that 16 docket. 17 MR. MENDOZA: Your Honor, would it be 18 helpful to ask Mr. Goggin if that document is linked 19 in his testimony? I think that might move us along. 20 MS. BOJKO: I was trying to shortcut. 21 It's not. 22 MR. OLIKER: So no problem from the 23 ruling from my perspective, your Honor. 24 EXAMINER SEE: Mr. Goggin, does your 25 testimony link to --

995 1 THE WITNESS: I don't believe it does. 2 EXAMINER SEE: -- FERC ER18-1314. 3 THE WITNESS: I don't believe it does. 4 EXAMINER SEE: Thank you. You can step 5 down, Mr. Goggin. 6 THE WITNESS: Thank you. 7 EXAMINER PARROT: Mr. Dove, are you ready 8 to call your witness? 9 MR. DOVE: Yes, your Honor. 10 MR. OLIKER: And, your Honor, just to 11 clarify the question, I heard the motion for 12 administrative notice was denied, correct? I believe 13 that was the intent of your ruling but it was not 14 specific. 15 MS. BLEND: She said it was denied. 16 EXAMINER SEE: I am only hearing pieces 17 of what you are asking. 18 MR. OLIKER: I just want to confirm and I 19 believe this is the case, there was a request for 20 administrative notice of the entire document, that 21 was denied, and only specific pages that were 22 referenced have been permitted into the record. 23 EXAMINER SEE: That is correct. 24 MR. OLIKER: Thank you, your Honor. Ι 25 appreciate it.

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1	EXAMINER PARROT: Ms. Stebbins, please
2	raise your right hand.
3	(Witness sworn.)
4	EXAMINER PARROT: Thank you.
5	MR. DOVE: Your Honor, before I introduce
6	and offer the witness for cross, in light of your
7	January 14 ruling and in the interest of
8	administrative efficiently, I would like to withdraw
9	portions of her testimony and reserve the right to
10	offer them in the second phase. So if you don't
11	mind, I can go through that now.
12	EXAMINER PARROT: Very good.
13	MR. DOVE: We'll just go page by page.
14	On the List of Attachments, we are going
15	to withdraw Attachment 2.
16	MR. WHITFIELD: I am sorry, Robert, what
17	did you say?
18	MR. DOVE: Attachment 2. I'm sorry. And
19	if I go too fast, please tell me.
20	On page 4, line 2, starting with the word
21	"entering" and going through line 5, ending at the
22	word "charge," and then I would pick back up on line
23	5 at "the cost-effectiveness" and end at "solar
24	projects" on line 6.
25	Going to the next page, page 5, I would

997 start on line 1 and end on line 4, that entire 1 2 paragraph of the provision marked 1. 3 Moving to page 6. Page 6, through line 20 on page 10, including the footnotes, would all be 4 5 withdrawn at this time. 6 MR. COLLIER: Can we get that again? 7 MR. DOVE: Page 6, starting on line 2, 8 through page 10, line 20. 9 MR. COLLIER: Through? 10 MR. DOVE: Through. Withdrawn with the 11 option to offer it in the second phase. 12 MR. COLLIER: Through page 10? 13 MR. DOVE: Line 20. On page 11, line 2, starting with 14 15 "Mr. Torpey," going through line 8 of that page and then ending with the word "But." As well as the 16 17 footnotes associated with that which are marked. 18 Moving to page 14, line 17 through 19 page 15, line 10. 20 MR. HEALEY: I'm sorry, Robert, can you 21 just say that one again? 2.2 MR. DOVE: Sure. Page 14, line 17, 23 through page 15, line 10. And that would encompass 24 Footnote 16 which references to the Attachment B 25 already marked.

998 We move to page 19, line 3 starting with 1 2 "Mr. Fetter" through line 7, ending on "operation." And the footnote attached to that. 3 Continuing on line 19, line -- or I'm 4 5 sorry, page 19, lines 15 through 18, and the 6 associated footnote. 7 Moving to page 22, line 4, just the 8 beginning of that sentence through line 6 ending at 9 "energy." On the same page, line 9, the sentence 10 starting "By approving" through line 15. 11 On page 23, line 12, starting "The 12 proposed" and ending with the footnote on line 15. 13 Page 24, line 1, starting with "For 14 these" through line 3. 15 On page 25, line 5, the phrase "As mentioned earlier." And on line 8, the last three 16 17 words of that line "in Highland County." 18 On line 12, starting with "the Company's" 19 and ending on line 14 with "as well as." 20 And then on the last page, page 26, on 21 line 4, we would strike -- or withdraw the "1" and 22 the parentheses. And then on line 5, starting with the "(2)." 23 24 So just to be clear, on line 4, we are 25 only withdrawing the number "1" and the parentheses

999 around it. On line 5, starting with the parentheses 1 around "2," through line 15. 2 3 And again, we are doing this in light of your order on the 14th and in the interest of 4 5 efficiency, and we thank you for that opportunity. 6 EXAMINER PARROT: Thank you, Mr. Dove. 7 8 GABRIELLE STEBBINS 9 being first duly sworn, as prescribed by law, was 10 examined and testified as follows: 11 DIRECT EXAMINATION 12 By Mr. Dove: 13 Q. Ms. Stebbins, would you please state and 14 spell your last name -- state your full name and 15 spell your last name for the record. 16 Α. For the record, my name is Gabrielle 17 Stebbins, and Stebbins is spelled S-t-e-b-b as in boy 18 i-s. 19 Do you have in front of you what's been Ο. 20 marked as Natural Resources Defense Council Exhibit 21 1? 22 Α. Yes. 23 Is this the direct testimony you have Q. 24 provided in this case? 25 Α. Yes.

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1	Q. Was this testimony drafted by you or at
2	your direction?
3	A. Yes.
4	Q. And if I asked the same questions today,
5	would your answers be the same?
6	A. Yes.
7	MR. DOVE: Okay. With that, I offer the
8	witness for cross-examination.
9	MR. HEALEY: Your Honor, would now be a
10	good time for motions? I'm sorry.
11	EXAMINER PARROT: Just a moment.
12	NRDC Exhibit 1 has been marked. Thank
13	you, Mr. Dove.
14	(EXHIBIT MARKED FOR IDENTIFICATION.)
15	MR. HEALEY: I apologize for jumping.
16	EXAMINER PARROT: Go ahead.
17	MR. HEALEY: First, I would like to thank
18	NRDC for withdrawing those other portions of the
19	testimony. We agree with those withdrawals and it
20	saves me some time.
21	I did have one other one that might fall
22	within the same exception. Perhaps NRDC can
23	stipulate to this or we can discuss it.
24	It's on page 5, line 16, starting with
25	"In 18-1392" and going to the end. It's just

1001 1 background but it's a summary of the RGR filings, 2 Green Tariff RGR and this specific project, so I would ask that also be withdrawn. 3 4 MR. DOVE: It is a summary. We have no 5 objection to that being withdrawn. 6 EXAMINER PARROT: All right. Thank you. 7 MR. HEALEY: I do have some separate 8 motions to strike if that's all right, your Honor. 9 EXAMINER PARROT: Go ahead. 10 MR. HEALEY: Generally speaking, there are various portions of Ms. Stebbins' testimony that 11 12 are either straight recitations or summaries of AEP 13 Ohio testimony. This testimony would be both 14 hearsay -- sorry -- this testimony would be both 15 hearsay and therefore inadmissible and would also be 16 inadmissible for her lack of personal knowledge. 17 You will have to bear with me for a 18 second because some of these examples are ones that 19 have already been withdrawn, but I can provide the 20 page references of those that were not. 21 The first example would be on page 14, 22 starting on line 10 with the word "However" and 23 continuing through line 12 with the word "million." 24 Here she is just summarizing testimony of an AEP 25 witness. This is hearsay and she does not have

personal knowledge of the information that she is providing.

Likewise, on page 16, there is a Table 1 3 with economic benefits. This is -- Ms. Stebbins is 4 5 simply cutting and pasting information from 6 Mr. Buser's testimony, I believe, which we will get 7 to later today or perhaps next week. She lacks personal knowledge of this information and did not 8 9 contribute to creating this information. It's 10 hearsay and inadmissible for that reason as well.

11 And page 20, starting at line 1, 12 continuing through page 21, line 2. Here she is 13 simply summarizing the testimony that we heard 14 yesterday from Ms. Horner and Ms. Fry. Again, 15 Ms. Stebbins lacks personal knowledge of this 16 information. She is not the source of this 17 information and it is an out-of-court statement and 18 therefore hearsay as it pertains to Ms. Stebbins. 19 Thank you.

20MR. DOVE: Your Honor, may I respond?21EXAMINER PARROT: You may.

22 MR. DOVE: I would agree that, in large 23 part, these are summaries that set up her questions 24 as an expert witness. She is entitled to rely on the 25 evidence presented by other expert witnesses under

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1	the Rules of Evidence. These many of these
2	statements, with the exception of I believe
3	Mr. Buser, have already been entered into evidence,
4	and counsel has had the opportunity to cross-examine
5	the witnesses that made them, so I would disagree
6	with the characterization of hearsay. But I believe
7	she's just offering them as summaries to set up her
8	additional conclusion in the portions after this.
9	And therefore, should be included in the record as
10	they are already part of the record.
11	EXAMINER PARROT: Mr. Healey, your motion
12	to strike is denied.
13	MR. HEALEY: May I make another motion to
14	strike, your Honor?
15	EXAMINER PARROT: Go ahead.
16	MR. HEALEY: Thank you.
17	On page 11, starting at line 14, and
18	continuing through page 12, line 4. Here,
19	Ms. Stebbins is simply summarizing a report that was
20	prepared by someone else. She's not the author of
21	this report. The author, which is a company called
22	Synapse, is not part of this case. They are not here
23	to be cross-examined. She is not even stating she
24	relied on this report to develop any of her own
25	opinions. She is simply providing a summary of the

1004 1 report and therefore it is hearsay and inadmissible. 2 MR. DOVE: Your Honor, this is a 3 publicly-available report and, in fact, we provided a link in Footnote 12. It is a type of report that is 4 5 commonly relied upon by experts, and it is within the 6 hearsay exception of 803.17, and I would argue that 7 it should be included as a basis of her opinion. 8 Additionally, based on the way we have admitted 9 evidence thus far, I think this would apply. 10 MR. HEALEY: Your Honor, if I may 11 respond, at a minimum, to the first comment that this 12 being publicly available makes it somehow relevant. 13 Almost everything in the universe is publicly 14 available. It has no bearing on whether it is or is 15 not hearsay. Hearsay is an out-of-court statement 16 asserted for the truth of the matter; that will often 17 be a publicly-available statement. 18 MR. DOVE: As I noted, it does fall 19 within a hearsay exception and that is supported by 20 the fact that it is publicly -- publicly available 21 and therefore available to all parties. She is not 22 citing to a report, she is not providing and 23 expecting you to take potentially anything it says at 24 face value. She has provided it so you are welcome 25 to ask her questions about it if you wish.

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1	MR. HEALEY: And if I may, your Honor,
2	one more time. Mr. Dove cited Rule 803.17 as the
3	exception. That exception applies to market
4	quotations, tabulations, lists, directories, or other
5	published compilations. This is an article. It is
6	not a quotation, a tabulation, a list, a directory,
7	or a published compilation, nor is there any evidence
8	or any assertion by this witness that it is generally
9	used and relied upon by the public.
10	MR. DOVE: You are welcome to ask her if
11	she generally relies on this in her position.
12	EXAMINER PARROT: Mr. Healey, your motion
13	to strike this portion of Ms. Stebbins testimony is
14	also denied.
15	MR. HEALEY: Thank you, your Honor.
16	In light of the Bench's rulings on these,
17	I will not make any more motions to strike. Thank
18	you.
19	EXAMINER PARROT: Any others?
20	MR. DRESSEL: Your Honor, could we have
21	just a moment to make sure we're not moving to strike
22	things that have not already been withdrawn?
23	EXAMINER PARROT: Go ahead.
24	MR. DRESSEL: Your Honor, we do have just
25	a few motions to strike. And I apologize if any of

1006 1 these were covered by the earlier withdrawal. Τf 2 that's the case, just let us know. 3 The first would be on page 20, line 1, through page 21, line 10. Now, was there anything in 4 5 there that had been withdrawn? 6 MR. DOVE: No. 7 MR. DRESSEL: Okay. So this -- this 8 motion to strike is just renewing the arguments that 9 have been stated throughout this proceeding and in 10 the motion in limine filed by a number of the 11 parties. And so, for those same reasons, we would 12 renew those objections that -- that have already been 13 stated a number of times to this testimony and the footnotes included therein. 14 15 MR. DOVE: Your Honor, I will just point 16 out this is a similar -- you've already ruled on this 17 several times, as well as it's similar to the motion 18 to strike Mr. Healey made earlier, and I would 19 reiterate the same arguments that have been made 20 throughout this hearing as well. 21 EXAMINER PARROT: Consistent with the 22 earlier ruling in the case -- rulings at this point, the motion to strike is denied. 23 24 MR. DRESSEL: Thank you, your Honor. 25 Next is on page 23 through 25. Obviously

1 excepting the portions of those sections that have 2 already been withdrawn, we would move to strike these under Rule 702 of the Ohio Rules of Evidence as 3 Ms. Stebbins, in these portions of her testimony, is 4 5 offering improper legal opinions. She is not a 6 lawyer. She's not explained how she has the 7 background knowledge, experience, training, skill, expertise to interpret provisions of the Ohio Revised 8 9 Code, and given that lack of foundation, this is an 10 improper opinion -- these are improper opinions 11 offered by Ms. Stebbins to the extent she's giving 12 her insights on how this -- this proposal relates to 13 the state policies outlined by Ohio law. 14 I would respond that he is MR. DOVE: 15 welcome to ask her questions as to her foundation. Ι 16 would not necessarily characterize her as 17 interpreting Ohio law so much restating it. State 18 policy happens to be codified and she is simply

19 explaining how this proposal would line up with state 20 policy and not offering any additional interpretation 21 as to the meaning of those statutes.

22 MR. DRESSEL: Your Honor, may I respond 23 briefly to that? By offering her testimony as to how 24 this project lines up with state policy, she is 25 inherently making an assessment of what that state

1 policy means and interpreting it because she would 2 need to interpret it in order to determine whether or not the information she talks about here is 3 consistent with state policy or it isn't. And given 4 5 that, we would maintain this is an improper opinion. 6 MR. DOVE: I would just respond, the 7 Commission routinely allows witnesses, who are not testifying as attorneys, to address state policy and 8 9 discuss how particular projects may impact or fall in 10 line with that, and she should not be precluded from 11 discussing state policy simply because it's codified. 12 EXAMINER PARROT: I agree, Mr. Dove. The 13 mention to strike is denied. 14 MR. DRESSEL: Thank you, your Honor. 15 Next, we would move to strike testimony 16 on page 6, lines 4 through 7. And Footnote 1 along 17 with that. 18 EXAMINER PARROT: That's withdrawn. 19 MR. DOVE: All of page 6 has already been 20 withdrawn. 21 MR. DRESSEL: I apologize. Thank you. 22 MR. DOVE: I shouldn't say "all." Line 1 23 is still technically. 24 MR. DRESSEL: I'm sorry. Could you 25 restate which portions of page 11 and 12 have been

1009 1 withdrawn? 2 MR. DOVE: Sure. 11, line 2, "Mr. Torpey," and then through line 8, ending at the 3 word "But." Including that word as well. 4 5 And then you asked about 12? MR. DRESSEL: If there is anything on 12. 6 7 MR. DOVE: Nothing on 12. 8 MR. DRESSEL: Given that, we would move 9 to strike lines 11 through 13 on page 11 as hearsay. 10 This testimony relies on a manual from the 11 nationalefficiencyscreening.org. This manual is an 12 out-of-court statement. It wasn't authored by this 13 witness. We have no opportunity to cross-examine the 14 author of this document and, therefore, under Rule 15 801 of the Ohio Rules of Evidence, we would move to strike this portion of Ms. Stebbins' testimony as 16 17 hearsay. 18 MR. DOVE: I would --19 EXAMINER SEE: Just a moment for 20 clarification. Are the footnotes on page 12? 21 MR. DOVE: The footnotes are still in. 22 They are assigned to text in line 12. That mark was 23 in error. Just that one. 24 EXAMINER SEE: Okav. 25 EXAMINER PARROT: Mr. Dove, did you wish

1 to respond?

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2	MR. DOVE: Yes. I would just reiterate
3	these are very similar arguments to objections
4	that Mr. Healey raised in response to page 11, line
5	14 through page 12, line 4. I would raise the same
6	defenses and just state that she has included it, it
7	falls within the hearsay exception, and your Honors
8	have already ruled on this issue as it relates to the
9	footnote below.
10	EXAMINER PARROT: And we will allow the
11	Commission to determine what weight to give the
12	testimony, so the motion to strike is denied.
13	Mr. Dressel.
14	MR. DRESSEL: Thank you, your Honor. We
15	had a similar motion to strike on page 12, lines 11
16	through 13, and corresponding Footnote 13. That's
17	the same source as this one, so we would just note
18	that for the record.
19	EXAMINER PARROT: Noted.
20	MR. DRESSEL: Now on to page 17, lines 6
21	and 17 and and the corresponding Footnote 19.
22	This would be the same argument that this is an
23	out-of-court statement, not authored by this witness,
24	hearsay. And then on that same page, lines 9 and 10,
25	and the corresponding Footnote 20, same argument that

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 1
     it was an out-of-court statement, not authored by
 2
     this witness.
                 MR. DOVE: I would offer the same
 3
 4
     responses as I have.
 5
                 EXAMINER PARROT: And your motion to
     strike is denied, Mr. Dressel.
 6
 7
                 MR. DRESSEL: And finally, your Honor,
 8
     same motion, page 21, lines 5 through 10. Moving to
 9
     strike that testimony and the corresponding Footnotes
10
     27 and 28 as hearsay.
11
                 MR. DOVE: And same -- same response.
12
     These are surveys we have routinely entered via
13
     expert testimony that experts have relied on and have
14
     been included and allowed in by the Commission.
15
                 EXAMINER PARROT: And what's the
16
     reference again? Beginning on line 5 through what?
17
                 MR. DRESSEL: Line 10, your Honor, and
18
     then 27 and 28.
19
                 MR. DOVE: You mean footnote?
20
                 MR. DRESSEL: Yes, I apologize.
                                                   The
21
     footnotes at 27 and 28.
22
                 EXAMINER PARROT: We are going to allow
23
     the Commission to determine whether to give this
24
     testimony any -- any weight, so the motion to strike
25
     is denied, Mr. Dressel.
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1012 MR. DRESSEL: Thank you, your Honor. 1 We 2 have -- we have no further motions. 3 EXAMINER PARROT: Any other motions? 4 Mr. Mendoza. 5 MR. MENDOZA: No questions, your Honor. EXAMINER PARROT: Ms. Leppla. 6 7 MS. LEPPLA: No questions, your Honor. 8 EXAMINER PARROT: Mr. Kurtz. 9 MR. KURTZ: No questions. 10 MR. DARR: Your Honor, if I may, please? 11 Last time, with the witness, Mr. Goggin, 12 the Company was permitted to cross-examine somewhat 13 out of order. Given that they are the Applicant in 14 **** this order, as well as the environmentalists, we 15 would request that the Company be required to present 16 its cross-examination prior to either Switzerland or 17 the opposing parties. 18 MR. KURTZ: I like that. That's good. 19 MR. DARR: Nice country. 20 MS. BLEND: Your Honors, as the 21 Applicant, the Applicant bears the burden of proof in 22 this proceeding and traditional practice is the 23 Company crosses last, intervenor witnesses, so we 24 would request that tradition to be maintained here. 25 EXAMINER PARROT: As the Applicant with

1013 the burden, that was the reason for the order with 1 2 the last witness. And we will continue in that 3 fashion. Mr. Kurtz, did you have questions? 4 I'm 5 sorry. 6 MR. KURTZ: No questions. 7 EXAMINER PARROT: Mr. Healey, are you 8 ready? 9 MR. HEALEY: Yes. 10 EXAMINER PARROT: Okay. 11 12 CROSS-EXAMINATION 13 By Mr. Healey: 14 Hello, Ms. Stebbins. Thank you for being Ο. 15 here. You would not consider yourself an economist 16 by trade, correct? 17 Α. Correct. 18 And you have not performed an economic Q. 19 development study in the past, correct? 20 Α. Correct. 21 Ο. And you are not an expert in statistical 22 analysis, correct? 23 Α. Correct. 24 MR. HEALEY: Your Honor, I am going to 25 mark the next OCC Exhibit No. 12. This is an article

1014 entitled "The Challenges of Comparing PV's Success to 1 Efficiency" of which Ms. Stebbins is one of the 2 3 authors. May I approach, please? EXAMINER PARROT: You may, and it is so 4 5 marked. 6 (EXHIBIT MARKED FOR IDENTIFICATION.) 7 (By Mr. Healey) Ms. Stebbins, I've now Q. 8 just handed you what's been marked OCC Exhibit 12. 9 Do you recognize this article? 10 Α. I do. 11 Q. And you are one of the authors, correct? 12 Α. Yes. 13 Ο. Before we get to the article, just some 14 other questions. 15 The technology necessary to convert 16 sunlight into energy with solar-photovoltaic panels 17 has been available for quite some time; is that fair? 18 That's fair; although it's been improving Α. 19 over quite some time as well. 20 Ο. Sure, but you would not consider solar PV 21 technology to be a new technology in 2019, would you? 2.2 Α. There are components of it, tracking 23 systems and the efficiency that have improved 24 significantly and could be considered new compared 25 to, say, 1980.

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1	Q. So, in 1980, solar-photovoltaic panels
2	were available in some form, correct?
3	A. Correct.
4	Q. Let's take a look at your article. I
5	assume, given that you are one of the authors, you
6	are familiar with this article?
7	A. Correct.
8	Q. And you didn't make any false statements
9	in this article, did you?
10	A. Correct.
11	Q. Can you turn to page 2, please. I guess
12	it's 2-2. In the first full paragraph you are
13	quoting the New York State Public Service Commission.
14	Do you see that quote there starting on the second
15	line?
16	A. Uh-huh. Yes.
17	Q. And starting about four lines down, there
18	is a sentence that reads "Where a program that
19	subsidizes well-established technologies and
20	practices is maintained indefinitely, market activity
21	outside of the program is at a disadvantage" Do
22	you see that?
23	A. I do.
24	Q. Do you believe that statement to be true?
25	A. With the caveat. But yes, if a rebate

1016 1 program extends for hundreds of years, yes, it can 2 impact market competition. 3 Ο. Is the only time that it can impact 4 market competition when it extends for hundreds of 5 years? No, sir. 6 Α. 7 You support AEP's proposal in this case, Q. 8 do you not? I do, sir. 9 Α. 10 And part of the reason for that support Ο. 11 is because you believe it will help AEP reduce the 12 amount that it pollutes the environment? 13 Α. I support it for a number of reasons. That is one of them. 14 15 And you would agree that power companies, 0. 16 like AEP, are one of the major polluters in this 17 country? 18 They are part of it. Ultimately they Α. 19 provide a service to all of us, all of the customers, 20 so I would say we're all part of the problem and the 21 solution. 2.2 MR. HEALEY: Your Honor, I would like to 23 mark as OCC Exhibit -- sorry, 13, this is an article 24 entitled "Benchmarking Air Emissions." May I 25 approach the witness, please?

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1	EXAMINER PARROT: You may.
2	(EXHIBIT MARKED FOR IDENTIFICATION.)
3	Q. (By Mr. Healey) Ms. Stebbins, you are
4	testifying on behalf of NRDC today, correct?
5	A. Correct.
6	Q. And you see, on the exhibit I just handed
7	you, that NRDC is one of the contributors of this
8	report entitled "Benchmarking Air Emissions of the
9	100 Largest Electric Power Producers in the United
10	States"?
11	A. Yes.
12	Q. Can you turn to page 10 of this report,
13	please. And page 10 provides a graph of NOx total
14	emissions and emission rates. What is NOx?
15	A. Nitrous dioxide.
16	Q. And is that a pollutant?
17	A. Yes.
18	Q. And if you look at the bottom of this
19	page, there's a long list of utilities. About the
20	20th from the top is AEP. Can you find that for me,
21	please?
22	A. Yes.
23	Q. And then if you look at the bars for AEP
24	on the top one, the top table is per thousand ton of
25	NOx emissions. You will see that AEP appears to be

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1	the second highest in the country; isn't that right?
2	MS. BLEND: Your Honor, at this point,
3	I'll object. Mr. Healey has not established any
4	foundation for this document with this witness other
5	than that she's an outside consultant testifying on
6	behalf of NRDC in this proceeding.
7	MR. HEALEY: Your Honor, this is a
8	document produced by the NRDC for which she is
9	testifying. It's a party admission in that regard
10	given that NRDC and OCC are opposing parties in this
11	case.
12	MS. BLEND: I will disagree.
13	MR. HEALEY: And for the record, I have
14	asked multiple questions about this document already
15	and there have been no objections prior. I believe
16	AEP has waived the foundation objection in that
17	regard.
18	MS. BLEND: Well, your Honor, I was
19	trying in the interest of not further cluttering
20	this record with more objections and discussion and
21	wasting time, I was trying to give Mr. Healey a
22	little bit of leeway to see if he was going to
23	establish foundation before I objected. He failed to
24	do that and started asking substantive questions
25	about this document, at which point I did object to

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1	respond to the assertion that this is a party
2	opponent admission of NRDC in this proceeding.
3	Mr. Healey is incorrect in that regard as this is not
4	a statement against NRDC's interest in this
5	proceeding and so, therefore, that exception to
6	hearsay is not applicable.
7	MR. HEALEY: Your Honor, if I may, I
8	would stand by my waiver argument. I asked multiple
9	substantive questions, not just foundational
10	questions, that were allowed to be asked by AEP and,
11	therefore, they have waived the objection as to the
12	additional questions on similar topics.
13	EXAMINER PARROT: I think we should at
14	least ask the witness if she has seen it, Mr. Healey,
15	so let's ask a few foundational questions.
16	MR. HEALEY: Sure.
17	Q. (By Mr. Healey) Ms. Stebbins, have you
18	seen this document previously?
19	A. No.
20	Q. Do you read these types of documents in
21	your current role?
22	A. Generally. It depends on the project but
23	yes, at times.
24	Q. Let's turn to page 20 of your testimony,
25	please. On page 20 of your testimony, you are

1020 1 discussing the Navigant survey, correct? 2 Α. Yes. 3 Ο. Now, you did not play any role in preparing this survey or sending it to customers or 4 anything like that, correct? 5 6 Α. T did not. 7 And so here in your testimony you are Ο. 8 essentially just summarizing the survey and the 9 corresponding testimony that AEP filed, correct? 10 Α. Yes. And you can't personally verify that the 11 Ο. 12 results of the survey are accurate, can you? 13 Α. From my experience I can verify that this is a trend that I've seen from customers and 14 15 businesses that they are seeking more renewables, 16 both from themselves directly on their property as 17 well as from their utilities or their EDUs. This 18 particular, no, but generally, from other customer 19 surveys that I've written, yes. 20 And so, you can't say whether the Ο. 21 methodology that Navigant used would be consistent 2.2 with good statistical practices like some of the 23 other surveys you have more experience with, correct? 24 Α. I did read through their approach and it 25 appears consistent with general practices. But

1021 1 again, I was not actually within the survey 2 methodology practice itself for this study. 3 Ο. And as we established earlier, you are 4 not an expert in statistical analysis, correct? 5 Α. No. 6 Let's look at page 21, line 5. Here you Ο. 7 cite a recent Consumer Reports survey. Do you see 8 that? 9 Α. Yes. 10 And you did not author this survey, did Q. 11 you? 12 I did not. Α. 13 Ο. And so if mistakes were made in this 14 survey, you would have no way of knowing that, would 15 you? 16 No. My point on this survey was to Α. 17 actually, by providing this, as well as the peer 18 research, was to show there are multiple different 19 surveys one can look at. So any one survey may have 20 mistakes, but with multiple surveys pointing in the 21 same direction, it provides a valid indication that 22 the findings from Navigant are real and accurate. 23 MR. HEALEY: Thank you. 24 Your Honor, in light of the withdrawal of 25 most of Ms. Stebbins' testimony, that's all I have.

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1	EXAMINER PARROT: Thank you, Mr. Healey.
2	Ms. Glover?
3	MS. GLOVER: No questions.
4	EXAMINER PARROT: Mr. Nugent?
5	MR. NUGENT: Yes, thank you, your Honor.
6	
7	CROSS-EXAMINATION
8	By Mr. Nugent:
9	Q. Good afternoon, Ms. Stebbins.
10	A. Good afternoon.
11	Q. Ms. Stebbins, it's your understanding
12	that AEP Ohio seeks Commission approval for a finding
13	of need for 400 megawatts of solar energy; correct?
14	A. The 900 megawatts, yes. In this filing,
15	yes.
16	Q. But 400 of solar, correct?
17	A. Yes.
18	Q. Thank you.
19	And is it also your understanding that
20	AEP Ohio seeks to recover costs associated with that
21	project through a nonbypassable customer charge?
22	A. Yes.
23	Q. And do you know what a nonbypassable
24	charge is?
25	A. Yes.

Γ

1023 And am I correct that as of the third 1 Ο. 2 quarter of 2018, Ohio had just under 190 megawatts of 3 solar capacity? Α. 4 Yes. 5 Ο. And can you tell me whether, in the 6 course of preparing your testimony, you identified if 7 those 190 megawatts were adequate to meet customer 8 needs? 9 Α. From the review of the Navigant study, it 10 is not. If one looks at the results from the 11 inquiries into the Fortune 100 companies that are 12 here and want to do renewables, and also from the 13 strong support for leaving a better future from the 14 residential PIPP and non-PIPP customers, it does not 15 appear that the 4.5 percent currently within AEP's 16 alternative energy compliance requirements, that 17 that's meeting what customers are looking for. 18 I suppose I should probably rephrase. Ο. 19 Did you identify whether those 20 190 megawatts were sufficient to meet customer needs 21 as it relates to reliability? 2.2 Α. That was provided at the outset that the 23 PJM market is providing those opportunities. This is 24 based off of other findings including price 25 stability, price advantage, customer interests,

1024 1 economic local job benefits. 2 MR. NUGENT: Could you reread the 3 witness's answer, please? 4 (Record read.) 5 MR. NUGENT: Thank you. (By Mr. Nugent) Thank you. And staying 6 Q. 7 with those 190 megawatts that we've been discussing, those 190 megawatts are not provided by AEP Ohio at 8 9 present, correct? 10 They are provided by multiple different Α. 11 sources. 12 Okay. And would you happen to know the Ο. 13 number of customers in the AEP service territory, if 14 any, that generate their supply from those 190 15 megawatts solar capacity? 16 Α. No. 17 But it would be fair to assume that some Ο. 18 customers in the AEP Ohio service territory receive 19 supply from those 190 megawatts produced, correct? 20 Α. Certainly. 21 Ο. Okay. And given your understanding of 22 nonbypassable charges, you would agree that those 23 customers would be required to pay an additional 24 charge to support AEP's proposal even though they are 25 obtaining renewable energy from another provider?

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1	A. No. I don't. The a payment for
2	either renewable energy credit compliance or a
3	payment for one's rooftop solar is not the same thing
4	as what is being proposed through the Renewable
5	Generation Rider. In my experience as Chair of the
6	Burlington Electric Commission in Vermont, we
7	typically look at project PPA proposals to assess
8	what the overall total costs are.
9	And in this analysis, over the life cycle
10	of 20 years of the projects, it ends up being a
11	\$31 million net benefit. So maybe the first couple
12	of years, but over the entire 20 years, no, I would
13	not agree with it. It's looked at as a totality of
14	costs.
15	MR. HEALEY: Your Honor, I move to strike
16	the reference to the net benefit. That was withdrawn
17	from her testimony and that's part of the testimony
18	in Phase II of AEP's witnesses and should not be
19	entered into the record here. Those pertain to the
20	specific benefits of the Highland renewable
21	proposals.
22	MR. NUGENT: Could you please repeat the
23	question I asked?
24	
25	MS. BLEND: Your Honors, the \$31 million

1026 1 number is the generic benefit that is in this case in 2 Mr. Torpey's testimony. 3 MR. DOVE: And it was not withdrawn from 4 her testimony. 5 MR. HEALEY: I apologize if I was mistaken in that. 6 7 May I add one more thing? 8 EXAMINER PARROT: Do you still need us to repeat that for you, Mr. Nugent? 9 10 MR. NUGENT: Please. EXAMINER PARROT: Let's do that first. 11 12 (Record read.) 13 MR. NUGENT: Your Honor, I would move to 14 strike the witness's response as nonresponsive. 15 MR. DOVE: I would just respond that he 16 asked if they would be paying a charge, and I believe 17 in her answer she said maybe in the beginning but not 18 overall. And, therefore, it would be responsive. 19 EXAMINER PARROT: I agree, Mr. Dove. The 20 motion is denied. 21 MR. NUGENT: Thank you, your Honor. 2.2 MR. DOVE: Thank you, your Honor. 23 (By Mr. Nugent) And according to your Q. 24 testimony, AEP's solar energy proposal, if approved, 25 would result in a 200-percent increase of the

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1 capacity from current levels, correct? 2 Α. Yes. 3 Ο. Okay. And do you have a copy of your testimony in front of you? If you could turn to 4 page 19 and look at lines 9 through 14. Are you 5 6 there? 7 Α. Yes. 8 Q. Okay. So you believe that by approving 9 AEP's solar proposal, the Public Utilities Commission 10 of Ohio will send a message that Ohio is open to the 11 business of in-state renewable development that saved 12 money and strengthens the Ohio economy, correct? 13 Α. Yes. 14 But based on what we've just discussed, Ο. 15 AEP proposes to enter into a contract to own 400 out 16 of a total of 590 megawatts of solar energy in Ohio, 17 correct? And I do want to clarify something. They 18 don't propose -- AEP is no not proposing to own it 19 but rather to enter into a PPA with other customers. 20 Α. That's correct. 21 Ο. Okay. And just -- I don't know if you have a calculator handy, but that would be 68 percent 22 23 of the solar energy produced in Ohio, correct? 24 Α. It's a different type of solar energy. 25 They are larger -- yes, that's correct, it would be

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1028 1 68 percent. I would caution that it's really only 2 taking it from like 1.4 percent of a total wind and solar combination in the Ohio Power portfolio overall 3 though. So 68 percent, 200 percent, really we are 4 5 looking at 1 to 2 percent growth. MR. NUGENT: Your Honor, I would like to 6 7 move to strike everything after the word "yes." 8 MR. DOVE: She was just clarifying her 9 answer. I think she can add context to what she's 10 saying. 11 EXAMINER PARROT: The answer will stand. 12 Go ahead, Mr. Nugent. 13 MR. NUGENT: Thank you. 14 Ο. (By Mr. Nugent) Ms. Stebbins, given, 15 again, your understanding of nonbypassable charges 16 and what we've just discussed, you would agree that 17 AEP's solar proposal could potentially, again 18 "could," crowd out other types of renewable programs 19 and discourage private investment in renewable energy 20 development in Ohio, correct? 21 Α. No, I don't agree with that. In my 22 experience, running a renewable energy trade 23 association, different businesses provide different 24 services. I would also like to add, you know, the 25 largest solar project I believe right now in Ohio is

1029 at 20 megawatts. This is a different -- this is 1 2 front of the meter. It's providing price suppression. It's a different animal and it's 3 provided by different business minds. The folks, the 4 5 88 solar installers in Vermont right now, they do a 6 lot of smaller mom and pops, 500 kW, something on 7 your rooftop. This is a different -- if anything, it could be -- you could argue that it might bring in a 8 9 new type of generation provider. 10 Ms. Stebbins, do you know how many Q. 11 utility-scale solar projects are before the Ohio 12 Power Siting Board? 13 Α. I know that it's increased significantly 14 and that there are some comments that that is 15 precisely in response to AEP Ohio's announcement that 16 they would be looking for 900 megawatts of 17 renewables. 18 But you do not know the number of cases, Q. 19 correct? 20 Α. I know that it's increased significantly 21 in the last two years. 2.2 Ms. Stebbins, I believe in your last Ο. 23 response you referenced the State of Vermont. You 24 are aware that the Ohio energy market is a 25 competitive market, correct?

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1	A. Yes, I am.
2	Q. Okay. And you are aware, through a
3	competitive market, that there are renewable products
4	currently offered by competitive retail electric
5	suppliers here in Ohio?
6	A. Yes.
7	Q. And you're aware that competitive
8	electric retail suppliers currently offer products
9	that are bundled with renewable energy, correct?
10	A. Bundled, yes, but offering this type of
11	product, it's a different product.
12	Q. And in the course of preparing your
13	testimony, you did not evaluate the Public Utilities
14	Commission of Ohio's Apples to Apples website,
15	correct?
16	A. After you asked me this at the
17	deposition, I did pull it up and look at it so I
18	could be more informed.
19	Q. But prior to, in the course of preparing
20	your testimony, you did not review it, correct?
21	A. I did not.
22	MR. NUGENT: Thank you. I have no
23	further questions.
24	EXAMINER PARROT: Thank you, Mr. Nugent.
25	Mr. Dressel?

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1	MR. DRESSEL: Thank you, your Honor.
2	
3	CROSS-EXAMINATION
4	By Mr. Dressel:
5	Q. Good afternoon, Ms. Stebbins. I have a
6	few questions for you. I apologize if any of these
7	go into territory that was already covered by
8	Mr. Healey. I'll do my best to keep it different.
9	A. Thanks.
10	Q. Can you go to page 13 of your testimony,
11	please. Here you talk about the effect that these
12	solar projects will have on locational marginal
13	pricing or LMP?
14	A. Yes.
15	Q. To be clear, you took the information you
16	used to prepare this portion of your testimony from
17	the testimony of Company witness Ali?
18	A. Yes.
19	Q. And to come to his conclusions, you would
20	agree that Company witness Ali used what's called the
21	PROMOD model?
22	A. Yes.
23	Q. You were not involved in that analysis,
24	were you?
25	A. No.

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1	Q. And you've never actually used the PROMOD
2	model in the course of your work, right?
3	A. Not the PROMOD model, no.
4	Q. So you can't offer any opinion as to
5	whether or not Mr. Ali correctly used that model?
6	A. No, I can say that when you have a
7	lower-priced power supply at LMP, it does reduce the
8	LMP price; so, directionally, I can say that this is
9	correct in my experience.
10	Q. But, Ms. Stebbins, to be clear, you
11	cannot offer an opinion as to whether Mr. Ali
12	correctly used the model that he used to come to his
13	conclusions.
14	A. I cannot.
15	Q. Could you next go to page 21 of your
16	testimony. I believe Mr. Healey discussed the
17	Consumer Reports survey that you talked about in this
18	portion of your testimony at line 5. Shortly or a
19	little bit below that, at line 8, you talk about a
20	survey done by the Pew Research Center. Do you see
21	that?
22	A. Yes.
23	Q. Again, you didn't perform this survey?
24	A. No.
25	Q. And as you testified earlier, you don't

1033 have any sort of experience in economic analysis or 1 2 that sort of thing? 3 Α. No. I do have some experience in economic analysis. I'm not an economic expert. 4 5 Ο. But you wouldn't consider yourself an 6 economist. 7 Α. No. 8 Ο. And you've not conducted this sort of 9 survey like the Pew survey that you talk about in your testimony? 10 I have conducted surveys similar. I did 11 Α. 12 not conduct this one. 13 Ο. And in your testimony, you don't discuss whether this survey found whether or not customers 14 15 preferred their renewable generation from a 16 distribution utility compared to the private market? 17 Α. Sorry, can you repeat that question? 18 Sure. You don't -- you don't testify to Ο. 19 any survey results regarding customer preference for 20 who develops renewable generation, do you? 21 Α. I do. I comment on the Navigant survey 22 and the fact that they particularly say they want AEP Ohio to do it. 23 24 I'm sorry, with regard to the Pew survey. Ο. 25 Α. I don't remember if -- if it asks that

1034 1 specific question. 2 Well, it's not in your testimony whether Ο. 3 or not it asks that --No, it's not in my testimony. 4 Α. 5 Ο. So the only survey that you reviewed that 6 did look into that issue is the one offered by AEP, 7 right? 8 Α. Yes. 9 Ο. And AEP is the Applicant in this case? 10 Α. Yes. 11 You also, in your testimony, do not cite Ο. 12 any data on the amount of customers who actually 13 choose to pay for renewable generation given the 14 opportunity to do so, right? 15 Α. Not in my testimony, no. 16 Ο. So your testimony is focused on what 17 customers say in response to a question, rather than 18 how customers behave in practice. 19 Yes. However, in my experience, I can Α. 20 say that I know many people who have opted to 21 purchase renewable energy and to pay more for it, 22 both within my experience chairing my local 23 municipalities as well as heading up the trade 24 association. 25 Q. But you didn't include any of that

1035 experience in your testimony here. 1 2 Α. No. 3 And those people that you know who have Ο. chosen to purchase this renewable energy have chosen 4 5 to do so through a competitive market. Α. Yes. In Massachusetts and New York 6 7 State, yes. 8 Ο. Now, could you next go to page 17 of your 9 testimony. Looking at line -- starting at line 14, 10 you testify as to the likelihood of renewable 11 generation being developed in Ohio, absent approval 12 of AEP's application, right? 13 Α. Yes. 14 And you conclude that it is unlikely that Ο. 15 renewable generation would be developed in Ohio on 16 this scale, absent approval of AEP's application. 17 Α. It appears unlikely, yes. 18 And a large part of your basis for that Ο. 19 conclusion is looking at the amount of renewable 20 generation currently in Ohio, right? 21 Α. That's one part. The other part is my 22 experience understanding the critical nature of a 23 long-term contract for renewable developers. 24 But focusing on the first part, the part Ο. 25 where you, on page 18, Table 2, you provide a chart

1036 showing Ohio's generation mix over time, right? 1 2 Α. Yes. 3 Ο. This chart looks at coal, gas, nuclear, wind and solar, and then other, right? 4 5 Α. Yes. So -- and you would agree, as of right 6 Ο. 7 now, most of the wind and solar generation in Ohio is from the private sector or competitive market, right? 8 9 Α. I believe so, yes. 10 So your chart goes back to 1990, right? Ο. 11 Α. Yes. 12 In 1990, there was no wind and solar in Q. 13 Ohio's generation mix, right? 14 From this chart, yes. Α. 15 Q. And, in fact, as recently as 2010 there 16 was no wind and solar in AH generation mix according 17 to this chart. 18 Yes. Α. 19 Then the first year on your chart that 0. 20 renewable generation appears in Ohio's generation mix is 2012, right? 21 2.2 Α. Yes. 23 At that point, renewable generation made Q. 24 up .8 percent of Ohio's generation mix. 25 Α. Yes.

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1	Q. Then three years later, in 2015, it made
2	up 1 percent, right?
3	A. Yes.
4	Q. 1 percent is an increase of .2 percent
5	from .8 percent, right?
6	A. Yes.
7	Q. Or, put another way, an increase of 25
8	percent.
9	A. Yes.
10	Q. Then from
11	A. 20 percent.
12	Q2 divided by .8 would be 25 percent,
13	right?
14	A. Yes. Sorry. I thought you were saying
15	between 8 to 10 percent. Go ahead.
16	Q. Sorry.
17	Then from 2015 to 2017, the amount of
18	renewable generation in Ohio's generation mix
19	increased to 1.4 percent, right?
20	A. Yes.
21	Q. Or an increase of 40 percent over just
22	two years.
23	A. Yes. I would add most of this increase,
24	again, is not achieving the larger-scale-projects
25	benefits that these projects potentially would

1038 1 achieve. 2 MR. DRESSEL: Your Honor, we would move 3 to strike. There was no question pending when Ms. Stebbins provided that answer. 4 5 MR. DOVE: I think she was just adding 6 context to her prior answer since a question wasn't 7 pending. 8 EXAMINER PARROT: And the answer will 9 stand. 10 (By Mr. Dressel) Ms. Stebbins, you Ο. 11 believe that PJM wholesale markets are adequately 12 supplying capacity and energy to the AEP Ohio load 13 zone, right? 14 A. Yes. 15 Q. In fact, you would say there's currently 16 an overcapacity in the supply from the wholesale 17 market? 18 Yes. Α. 19 MR. DRESSEL: Thank you. I have no 20 further questions. 21 EXAMINER PARROT: Thank you, Mr. Dressel. 2.2 Ms. Whitfield? 23 MS. WHITFIELD: No questions for this 24 witness. 25 EXAMINER PARROT: Mr. Stock?

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1	MR. STOCK: No questions.
2	EXAMINER PARROT: Mr. Darr?
3	MR. DARR: Very briefly, your Honor.
4	
5	CROSS-EXAMINATION
6	By Mr. Darr:
7	Q. You mentioned, in response to a question
8	to Mr. Dressel just now, that you are now aware there
9	is several utility-scale projects either approved or
10	pending in Ohio; is that correct?
11	A. Yes.
12	Q. And that's a change in position from your
13	deposition when we took your deposition, correct?
14	A. I after the deposition, I did go back
15	and do some more research so I had a better sense of
16	the overall state market.
17	Q. And so, you are aware now that there are
18	914.9 megawatts of capacity either approved or
19	pending before the Public Utilities Commission of
20	excuse me the state the Ohio Siting Board
21	currently?
22	A. I couldn't have recalled the exact
23	megawatts but, yes, I was aware there was an
24	increase.
25	Q. And that the smallest of these projects

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1 which is currently pending is 75 megawatts, the 2 larger is 170 megawatts, and that the largest 3 approved project is 150 megawatts, correct, if you know? 4 5 Α. I would not have remembered that. I also noted in your response to a 6 Ο. 7 question by Mr. Dressel that you said that -- or that 8 you characterized that these -- these projects were 9 initiated in response to the AEP Ohio commitment to 10 search out renewables. I would like to know where 11 you learned that. 12 Α. From discussion with various people in --13 from Ohio who live here. 14 Okay. And who are these various people Ο. 15 in Ohio that live here that provided you this insight 16 into what AEP -- what these developers were doing? 17 Α. I did ask two or three people including 18 Dan Sawmiller, but it's generally more of a -- it's 19 more of a postulation. 20 So it's your surmise; is that correct? Q. 21 Α. Yes. 22 Now, in regard to your testimony, on Ο. 23 page 6, you indicate that you believe that the 24 economics of these projects are sufficiently

25 beneficial as to provide customers -- page 6.

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1	MR. DOVE: Starting on line 2.
2	EXAMINER PARROT: Just the heading
3	remains.
4	Q. Earlier in your response to a
5	cross-examination question, you indicated that you
6	recognize that the value of the generic projects
7	was was positive for customers, correct?
8	A. Yes.
9	Q. That's all I needed.
10	And based on your testimony, it's your
11	belief that the Navigant report indicates that
12	there's some pent-up demand on the part of customers
13	for renewable resources, correct?
14	A. Yes.
15	Q. So turning to your testimony on page 17,
16	you list what I believe are six, now five reasons why
17	you believe that this pent-up demand will not be
18	satisfied by utility-scale projects, correct? Or
19	that the renewable resources won't be available?
20	A. I stated that it was highly unlikely,
21	yes.
22	Q. Okay. So let's turn to the first one
23	where you say that there while there are
24	increasing amounts of wind and solar in Ohio, overall
25	wind and solar remain a minimum part of the

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1	portfolio. That's essentially descriptive of what is
2	in the current portfolio right now, correct?
3	A. Yes.
4	Q. So isn't that like saying that because I
5	personally have not had cancer, I will never have
6	cancer in the future?
7	A. No. I don't understand how that's like
8	that.
9	Q. Well, the current condition is that
10	the that renewables make up roughly 1.4 percent,
11	correct?
12	A. Correct.
13	Q. And as Mr. Dressel pointed out, it's been
14	expanding at a rate of up to 40 percent, correct?
15	A. Correct.
16	Q. And you are now aware there are
17	utility-scale projects, either approved or pending
18	before the Power Siting Board, to the tune of about
19	914 megawatts, correct?
20	A. That does not mean they will be built.
21	Q. I understand that, ma'am. It also
22	doesn't mean that I will get cancer in the next five
23	years, correct, even though I don't have it now.
24	Isn't that the point?
25	A. I don't understand the cancer analogy.

1043 1 Ο. Is there a chance I may have cancer in the next five years? 2 MR. MENDOZA: Objection, that's 3 irrelevant. 4 5 MR. DARR: No, it's not. She's presented 6 a post hoc ergo argument and I am testing whether or 7 not she understands that. 8 MS. LEPPLA: And I would just object 9 because she has already stated she doesn't understand 10 the question. 11 MR. DARR: And I am trying to inquire --12 I apologize for over-speaking. MR. DOVE: I would also note that she has 13 14 listed several reasons and I believe that she would 15 expect them all to be taken into context as a whole 16 as opposed to just cherry picking one without the 17 other four. 18 MR. DARR: I've just started, your Honor. 19 EXAMINER PARROT: She's already said she 20 doesn't understand your cancer analogy, so. 21 MR. DARR: Well, let me try another 22 that's probably more practical, your Honor. 23 EXAMINER PARROT: Maybe a different one 24 will work better. 25 MR. DARR: Let me try a more practical

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1	one.
2	EXAMINER PARROT: That would be good.
3	Q. (By Mr. Darr) Would you believe do you
4	believe that there is a demand for, let's say,
5	smartphones?
6	A. Yes.
7	Q. And if you were sitting in Apple's
8	position in 2006, would you conclude, when there was
9	a relatively limited penetration of smartphones,
10	would you believe that that existing level of
11	penetration of smartphones meant that you should not
12	get into the smartphone business?
13	A. Sorry, can you repeat that question?
14	Q. Sure.
15	You are sitting in 19 in 2006 and you
16	are looking at whether or not to get into the
17	smartphone business. There aren't a whole lot of
18	smartphones out there at that point, right?
19	A. Right.
20	Q. Okay. And you're Apple, and you make the
21	conclusion "I am not going to get into smartphones
22	because nobody has a smartphone." Would that be the
23	conclusion that you would draw?
24	A. It's certainly not the conclusion they
25	drew.

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1045 1 Q. Right. And that's because they 2 recognized there was pent-up demand for smartphones, 3 correct? 4 Α. Correct. I quess. 5 Ο. Just as there's pent-up demand for 6 renewable generation, correct? 7 Α. There is pent-up demand for renewable 8 generation, yes. 9 Ο. Very good. 10 The next item you point out as a basis 11 for there not being a likelihood of the development 12 of projects is that these projects would increase the 13 current level of renewable project development in 14 Ohio -- or that's a reason why -- well, let me go 15 back. 16 You state, as your second reason, "these 17 projects would greatly increase the current level of 18 renewable project development in Ohio." Are you 19 saying that's a reason why they wouldn't develop? 20 And if so, I'm confused. Could you explain that for 21 us, please? 2.2 It's a five-point argument. It's, first, Α. 23 there is not a lot here. Second, if you did say yes 24 to this definition of need and say yes to the 25 opportunity of more renewables, that you would see

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1	more. Third, that right now there's no requirement
2	or mandate for it through the AEPS. Fourth, in my
3	experience, just because a developer goes and starts
4	the siting process and collects permits, does not
5	mean they can get financing. It's why a long-term
6	contract is so critical. It's why restructured
7	retail-choice states like New York and Massachusetts
8	have allowed the Public Utilities Commission to
9	approve long-term contracts by their EDUs.
10	Q. I appreciate that exegesis of your five
11	points. I want to focus on No. 2.
12	A. Okay.
13	Q. No. 2 says "these projects would greatly
14	increase the current level of renewable project
15	development in Ohio." Why is that a factor that
16	precludes the development of projects in Ohio? Can
17	you what is the explanation for that?
18	MR. DOVE: Your Honor, I don't know that
19	the characterization "preclude development" is
20	appropriate. The question is what is the basis for
21	your statement, and that is one of the points of the
22	basis for her statement.
23	MR. DARR: I don't know what the
24	objection is, your Honor. I don't know how to
25	respond to that.

1047 1 MR. DOVE: I just believe you 2 mischaracterized her testimony. 3 MR. DARR: Well, she can explain what her testimony is, your Honor, which is exactly what I am 4 5 asking her to do, by the way. THE WITNESS: I did just explain the five 6 7 points, sir, and you said don't do that, focus on the 8 second. 9 MR. DARR: I believe there is an 10 objection pending. 11 EXAMINER PARROT: To the extent you are 12 able to address the second part of this five-part 13 argument, please do so, Ms. Stebbins. 14 Α. If I had only written just the second 15 argument, I don't think that would flow into the 16 overall package of points in the argument. 17 Q. Fine. Thank you. 18 The next item is that the AEPS -- AEPS, 19 or the renewable standards, do not require any 20 portion of the standard be met by renewable projects 21 within Ohio. Are you saying then that -- well, first 22 of all, you have already indicated that you're aware 23 that there was a requirement for some time for 24 renewable projects to be -- a portion of the 25 renewable standard to be in Ohio, correct?

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1	A. Yes.
2	Q. And that legislation requirement was
3	removed, correct?
4	A. Yes.
5	Q. And the reason why do you know the
6	reason why the sponsor of that legislation included a
7	provision removing the renewable requirement or
8	in-state requirement?
9	A. I do not remember.
10	Q. Were you part of that process?
11	A. I was not.
12	Q. But you are aware there is sufficient
13	renewable resources already in the state to meet the
14	renewable standards for some extended period of time,
15	correct?
16	A. Yes, but the standard is a floor and the
17	customers want more.
18	Q. Ah, yes, we are back to the pent-up
19	demand.
20	The fourth reason, and this goes to that,
21	is that you as to why renewables will not develop
22	in Ohio is that you need to find creditworthy buyers,
23	correct?
24	A. Correct.
25	Q. And you indicate on page 19 of your

1049 1 testimony at this point and the factors that you 2 would consider as to creditworthiness include a 3 counterparty with a sufficient credit rating and a history of being in business and significant income 4 5 and assets, correct? 6 Α. Those are some of the components that 7 make a creditworthy entity. 8 Ο. And you are aware that AEP Ohio has 9 operating revenues of approximately \$2.9 billion in 2017? 10 11 Now I am. Α. 12 Ο. You weren't before? 13 Α. That it was exactly 2.9? No. I knew it 14 was in high 2s. 15 Ο. And you are aware that AEP has a credit 16 rating, AEP Ohio -- AEP Ohio has a credit rating of 17 A-minus with Standard and Poor's? 18 Α. Okay. I was not. You were not aware of that before? 19 Ο. 20 Α. I was aware that it was high, yes. 21 Q. But not what it was, what it specifically 22 is currently. 23 I could not have remembered if you had Α. 24 asked me right now. 25 Q. Well, do you know what their net

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1	income what the AEP Ohio net income is reported to
2	be in 2017?
3	A. I cannot remember.
4	Q. Well, you're aware that Amazon, for
5	example, has engaged in renewable contracts here in
6	Ohio, correct?
7	A. Yes.
8	Q. And would you find that Amazon would be a
9	creditworthy counterparty?
10	A. Yes.
11	Q. In fact, are you aware that Amazon had
12	reported income of $2-1/2$ billion dollars in the
13	second quarter alone in 2018?
14	A. I am not aware, but I am not surprised.
15	Q. And it has a debt rating of A-minus, are
16	you aware of that?
17	A. Now I am.
18	Q. Well, did you survey any of the companies
19	that have credit ratings that are B or better to
20	determine whether or not they were engaged in
21	securing, privately, contracts for renewable
22	resources in Ohio?
23	A. I'm not certain how this pertains to my
24	testimony exactly.
25	Q. Well, your testimony is that there is not

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a market for utility-scale or other projects for renewable resources, and I am just trying to figure out -- here in Ohio, and I am just trying to figure out why you would think that there are not creditworthy counterparties, rather than Amazon, that would be available to enter into contracts for renewable resources.

8 Α. In my testimony it actually says exactly 9 that there are larger businesses that can do this 10 size project, but that doesn't mean it's equitable and fair that all of the other customers in AEP 11 12 Ohio's territory base can't also achieve the benefits 13 of these large-scale utility projects, and I don't 14 think most of those people can have that 15 creditworthiness and do these large projects?

16 And it's fair to say there is nothing in Ο. 17 your testimony that indicates a single customer, 18 residential customer, has been denied the opportunity 19 for a -- for the purchase of either a renewable base 20 contract for -- through a CRES -- let me start again. 21 Is there anything in -- there is nothing 22 in your testimony, correct -- one more time. 23 There is nothing in your testimony that 24 indicates that there is a single Ohio Power customer 25 that has been denied the opportunity to purchase a

1052 1 renewable product, is there? 2 Α. You're making all renewable products the This is a 20-year investment with an LMP 3 same. benefit. You're correct. Customers can choose to 4 5 purchase a small percentage of renewable energy 6 credit or do solar on their rooftop. Customers 7 broadly -- residential, PIPP, non-PIPP -- cannot 8 enter into a 400-megawatt, long-term, fixed-price, 9 with the fuel-diversity risk-mitigation aspect. They 10 can't do that. That is something that a larger 11 entity like AEP Ohio can do and then transfer all of 12 those benefits to all customers. 13 Q. Let me ask the question again. 14 Are you aware of a single residential or 15 small commercial customer that has been denied the 16 opportunity to buy a renewable product in conjunction 17 with their electric service? 18 I can't agree to that question. You're Α. 19 mixing two different product types. 20 MR. DARR: Would you directly -- would 21 you direct the witness to answer my question, your 2.2 Honor? 23 EXAMINER PARROT: I think she's tried as 24 best she's able to respond, Mr. Darr. 25 MR. DARR: Your Honor, my question -- I

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1	am going to read and ask you to consider this. My
2	question was: Is there anything in her testimony
3	that indicates that a customer has been denied the
4	opportunity to purchase a renewable product. It's
5	either yes or no. There is nothing confusing about
6	that question. And if she is refusing to answer the
7	question, then I ask that there be a an imputation
8	that the answer is no. That it's adverse to the
9	position that she's taking.
10	EXAMINER PARROT: Again, I think she's
11	answered to the best of her ability as she feels she
12	is able to.
13	MR. DARR: And then I ask that because
14	she has not answered the question, your Honor
15	EXAMINER PARROT: I said she has answered
16	the question.
17	Q. (By Mr. Darr) Given that on an aggregated
18	basis, Ms. Stebbins, you believe that there is a
19	pent-up demand and that there is a means for a
20	contractor to construct a facility that meets that
21	demand in an economically-viable way, is it your
22	belief that a willing a willing set of customers
23	and willing set of and a provider will somehow not
24	come together in a competitive market here in the
25	State of Ohio?

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1	A. For this size project, we have not seen
2	proof of that. For broad renewable products, yes. I
3	think they will come together.
4	Q. So, in effect, what you're saying, ma'am,
5	is that, at least for the time being, some basic laws
6	of supply and demand have been suspended, correct?
7	A. Yes. I think the market is not perfect.
8	MR. DARR: Thank you. Nothing further,
9	your Honor.
10	EXAMINER PARROT: Thank you, Mr. Darr.
11	Mr. McNamee.
12	MR. McNAMEE: One minor thing.
13	
14	CROSS-EXAMINATION
15	By Mr. McNamee:
16	Q. Ms. Stebbins, how many customers does the
17	Burlington Electric Department have, more or less?
18	A. It's in the high like 60,000s.
19	MR. McNAMEE: Okay. Thank you. That's
20	all I need. Thank you.
21	EXAMINER PARROT: Ms. Blend?
22	MS. BLEND: Thank you, your Honor.
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1	CROSS-EXAMINATION
2	By Ms. Blend:
3	Q. Ms. Stebbins, do you have in front of you
4	what's been previously marked OCC Exhibit 12 which is
5	the article you coauthored regarding "The Challenges
6	of Comparing PV's Success to Efficiency"?
7	A. Yes.
8	Q. If you'll please turn back to page 2 of
9	that exhibit. Do you recall earlier, when Mr. Healey
10	asked you to read a sentence from the full paragraph
11	of page 2 into the record, or asked you some
12	questions about the sentence in the first full
13	paragraph?
14	A. Asked me questions, yes.
15	Q. Okay. If you could please read to
16	yourself, and not aloud, the two sentences in the
17	quote in that paragraph that precede the sentence
18	that you were asked about and let me know when you
19	are finished.
20	MR. DARR: Your Honor, given that I don't
21	have a copy of that, of the document, I mean, I have
22	no way to assess whether I should object or not.
23	Does counsel for OCC have any additional copies?
24	MR. HEALEY: I passed out all the ones I
25	had.

1056 MR. DRESSEL: Your Honor, I would object 1 2 as well. It appears that counsel for AEP is attempting to refresh the witness's recollection. 3 EXAMINER PARROT: I don't think she's 4 5 done anything just yet so. Hold that for now. 6 Do we have a copy? 7 MR. HEALEY: I'm sorry, your Honor. 8 EXAMINER PARROT: You said you don't have 9 any copies? 10 MR. HEALEY: I don't have any additional. 11 I don't know if somebody could possibly share with 12 Mr. Darr. I apologize I didn't bring enough. 13 Α. Can you repeat the question? Read the 14 quotation sentence? 15 If you could please just read to yourself 0. 16 the two sentences of the quote that precede the 17 sentence that Mr. Healey asked you questions about. 18 And let me know when you've finished. 19 Α. Yes. I'm done. 20 Ο. And you would agree that the quote that 21 was the subject of Mr. Healey's prior questioning 2.2 relates to approaches that rely solely on rebates, 23 correct? 24 Α. Yes. 25 MS. BLEND: Thank you. No further

1057 1 questions. 2 EXAMINER PARROT: Thank you, Ms. Blend. 3 Any redirect? 4 MR. DOVE: May I take a moment? 5 EXAMINER PARROT: You may. MR. DOVE: May I take a moment? 6 7 EXAMINER PARROT: You may. (Discussion off the record.) 8 9 EXAMINER PARROT: Any redirect, Mr. Dove? 10 MR. DOVE: No, your Honor. At this time, 11 we would just ask for the admittance of NRDC Exhibit 12 1. 13 EXAMINER PARROT: Are there any 14 objections? 15 All right. NRDC Exhibit 1 is admitted. 16 (EXHIBIT ADMITTED INTO EVIDENCE.) 17 EXAMINER PARROT: And Mr. Healey. 18 MR. HEALEY: Yes, your Honor. OCC moves 19 for the admission of OCC Exhibits 12 and 13. Thank 20 you. 21 EXAMINER PARROT: Any objections? MS. BLEND: Yes, ma'am. AEP Ohio objects 2.2 23 to the admission of OCC Exhibit 13. Mr. Healey did 24 not establish any foundation with this witness for 25 the document, as I noted in my objection during the

examination. And, for that reason, it should be 1 2 excluded from the record. 3 MR. HEALEY: Your Honor, I would 4 reiterate there are questions on the record that the 5 witness answered with regard to this exhibit prior to 6 any objections from Ms. Blend, and so for completion 7 of the record and proper reference, it should be 8 admitted. Thank you. 9 MS. BLEND: If I could just briefly 10 respond, your Honor. The questions Mr. Healey asked 11 about the document, at the top of page 10, provided a 12 graph of NOx total emissions and emission rates and 13 that there was a long list of utilities at the bottom 14 of the page and about the 20th from the top is AEP. After that point, I objected. 15 16 EXAMINER PARROT: All right. The 17 Company's not objecting to OCC Exhibit 13 -- I'm 18 sorry, 12, correct? 19 MS. BLEND: Correct. 20 EXAMINER PARROT: Let's admit that one. 21 (EXHIBIT ADMITTED INTO EVIDENCE.) 2.2 EXAMINER PARROT: All right. And based 23 on the witness's testimony that she was not familiar 24 with the document or had previously seen it, I am 25 going to deny the request for admission of OCC

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     Exhibit 13.
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 2
                  With that, let's take a lunch recess.
 3
     We'll reconvene at 2:15. Thank you, all.
                  (Thereupon, at 1:39 p.m., a lunch recess
 4
 5
     was taken.)
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1060 Friday Afternoon Session, 1 2 January 18, 2019. 3 EXAMINER SEE: Let's go on the record. 4 5 Mr. Nourse. Ms. Blend. MS. BLEND: Yes, thank you, your Honor. 6 7 The Company calls Dr. Stephen Buser. (Witness sworn.) 8 9 EXAMINER SEE: Thank you. MS. BLEND: Your Honor, I would like to 10 11 mark as AEP Exhibit 12, the Direct Testimony of 12 Stephen Buser on Behalf of Ohio Power Company, filed 13 September 27, 2018. 14 EXAMINER SEE: So marked. 15 (EXHIBIT MARKED FOR IDENTIFICATION.) 16 EXAMINER SEE: Thank you. 17 18 STEPHEN BUSER, Ph.D 19 being first duly sworn, as prescribed by law, was 20 examined and testified as follows: 21 DIRECT EXAMINATION 22 By Ms. Blend: 23 Good afternoon, Mr. Buser. Q. 24 Good afternoon. Α. Will you please state and spell your name 25 Q.

1061 for the record. 1 2 Stephen Buser, B-u-s-e-r. Α. 3 Q. And, Dr. Buser, by whom are you employed and in what capacity? 4 5 Α. I'm retired but I'm currently a Professor 6 Emeritus at the Fisher College of Business at Ohio 7 State University. And you were retained by AEP Ohio to 8 Ο. 9 prepare direct testimony in connection with this 10 proceeding, correct? 11 Α. Yes. 12 Ο. And do you have before you a copy of your 13 direct testimony which has been marked as AEP Ohio Exhibit No. 12? 14 15 Α. Yes. Was this testimony prepared by you or 16 Ο. 17 under your direction? 18 Α. Yes. Together with my coauthor for the 19 study. 20 Ο. And do you have any corrections or 21 changes to your testimony at this time? Yes. Unfortunately, I've caught one 2.2 Α. 23 typographical error. Page 11 of 38. 24 Ο. Of Exhibit SB/BL-1? 25 Α. Yes. The Section B, Commercial Activity

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1	Taxes, the third line, we say "\$15,000." It should
2	have been "\$150,000." For that, I apologize.
3	Q. Dr. Buser, is that your only correction?
4	A. Yes.
5	Q. And if I were to ask you the questions
6	contained in your prefiled testimony today, would
7	your answers be the same?
8	A. Yes. With one potential exception or
9	clarification. We received many interrogatories and
10	we responded to those as well.
11	MS. BLEND: Okay. Thank you, Dr. Buser.
12	At this time, the Company moves for the
13	admission of AEP Ohio Exhibit 12, subject to
14	cross-examination.
15	MR. DARR: Your Honor, we would request
16	to do a voir dire of the witness before we proceed.
17	EXAMINER SEE: Mr. Darr.
18	MR. DARR: Yes, your Honor. Thank you.
19	
20	VOIR DIRE
21	By Mr. Darr:
22	Q. Dr. Buser, you are one of the coauthors
23	of the study that's been attached to your testimony,
24	correct?
25	A. Yes.

1063 1 Q. And in preparation for this -- this testimony, you prepared it by reference to what's 2 called the RIMS II methodology; is that correct? 3 Α. 4 Yes. 5 Ο. And could you explain, for the record, 6 what the RIMS II methodology is? 7 It's an analysis based on -- an Α. Yes. 8 economic analysis based on a specific region and across various industries. 9 10 As I understand the approach, there are Ο. 11 three fundamental components to this approach. The 12 first is to identify model inputs, then to 13 identify -- well, let me rephrase it. 14 You identify a final demand change, a 15 final demand industry, and a final demand region; is 16 that correct? 17 I guess in general that's correct. Α. But 18 in this particular case the region we were talking 19 about was Ohio. 20 Ο. Okay. That answers my third question. Ι 21 want to go back to my first question. 2.2 Α. Okay. 23 The final demand change is what? Could Q. 24 you explain to us what that is? 25 Α. Well, there are three components of final

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1	demand. One is what we call the direct effect and
2	second of all is the indirect effect and the third is
3	the induced effect.
4	Q. Okay. And the first component of the
5	final demand change, the direct effect, could you
6	describe for us what that component consists of?
7	A. That consists of the construction or
8	operation of a new project.
9	Q. Okay. And for this particular study, the
10	new project consisted of two solar facilities; is
11	that correct?
12	A. Yes.
13	Q. And one of those solar facilities was
14	identified as the Willowbrook facility; is that
15	correct?
16	A. Yes.
17	Q. And one of those facilities was referred
18	to as the Hecate facility?
19	A. I am not sure how you pronounce it but
20	yes.
21	Q. H-e-c-a-t-e?
22	A. Yes.
23	Q. Now, with regard to those two facilities,
24	you had to estimate labor components and construction
25	components; is that correct?

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1	A. I don't know if we had to but that's what
2	we did, yes.
3	Q. Okay. And to estimate the change in
4	labor component, what did you use?
5	A. We used the same RIMS multipliers.
6	That's one of the functions of that. It identifies
7	those as well.
8	Q. In terms of did you have to identify a
9	component of salaries or some numeric component that
10	went into the model?
11	A. Yes, and we also did should have noted
12	that we provided we asked AEP for certain costs
13	for the project. And they provided those to us.
14	Q. Okay. And when you are talking about
15	costs, you're talking about labor costs and
16	construction costs?
17	A. Yes.
18	Q. And these were specific to both
19	Willowbrook, these were specific to the Willowbrook
20	project; is that correct?
21	A. That's my understanding, although my
22	coauthor for the study carried out those, so he may
23	correct me, but that's my understanding, yes.
24	Q. And you used similarly, you used the
25	costs of the Hecate project to determine the

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1066 1 construction and labor inputs; is that correct? 2 Α. Again, with the same qualification that 3 if -- that my coauthor can correct me if I'm mistake. 4 That's my impression, yes. 5 Q. As I understand it, there is the 6 potential for error associated with the RIMS II model 7 inasmuch as the general inputs may be too general and result in either an overstatement or understatement 8 9 of the net effects; is that correct? 10 In any economic analysis, that's correct, Α. 11 yes. 12 And so, as a check on that, am I correct 0. 13 that rather than applying the general construction 14 multiplier to the control -- to the total 15 construction costs and the general electric 16 generation multiplier to the total output, I assume 17 here you mean output of the plant, the specific 18 purchases made within Ohio and the construction and 19 operating budgets are related to multipliers relevant 20 to the industries supplying those goods and services, 21 correct? 2.2 Α. Yes. 23 And finally, because you were concerned Q. 24 about the input data, you emphasized to AEP that the 25 accuracy of the budgeting data had to be as accurate

1 as possible, correct? 2 Α. I don't recall that specific discussion, 3 but that makes sense, yes. And you worked closely with AEP staff as 4 Ο. 5 they acquired budgeting data from the developers; is 6 that correct? 7 Α. I don't know how closely we worked with 8 them but they provided that information to us, yes. 9 Ο. And you understood that information was 10 coming from the developers; is that correct? 11 Again, I will defer that to my coauthor Α. 12 for the study. He worked with AEP on those -- for 13 that data. He collected that data for us. 14 MR. DARR: If I may, your Honor, I would 15 like to have marked as IEU Exhibit, I think I'm up to 16 13. 17 EXAMINER SEE: 13. 18 MR. DARR: I apologize to the parties, 19 but I only have six copies of this one. 20 (EXHIBIT MARKED FOR IDENTIFICATION.) 21 Ο. (By Mr. Darr) Mr. Buser, I handed -- or 22 Dr. Buser, excuse, me I have handed you what's been 23 marked as IEU No. 12. 24 EXAMINER SEE: 13, IEU 13. 25 Q. Could you identify that for us, please?

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1068 I'm sorry. What do you want me to do? 1 Α. 2 Would you identify what it is? Q. 3 It's the 12th set of interrogatories that Α. we received. 4 5 Q. And it includes your response, does it 6 not? 7 Α. Yes, together with my coauthor, both of 8 us. 9 Ο. Right. So you adopted the response of 10 your coauthor in this response; is that correct? 11 Α. Yes. 12 Q. And would you turn to the -- to the last 13 paragraph on the second page. 14 Α. Yes. 15 Ο. And it indicates -- does that help 16 refresh your recollection in terms of the contacts 17 made with the developers? 18 Well, again, I don't dispute that, but Α. 19 that -- my coauthor did that interaction with AEP. 20 Okay. And it indicates that AEP was Q. 21 working directly with the developers of the projects, 2.2 correct? 23 That's what it states, yes, and I have no Α. 24 reason to dispute that. 25 Q. As part of your process, did you also

1069 review the contracts associated with the Hecate and 1 2 Willowbrook projects? 3 Α. I did not, no. Perhaps my coauthor did, but I did not. 4 5 MR. DARR: You are not aware of that, 6 okay. 7 For purposes of my voir dire, that 8 completes it. I don't know if other parties have any other questions with regard to Dr. Buser before we 9 10 move on. 11 EXAMINER SEE: Thank you. 12 MR. DARR: Given that loud silence, then 13 I would move to strike the testimony of Dr. Buser 14 and, by implication, the testimony of Dr. LaFayette 15 as well on the grounds that it relates specifically 16 to the construction, operation, and benefits of the 17 two specific projects identified in the second phase 18 of this proceeding; or in lieu of striking that 19 testimony, to defer it until the second phase, per 20 your Order on Tuesday, indicating that to the extent 21 a party is trying to get at specific projects that 22 have been proposed, that will be addressed in the 23 second phase of this case as proposed by the Company. 24 The intention here being -- the intention there was 25 to defer those issues to the second phase.

Based on that, your Honor, I would ask that these two witnesses, while we appreciate their testimony and willingness to be here this week, that their testimony be deferred until the second phase or that it be struck from this proceeding, this phase of the proceeding.

MR. COLLIER: OCA joins.

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8 MS. WHITFIELD: Your Honor, Kroger joins 9 as well, and I would also note since your Honors' 10 entry or explanation or clarification on the first 11 day of the hearing, we've been progressing under that 12 theory with all the witnesses. As you saw this 13 morning, NRDC voluntarily withdrew all information 14 related to the specific projects. Ms. Blend, in her 15 cross of Ms. Stebbins, in response to an objection, said the 31 million was a generic amount and not tied 16 17 to any specific projects. And, thus, since it was 18 generic, it was allowed in this case.

Mr. Mendoza argued this morning, against my motion to strike Mr. Goggin's testimony, that this court previously ruled testimony on a generic basis was allowed and that there was nothing specific about his witness's testimony.

24 Consistent with this court's rulings and 25 the way we've been progressing, we would request also

1071 1 that Mr. Buser's testimony and the report and 2 Mr. LaFayette be stricken or deferred to Phase II. 3 MR. DOVE: Your Honor, I would note that 4 NRDC did withdraw certain portions. We did not 5 withdraw portions that were relying on Witness Buser 6 or LaFayette under the expectation that given your 7 previous order, they would be included and admitted into the record. 8 9 MR. NUGENT: IGS and IGS Solar join the 10 motion of Mr. Darr and Ms. Whitfield. 11 MR. HEALEY: OCC joins as well in the 12 motion to defer these witnesses to Phase II 13 consistent with the Attorney General's previous 14 rulings. Thank you. 15 MS. BLEND: May I respond, your Honor? 16 EXAMINER SEE: Yes. 17 MS. BLEND: Thank you. 18 The Attorney Examiners have already ruled 19 that Dr. Buser's and LaFayette's testimony is 20 relevant to and can be presented in this need phase 21 of the proceeding. They made that ruling on 2.2 January 14 in response to intervenors' motion in 23 limine seeking to exclude that testimony on the 24 grounds that it was irrelevant. 25 This is essentially another bite at that

1072 1 apple by intervenors and the testimony is 2 distinguishable from the quote-unquote second phase 3 testimony that has been excluded so far in this phase of the case. The intervenor testimony that was 4 5 deferred previously encompassed substantive analysis 6 regarding the request for proposals that led to the 7 execution of the REPAs, the specific terms and 8 conditions, the cost of the REPAs, the cost recovery 9 proposals, and the Green Tariff addressed in the second phase in the rider cases. 10 Attorney Examiner Parrot clarified at the 11 12 hearing, on the 15th, that to the extent parties are 13 seeking to question the Company's witnesses about the 14 case and the economic analysis that was presented 15 there with respect to a need for generic 16 900 megawatts of unspecified projects, those 17 questions are permitted. 18 This testimony and the study that 19 Dr. Buser and LaFayette sponsor falls into that 20 category. 21 Initially, a significant portion of 22 Dr. Buser's testimony and the study that the 23 witnesses jointly authored relates to an evaluation 24 of social benefits of access to clean energy 25 generally and is not specific to the REPAs or to the

1 projects.

2	With respect to the economic impact
3	analysis discussed in both witnesses' testimony and
4	the study, while it, like AEP Ohio's Witness Ali's
5	testimony, references the two projects and used the
6	two projects as a starting point for modeling, it did
7	not substantially analyze the RFP, the REPA terms and
8	conditions, or rate or tariff-related issues. It
9	utilized general location, sizes of the project, and
10	general information that I believe Dr. Buser and
11	LaFayette would testify they would expect to be
12	comparable to any solar project of these sizes in
13	Ohio in order as inputs for their modeling.
14	And in fact, Dr. LaFayette's testimony
15	makes clear that specific REPA term-related benefits
16	like the jobs commitment and the Hecate REPA that is
17	the subject of the second phase of the proceeding are
18	in addition to the analysis provided in the study.
19	So, in summary, the evidence is of a more
	, 2,
20	general nature than the specific intervenor testimony
20 21	
	general nature than the specific intervenor testimony
21	general nature than the specific intervenor testimony that was excluded or deferred in the January 14
21 22	general nature than the specific intervenor testimony that was excluded or deferred in the January 14 entry, and consistent with your Honors' prior rulings

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1 Mr. Ali's testimony, the motions to strike Dr. Buser 2 and LaFayette's testimony, or to defer the testimony, 3 should be denied. Thank you. 4 MR. DARR: Brief response? EXAMINER SEE: 5 Briefly. MR. DARR: Ms. Blend's argument is kind 6 7 of like saying I stubbed my big toe, but the rest of my foot is just fine. What we've got here is a 8 9 situation where clearly based on Dr. Buser's 10 testimony, the analysis is based on the two projects 11 which have been specifically deferred to the later 12 phase. 13 The fact that there was a prior ruling 14 here is not binding. First of all, it's a motion in 15 limine, and it's not binding in that regard. Second 16 of all, there was not the evidentiary basis 17 established for the motion that has been done by the 18 voir dire in this instance. 19 Finally, your Honor, there is a little 20 problem called the law -- or the rule of the case. 21 The rule of the case here is that we're going to 22 defer to the second phase the specific materials 23 with -- the materials that are specific to the two 24 projects. We've been told that repeatedly. Parties 25 have acted on that. Parties have reacted to that.

But the bottom line of it is the 1 2 consistency is apparent, it is real, and it is -while unfortunate, it is a creation of AEP Ohio which 3 decided to try to rope in the two projects without 4 5 including them as part of their initial case. 6 If there is any prejudice here, the 7 prejudice falls on the intervenors who are now forced 8 to dance to two tunes simultaneously and that is not 9 proper, and in this case the evidence should be 10 excluded. MS. BLEND: Your Honor, what I haven't 11 12 heard articulated is how there is any prejudice 13 associated with using budgets for two utility-scale 14 solar projects as the inputs for an economic 15 development model that generally provides what we 16 might expect would be the -- the economic impacts of 17 projects of this size in Ohio, or in this area of 18 Ohio. 19 Again, we're not talking -- Dr. Buser and

LaFayette did not utilize any of the specific terms from the REPAs, as Dr. LaFayette's testimony explains with respect to the jobs commitment from the Hecate REPA, and as Dr. Buser testified a moment ago in response to Mr. Darr's voir dire, he has not even reviewed the REPAs.

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1 So, you know, I think it is consistent 2 with the law of the case in this case that general 3 reliance upon the two projects as a proxy or a starting point for analysis is appropriate and 4 5 permissible and that this does not rise to the level 6 of substantive analysis of the specific terms of 7 REPAs whose cost recovery the Company is seeking in 8 the second phase of the proceeding.

9 MR. HEALEY: Your Honor, if I may address 10 the prejudice issue, the testimony that's being 11 submitted by the Company here is purporting to create 12 a record on the benefits of these specific projects 13 to the State of Ohio. OCC and other intervenors 14 sought to include testimony about the costs of those 15 exact same projects, so we're getting a one-sided 16 record where all the benefits that the Company is 17 claiming are in the record, and the various costs 18 that would offset some of those benefits that all the 19 other parties are trying to put in, we're getting 20 told no, no, that comes in Phase II.

21 So that's the direct prejudice to our 22 clients and to our position and to other intervenors 23 who have made those same points; so the idea there is 24 no prejudice here, that's false.

25

MS. BLEND: Again, your Honors, we're not

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1 seeking the approval of the two projects whose costs 2 OCC's witnesses may have addressed in their testimony 3 that was deferred in this phase of the proceeding. We are seeking a finding of need for renewable 4 5 resources, and this study well supports the generic 6 need even though one of its predicates was some 7 information that relates to the two projects that 8 happen to be the subject of the Phase II 9 project-specific filing. 10 MS. LEPPLA: Your Honor, if I may, AEP 11 has a right to make their case on the finding of 12 need. If they choose to include benefits that are 13 not directly economic as the opposed intervenors wish 14 to do, they have the right to make that case. That's 15 what they are doing here and that's what these two 16 witnesses are doing and so we support AEP on this. 17 EXAMINER SEE: We are going to take a 18 minute. 19 Let's go off the record and take a 20 minute. 21 (Recess taken.) 2.2 EXAMINER SEE: Let's go back on the 23 record. 24 After a great deal of discussion and some 25 debate, considering all the arguments of the parties,

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1	the Bench has determined that your motion to strike
2	the testimony of Mr. Buser and Mr. LaFayette are
3	denied based primarily on the arguments raised by AEP
4	Ohio and consistent with the January 14 Entry.
5	MR. HEALEY: Your Honor, I apologize.
6	The motion to defer to Phase II is similarly denied
7	for the same reasons?
8	EXAMINER SEE: Yes, it is.
9	MR. HEALEY: Thank you, your Honor.
10	MS. WHITFIELD: Your Honor, would you
11	entertain a few more motions to strike?
12	EXAMINER SEE: Sure.
13	MS. WHITFIELD: I'LL try to be relatively
14	quick.
15	First of all, because I viewed that
16	initial motion to strike or defer based on the law of
17	the case arguments and not a relevancy argument, I do
18	want to note for the record our standing objection
19	and motion to strike this type this information on
20	a relevancy ground because it has no impact or no
21	bearing on a need determination. I know you've ruled
22	on that many times but I just want to preserve that.
23	EXAMINER SEE: Okay. So noted.
24	MS. WHITFIELD: And then if we could look
25	specifically at Mr. Buser's testimony page 6, line 8,

1079 through page 9, line 2, Mr. Buser testifies about 1 2 mining deaths which is irrelevant to this proceeding. 3 This is not a hearing about coal plants or oil or gas or the inherent dangers of working in mining. This 4 5 is simply about need. 6 And so, we would move that on both 7 relevancy and Rule 602, that this be struck. Mr. 8 Buser -- Dr. Buser, my apologies, is not an 9 economist. He has no personal knowledge about public 10 health benefits and other issues that I am going to 11 go into. So that's my first motion to strike. 12 EXAMINER SEE: Do you have another? 13 MS. WHITFIELD: Yes. Do you want me to 14 do them all? 15 EXAMINER SEE: Go ahead. 16 MS. WHITFIELD: Page 9, lines 3 to 10, 17 Mr. Buser's testifying about the quote "measures of 18 well-being" which are irrelevant to these projects or 19 the general need of the 900 megawatts that is the 20 focus of this proceeding. 21 EXAMINER SEE: I'm sorry. Repeat that 22 for me again. 23 MS. WHITFIELD: It page 9, lines --24 EXAMINER SEE: Line 3 through 10? 25 MS. WHITFIELD: Yes. I have that -- no.

1 That one is -- that one is line 13 through page 10, 2 line 5. The "Improved Standard of Living." I have a 3 different basis for page 9, lines 3 to 10. This is where he testifies about women in the energy field 4 5 which is completely irrelevant to renewable projects 6 and the need for 900 megawatts. It's misleading, 7 prejudicial, and personally a little offensive. 8 And I have one more if you're ready. Are 9 you ready? 10 EXAMINER SEE: Yes. MS. WHITFIELD: Page 10, line 6 to 21, 11 12 Mr. -- Dr. Buser testifies about the ongoing opioid 13 crisis and concludes "...there might very well be an 14 indirect link between improved standard of living and 15 a reduction in the nature and extent of the opioid 16 problem...." Again, that has nothing to do with the 17 need of 900 megawatts of renewable energy. Under 18 rule 402 and Rule 602, we would move that those 19 portions of his testimony be stricken. 20 MR. DARR: IEU would join in the motion 21 and add to that the related pages of the report which 22 includes page 14 of 38 through 20 of 38. These are 23 the parts of the report related to the sections that 24 counsel for Kroger has identified as being 25 irrelevant.

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1	MR. COLLIER: OCA joins in the motions.
2	MR. NUGENT: IGS and IGS Solar also join
3	in the motions.
4	MS. WHITFIELD: And then I have more that
5	are along the lines of what Ms. Bojko and Mr. Dressel
6	did earlier today. I want to respect your Honors, I
7	know what your ruling is going to be, but just for
8	preservation of the record, can I just list out?
9	These would be various sections that relate to
10	footnotes in which they're not involved, where they
11	either are inadmissible hearsay, lack of foundation,
12	and lack of personal knowledge. I know you rejected
13	those arguments in the past, but I do just want to
14	put it on the record and the specific citations.
15	EXAMINER SEE: Let's first get these
16	motions these portions to strike out of the way.
17	MS. WHITFIELD: That's fine.
18	EXAMINER SEE: So response, Ms. Blend?
19	MS. BLEND: Yes, your Honor. Thank you.
20	I think, once again, we're back to a discussion of
21	the ultimate merits question of this case. That's
22	within the Commission's discretion to decide which is
23	what constitutes need for purposes of
24	4928.143(B)(2)(c). As was briefed in the motion in
25	limine briefing, as has been argued repeatedly over

the last several days, the Company believes that all of the benefits associated with locating 400 megawatts of solar in Ohio, utility-scale solar in Ohio, should be considered by the Commission in making a determination, including the social impact benefits that Dr. Buser discusses.

7 With respect to the argument that there's 8 a lack of personal knowledge or lack of foundation 9 for the testimony, that's not -- there's no basis for 10 that assertion. There was no deposition taken of 11 Dr. Buser. There's been no questioning. So it's 12 speculative at this point to conclude he does not 13 have personal knowledge of or foundation for his 14 opinion. And it's unfair to narrowly limit him or 15 box him in as one type of economist because he has 16 not even been questioned about what his experience 17 and expertise and what analyses he has done in the 18 past comprise.

So, for those two reasons, the Company submits that the testimony should stand. The Commission has the discretion to give it the weight that the Commission determines it should be given in connection with the overall assessment of whether the Company has demonstrated need. And it's my understanding that I -- we are not discussing any

1083 1 hearsay or other arguments related to the footnotes 2 at this time, so I will reserve any response to 3 those. 4 EXAMINER SEE: That's correct, Ms. Blend. 5 MS. BLEND: Thank you. MS. WHITFIELD: If I could just respond 6 7 for just one moment. 8 Referencing the opioid crisis or the 9 improvement of women in the industry in the light of 10 the "MeToo" context going on right now is 11 inflammatory and has little -- zero bearing on the 12 issues before this court and it's just meant to be a 13 catchy tagline. There's not even any reference to 14 renewables. If you look at their section on the 15 opioid crisis, for example, there's nothing about 16 renewable products there. 17 MS. BLEND: If I could just respond 18 briefly further. I think that the public hearing in 19 this case and the customers and the residents and 20 those who work in Appalachian Ohio, who testified on 21 the record in the public hearing, expressly refute 22 the assertion that the opioid crisis and the local 23 economy and whether there is access to jobs is 24 irrelevant here. 25 EXAMINER SEE: Okay. Thank you, both.

1084 1 Thank you. 2 MS. BLEND: Thank you. 3 EXAMINER SEE: The motions to strike 4 Mr. Buser's testimony as well as portions of the 5 report are denied. Ms. Whitfield, your other motions? 6 MS. WHITFIELD: Yes, your Honor. Do you 7 8 want me to list out them one at a time or do you want 9 me to just list them in whole and note that I am 10 reserving that we made this objection? How would you 11 like us to proceed? We can do them one at a time if 12 you would like, but . . . 13 EXAMINER SEE: You can -- go ahead. One 14 at a time. 15 MS. WHITFIELD: Okay. Page 5, lines 19 to 22 that relate to Footnote 1. Again, for the 16 17 reasons that have been cited numerous times before 18 this is -- he is citing a source on IRENA, Renewable 19 Energy Benefits. There's no foundation or reference 20 to Dr. Buser being involved in that or having any 21 personal knowledge or foundation on that, so. Do you 22 want to take them one at a time or do you want me to 23 proceed? 24 EXAMINER SEE: No. 25 MS. WHITFIELD: Page 6, lines 10 to 14,

1085 1 it's the testimony that relies upon Footnotes 2 and 2 Again, those are fact sheets and websites that 3. 3 there's no showing that he's the author of, that he has personal knowledge of, or that is anything other 4 than inadmissible hearsay. 5 Page 7, lines 1 to 5, that also relates 6 7 to Footnote 3 for the same reasons I just cited. 8 Page 7, line 13 to page 8, line 5, that's 9 testimony that relates -- or that relies upon 10 Footnote 4 as a source. Again, for the same reasons I've cited before. There's a lack of foundation and 11 12 lack of personal knowledge showing as to that source. 13 Page 8, lines 9 to 12, I'll just note 14 that relies on Footnote 3 which we've already 15 referenced. 16 Page 8, line 21, to page 9, line 2, 17 Footnotes 5 and 6, one of them is the World Health 18 Organization news release, press release, and the 19 other one is something by Fabio Caiazzo. Again, he 20 is not -- I don't see Dr. Buser listed as an author 21 in that document. Page 9, lines 4 to 7, for the same 22 23 reasons I cited on Footnote 1. It refers to Footnote 24 1. 25 Page 9, line 16 to 18 -- no, actually

1086 1 strike that one. 2 Page 10, lines 6 and 7 and then at 9 and 10, that testimony relies upon Footnotes 8 and 9. 3 Footnote 8 is an NBC News coverage regarding the 4 opioid addiction. And Footnote 9 is a source from 5 the CDC in which Dr. Buser is not an author or --6 7 have any involvement with that. 8 That's it, your Honor. 9 EXAMINER SEE: Thank you, Ms. Whitfield. 10 And as you indicated, consistent with our 11 prior ruling, it's denied. 12 MS. WHITFIELD: Thank you, your Honor. 13 EXAMINER SEE: Now, any cross for this 14 witness? 15 Mr. Dove? 16 MR. DOVE: No, your Honor. Thank you. 17 EXAMINER SEE: Ms. Leppla? 18 MS. LEPPLA: No, your Honor. Thank you. 19 EXAMINER SEE: Mr. Kurtz? 20 MR. KURTZ: No cross. 21 EXAMINER SEE: Mr. Healey? 2.2 MR. HEALEY: Yes, your Honor. 23 24 25

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1	CROSS-EXAMINATION
2	By Mr. Healey:
3	Q. Good afternoon. I would like to begin
4	with a hypothetical. It has just two assumptions so
5	I think it should be easy to follow. The first
6	assumption is that the PUCO rejects AEP's proposal in
7	this case. And the second assumption is that the
8	400-megawatt solar projects get built anyway, with no
9	involvement from AEP. Do you understand those two
10	assumptions?
11	A. I think so. Can you repeat them?
12	Q. Sure. The first one is that the Public
13	Utilities Commission of Ohio rejects AEP's proposal
14	in this case. And the second one is that the
15	400-megawatt solar facilities get built anyway with
16	no involvement from AEP.
17	A. In the same locations?
18	Q. Yes.
19	A. Okay.
20	Q. With those two assumptions, and
21	everything else the same in your analysis, you would
22	agree that the economic impact from the projects that
23	get built without AEP would be the same as the
24	projects that you have projected, correct?
25	A. I would probably have to deliberate it a

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1088 1 little longer, but my first response would be yes, 2 that sounds reasonable, but I would have to 3 double-check all the inputs. Let's turn to page 15 of the report, 4 Ο. 5 please, which is the Exhibit SB/BL-1. MS. BLEND: Just for the record, when you 6 7 say page 15, do you mean page 15 of 38 as noted on the exhibit? 8 9 MR. HEALEY: Sorry. Yes. I am going to 10 be referring to the pages at the top that says page 11 15 of 38 as opposed to the page numbers right below 12 that that are slightly different. So if I say "page 13 15," I mean page 15 of 38. 14 THE WITNESS: Oh, okay. Yes. MR. HEALEY: 15 Thank you. So on page 15 of 38 of Exhibit SB/BL-1, 16 0. 17 there's a subheading "B. Public Health Benefits." Do 18 you see that? 19 Α. Yes. 20 Q. And in the first paragraph you cite 21 various statistics related to injuries in the oil, 22 gas and coal mining industries, do you not? 23 Α. Yes. 24 Why did you cite these statistics in your Ο. 25 report?

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A. Well, we're discussing public health benefits of the renewable energy sources; so offering a contrast between current and potential future.

Q. So are you suggesting that as a result of building AEP's proposed solar projects, there will be smaller number of hours worked in the oil, gas, and coal mining industries?

A. Not necessarily. As previous witnesses
have testified, Ohio is a major importer of energy
sources. So it's conceivable that we would have a
different combination of the mix, so. Other states
might lose jobs, not necessarily within Ohio.

Q. Okay. So it's your testimony that there would be no reduction in jobs or reduction in hours in the oil, gas, and coal mining industries in Ohio as a result of those proposed renewable projects?

A. We are not aware of any reductions. AEP did not identify any reductions, potential. And the construction, most of the jobs related to construction, which are temporary, only 51 jobs would be continuing, so it's difficult to imagine there would be any significant reduction in -- in coal or coal mining or oil extraction.

24 Q. So, for the same reason, there would also 25 be no impact on the number of job-related industries

1090 1 in those fields, correct? 2 Α. Well, not in the short term. And again, 3 I don't want to get into debate over short-term 4 versus long-term need, but in the longer term, as we 5 identified in the report, the resources are finite 6 coal mining resources and the oil extraction 7 resources are -- oil and gas extraction are finite; 8 and so, over time, we would expect there to be a 9 decrease in that delivery system. 10 And as a result of that decrease, you Ο. 11 would expect some negative economic impact in those 12 industries, correct? 13 Α. Not in Ohio. 14 Ο. Not in Ohio? 15 Α. Because we are importing. We import so 16 much. We import so much coal, oil and gas, so the --17 we're a net importer of a substantial amount. I saw 18 one estimate I believe that was close to 1-1/219 billion dollars of imports net of exports. We 20 deliver -- Ohio delivers some of its coal and oil and 21 gas to other states, but the bulk of it it imports, and so the net effect, if you offset the negative, 22 23 it's -- the import --24 Ο. Sure. 25 Α. -- is 1-1/2 billion dollars.

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1	Q. Are you done?
2	A. Yes.
3	Q. Thank you. I didn't mean to cut you off.
4	So your testimony then is, in the long
5	run, there will be no impact on the oil, gas, and
6	coal mining industries in Ohio as a result of these
7	renewable projects? It would be zero?
8	A. Again, no measurable impact. Again, you
9	are talking about 51 jobs, so it's hard for me to
10	imagine there would be 51 jobs lost when we are
11	importing so much. I can say a reduction in imports
12	but not necessarily be surprised. I can't say it
13	won't happen, it couldn't happen, but I would be
14	surprised if any of that reduced jobs in Ohio.
15	Q. Even by a single job?
16	A. Well, maybe a single job. I mean, I
17	don't mean to
18	Q. Right. So what I am getting at is your
19	analysis assumes zero for purposes of your economic
20	development analysis, correct?
21	A. Yes. We did not receive any indication
22	from AEP that there would be any job losses in the
23	State of Ohio.
24	Q. And so, if there were no job losses in
25	the State of Ohio, then in the State of Ohio there

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1	would be no impact on the workforce injuries in those
2	industries as well, correct?
3	A. Beyond what is currently projected, as
4	I've indicated before in my prior answer, we expect
5	there to be a reduction in coal mining, oil and gas
6	extraction, by virtue of those resources are finite
7	and, over time, there will be fewer and fewer of
8	them. That's what we're presuming.
9	Q. Let's turn to page 8 of the report,
10	please, 8 of 38.
11	A. Yes.
12	Q. And the very last sentence there states
13	"However, for goods manufactured in Ohio - solar
14	panels being the largest example here - the entire
15	process from manufacture through delivery can be
16	included". Do you see that sentence?
17	A. Yes.
18	Q. So for purposes of your economic
19	development study, you assumed that all of the solar
20	panels necessary for the 400 megawatts would be
21	manufactured in Ohio?
22	A. That's my reading of that, but I suggest
23	that you talk to my coauthor about that because
24	that's his phrase.
25	Q. Okay. I will ask him about that then.

	1093
1	A. Okay.
2	Q. I will move on with you. Let's move to
3	the next page, page 9 of 38, please.
4	A. Yes.
5	Q. Thank you.
6	And the very first sentence there says
7	"Care also must be taken to net out the impacts of
8	any operations for which these new facilities are a
9	replacement. For example, if an old plant were to be
10	decommissioned as a result of these facilities coming
11	online, the impacts of the old facilities would have
12	to be deducted from the new impacts." Do you see
13	that?
14	A. Yes.
15	Q. Now, decommissioning of an old plant
16	would not be the only example of an impact that would
17	have to be netted out, correct?
18	A. No. We meant to say "for example." An
19	example; not the only example.
20	Q. And would another example be not the
21	decommissioning of a fossil fuel plant but a ramping
22	down and production of less electricity?
23	A. Potentially, yes.
24	Q. And so, for example, let's say it takes
25	ten employees to produce 10 megawatt-hours at a coal

1094 plant but only five employees to produce that same 10 1 2 megawatt-hours at a solar plant, that would be a loss of five employees, correct? 3 Again, going back to the imports. 4 Α. Ιt 5 depends on where these products are produced. Given 6 the size of the imports for Ohio, I would be 7 surprised if that is the consequence. I would expect 8 there to be loss of jobs, not in Ohio, in other 9 states. 10 Now, the fact that Ohio is a net importer Ο. 11 just means Ohioans use more energy than Ohio 12 generates, correct? 13 Α. Correct. 14 But Ohio is still generating some energy, Ο. 15 correct? 16 Oh, a lot of energy, yes. Α. 17 Right. So let's say, for example, Ohio Q. 18 produces 20 percent of the energy in PJM, just rough 19 number -- let's take a step back. 20 Are you familiar with PJM? 21 Α. Yes. 22 Q. And you are aware that Ohio is part of 23 PJM? 24 Α. Yes. 25 Q. And so let's assume, for purposes of

1095 1 argument, that Ohio generates 20 percent of the 2 energy throughout the PJM market. Is that a hypothetical that you understand? 3 A hypothetical, yes. I can't certify 4 Α. 5 that is the --6 I am not saying that's anywhere Ο. Sure. 7 accurate. I actually don't know the number. 8 Α. Okay. 9 Ο. Assuming it's 20 percent, wouldn't it be 10 reasonable to assume that approximately 20 percent of 11 any job reductions throughout PJM, as a result of 12 this renewable project, would be in Ohio? 13 Α. I would have to discuss that with them. 14 It would depend on the economics of their decision 15 where the location of the job replacement would be. 16 Again, given that we are importing so much, I would 17 presume -- my presumption, which again I'm not saying 18 or certifying is absolutely correct, but my 19 presumption would be given the rate at which we are 20 importing and shipping it into Ohio from other 21 states, I would be very surprised if the job losses occurred in Ohio. I would think that a more logical 22 23 conjecture would be that we would stop importing as 24 much. 25 Q. And you're not suggesting the fact that

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1	Ohio is a net net importer means that there would
2	be zero negative impact on the Ohio fossil fuel
3	market, correct?
4	A. Can you repeat the question? I am sorry.
5	Q. Sure.
6	The fact that Ohio may be a net importer
7	of energy, doesn't mean any negative impacts would
8	have zero impact on Ohio as opposed to other states,
9	does it?
10	A. No. It just means I'm not prepared to
11	answer that question. And we asked AEP about that
12	and they did not give us any indication that there
13	would be any job loss from the construction of these
14	new facilities.
15	Q. Let's move to page 12 of the report,
16	please.
17	A. 12 or 13?
18	Q. 12 of 38.
19	A. 12 of 38, yes, okay.
20	Q. In the last paragraph you state that for
21	purposes of your report, you assumed that the direct
22	employees would be living in Brown, Highland, and
23	Adams Counties, correct?
24	A. Yes.
25	Q. And that would only be true if we are

1097 1 talking about the specific Willowbrook and Hecate, 2 however you pronounce it, projects, correct? 3 Α. Yes. And so if we were talking about some 4 Ο. 5 generic solar resources and they were in a different 6 county, the economic impact would be in that county 7 and maybe the surrounding counties, correct? 8 Α. Yes. 9 Ο. Coming back to your assumption that the 10 employee -- the direct employees would live in these 11 three counties. Do you have any evidence that the 12 construction jobs would be filled by current, 13 permanent residents of those counties? 14 Again, I would defer that to my coauthor Α. 15 for the study. He might have an opinion on that. I 16 do not have an opinion on that. 17 Ο. Would you consider it likely that for the 18 construction phase, some of the jobs would be filled 19 by people who are imported into these regions to 20 build the facilities? 21 Α. I would not be surprised that's the case 22 but, again, I have not had the discussions with AEP 23 on their plans and I would defer you to my coauthor. 24 For purposes of your economic development Ο. 25 analysis, you did not consider any costs that AEP

1098 1 Ohio customers might pay through a rider on their 2 electric bill, did you? 3 Again, you have to discuss that with may Α. coauthor. I am not aware of any involvement there 4 5 but I can't rule that out either. MR. HEALEY: That's all I have, your 6 7 Honor. I will save the rest for Mr. LaFayette. 8 Thank you. 9 EXAMINER SEE: Ms. Glover? 10 MS. GLOVER: No questions, your Honor. 11 EXAMINER SEE: Mr. Oliker or Mr. Nugent. 12 MR. NUGENT: Yes, your Honor. 13 14 CROSS-EXAMINATION 15 By Mr. Nugent: 16 Q. Good afternoon, Dr. Buser. 17 Α. Good afternoon. You've included, in your prefiled 18 Ο. 19 testimony, a curriculum vitae which is labeled as 20 Exhibit SB-1, correct? 21 Α. I assume I attached that. Yes. 22 Okay. And according to that CV you Q. 23 provided, you have no prior employment experience in 24 the energy industry, correct? Α. 25 That's correct.

1099 1 Ο. And am I also correct that you've never 2 performed an economic impact analysis with respect to 3 solar energy projects? Α. That's correct. 4 5 Ο. Can you tell me, did anyone else, besides your coauthor, Mr. LaFayette, assist you in designing 6 7 the study? 8 Α. My daughter, Amy Buser, assisted with 9 some of the initial background research but, other 10 than that, no. Well, I shouldn't say that. Other 11 than we contacted AEP people and they provided 12 certain inputs to us, so. 13 Ο. And what inputs did AEP Ohio provide? 14 Α. Again, you will -- you should check with 15 my coauthor on that. He is the one that interacted 16 with AEP on that. 17 Q. Okay. But you would agree that the study 18 does include an assessment of the social benefits of 19 renewable energy, correct? 20 Α. Yes, correct. 21 Ο. Okay. Does your study also include an 22 assessment of the impact that AEP Ohio's proposal 23 could have, of course if approved, on private 24 development of renewable energy projects in Ohio? 25 Α. Could you repeat the question? I am

1100 1 sorry. 2 Does your study include an assessment of Q. 3 the impacts AEP Ohio's proposal would have, of course if approved, on private development of renewable 4 energy projects in Ohio? 5 Not that I'm aware of, but again, I would 6 Α. 7 refer you to my coauthor. It's possible, but I am 8 not aware of any such analysis. 9 Ο. Thank you. 10 Does your study include an assessment of 11 the economic and fiscal impacts if AEP Ohio's 12 proposal were to possibly discourage private 13 developers of renewable energy projects from investing in Ohio? 14 The same answer. Not to my knowledge, 15 Α. 16 but I would suggest that you discuss that with my 17 coauthor. 18 Okay. If you could please turn to page 5 Q. 19 of Exhibit SB/BL-1. 20 Α. Yes. 21 Ο. And the first sentence in the 22 second-to-last paragraph on that page, you stated "One immediate benefit of the development of the 23 24 proposed solar facilities is the increase in 25 available power in the areas where those facilities

1101 1 would be developed." 2 Α. I'm sorry, I was on the wrong number. 3 Ο. Not a problem. It's page 5 to Exhibit SB/BL-1. 4 5 Α. Okay. Yes. Sorry. Sorry for that. 6 Not a problem. I am looking at the Q. 7 second-to-last paragraph on that page. 8 Α. Yes. 9 Ο. And the first sentence there. Do you see 10 that? 11 Α. Yes. 12 Okay. And that data was provided to you Q. 13 by AEP Ohio, correct? And when I say "data," I'm 14 referring to the increase in available power. 15 Again, that's my understanding, but I Α. 16 would suggest you speak with Mr. LaFayette who --17 Dr. LaFayette who interacted with AEP. 18 Ο. Okay. Thank you. 19 If we could then turn to page 9 of 20 Exhibit SB/BL-1. And in the first paragraph, the 21 second-to-last sentence that says "But no shutdowns 22 are planned as a result of these projects." Do you 23 see that? 24 Α. Yes. 25 Q. Okay. Are you and/or do you consider

1102 1 yourself to be an expert on the operation of 2 generation dispatch on the PJM grid? 3 Α. No, I do not. Okay. So can you tell me, was that 4 Ο. 5 assumption then provided to you by AEP Ohio? That's my understanding but, again, I 6 Α. 7 would suggest you speak with my coauthor who interacted with AEP staff. 8 9 Ο. Okay. But in the course of preparing 10 this study, did you perform an analysis to assess 11 whether any generation plants would shut down as a 12 result of the AEP's proposed programs? 13 Α. Not to my knowledge but, again, I would 14 suggest you speak with my coauthor. 15 MR. NUGENT: I have nothing further. 16 Thank you, Dr. Buser. 17 EXAMINER SEE: Ms. Whitfield. 18 MS. WHITFIELD: Thank you, your Honor. 19 20 CROSS-EXAMINATION 21 By Ms. Whitfield: 22 Dr. Buser, what exactly did you do? You Ο. 23 are deferring a lot to your colleague, Mr. LaFayette. 24 What was your role and contribution to this report? 25 Α. Well, I helped with some editing at the

1103 very end, but my primary focus was on the social 1 2 benefits. 3 Ο. Okay. That was your focus was the social benefits? 4 5 Α. Correct. 6 Okay. Now, are you aware that you Ο. 7 initially filed your testimony in Case Nos. 18-132 and 18-13? Do those numbers mean anything to you? 8 9 Α. I'm sorry, could you repeat the question? 10 Ο. Sure. You initially filed your testimony in Case Nos. 18-1392 and 18-133. Are you aware of 11 12 that? 13 Α. Yes. 14 And the primary purpose of your testimony Ο. 15 is to provide a summary of the economic impact study that you conducted with your colleague or coauthor 16 17 Dr. LaFayette? 18 Α. Yes. 19 And the primary purpose of this study is 0. 20 to determine the economic impact of two specific 21 projects, right? 2.2 That's the primary impact. The secondary Α. 23 impact was the social impacts. But, yes. 24 These specific projects are the Ο. Okav. 25 Highland solar and the Willowbrook solar projects,

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1	correct?
2	A. Yes.
3	Q. And you would agree that the combined
4	size of those two projects is 400 megawatts?
5	A. That's my understanding, yes.
6	Q. Highland project was 300 megawatts?
7	A. That's my understanding, yes.
8	Q. And Willowbrook was 100?
9	A. Yes.
10	Q. And in your testimony and in your report,
11	your economic impact analysis considered just the
12	400 megawatts for those specific projects, correct?
13	A. Yes.
14	Q. You did not do any type of economic
15	impact analysis related to 900 megawatts, did you?
16	A. In the early stage of the study we did,
17	but then AEP asked us to ignore the wind project and
18	focus on the the solar. The 400 solar.
19	Q. Okay. Now, with respect to the social
20	benefits section of your testimony, Dr. Buser, you
21	are not a sociologist, are you?
22	A. No.
23	Q. And you are not a political scientist?
24	A. No.
25	Q. And you would not consider yourself an

1105 1 expert in public health, would you? 2 Α. I can't imagine that being the case, no. 3 Q. Okay. When you cite a study regarding the mining accidents, on page 6 of your testimony, 4 5 you would agree that you did not conduct this study, 6 correct? 7 Α. Correct. 8 Q. And that was created by the Bureau of lab -- Labor Statistics? 9 10 U.S. Bureau of Labor Statistics, yes. Α. 11 Ο. And you had involvement in designing the 12 methodology of that study? 13 Α. No. 14 For purposes of your testimony here, you Ο. 15 took the study from the Bureau of Labor Statistics 16 and pasted it or copied it into your testimony? 17 Α. Yeah. Well, some it. 18 Ο. Yes. 19 Parts of it, yes. Α. Okay. With respect to your testimony 20 Q. 21 about fatalities, you don't describe how many of 2.2 those fatalities occurred in Ohio, do you? 23 Α. No. 24 And you are not aware how many, if any, Ο. 25 of these fatalities occurred for private-sector

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workers who were working on projects that would serve
 AEP customers.

3 Α. Not to my knowledge, no. And you do not report to what extent, if 4 Ο. 5 any, approval of the two projects that you studied or 6 that you reviewed would result in a decrease in the 7 numbers that you cite on page 7 of your testimony 8 regarding the fatal occupational injuries. 9 Α. I'm sorry, could you repeat the question? 10 You -- in your analysis and in your Ο. 11 report, you do not make any conclusions or any 12 opinion at all that the approval of the projects that 13 you reviewed, the two, Willowbrook and Highland or Hecate, would result in a decrease of those 14 15 occupational injury numbers that you list on page 7.

A. No. As I indicated in the prior question, answer to a prior question, we're projecting that in the future, if there's a reduction in mining activities, that we would expect these improvements to occur. But we're not speculating that they will occur on their own.

Q. Are you here today to testify that AEP
Ohio should shut down its coal facility, OVEC,
because of the risk of mining deaths?
A. I'm not -- I've not been asked to opine

1107 1 on that issue nor do I have any particular view on 2 that. On page 8, line 20, you discuss a list of 3 Q. purported health issues related to traditional energy 4 5 sources, and you attribute such findings to 6 researchers, correct? 7 Α. Yes. 8 Ο. And just to be clear, you were not one of 9 those researchers, correct? Correct. Again, those are studies 10 Α. 11 conducted by the U.S. Bureau of Labor Statistics. 12 Ο. Okay. And you have not done personally, 13 with respect to this report that you are here 14 testifying about today, you have not done any 15 separate research on the public health risks associated with coal mining and gas drilling fields, 16 17 have you? 18 Not individually, no. Α. 19 When you say "individually," what do you Ο. 20 mean by that? Did you -- did somebody do it on your 21 behalf? 22 No, no. I'm sorry. I mean it's Α. 23 conceivable that my coauthor has done that, but I 24 have not personally been involved. 25 Q. Fair enough.

1108 You also discuss, on page 9, lines 3 to 1 2 12, the benefit of increasing the number of females in the energy field. 3 Α. 4 Yes. 5 Ο. But you did not conduct any of the 6 research that you cite there as well, correct? 7 Α. Correct. That's conducted by the 8 International Renewable Energy Agency. 9 Ο. Do you know how many renewable companies 10 were surveyed? 11 Α. I do not. 12 Likewise, do you know how many Ο. 13 non-renewable companies were surveyed? 14 Α. Again, I do not. 15 Ο. You have not reviewed to what extent 16 these projects would provide their workforce with mentor -- mentorship or training, have you? 17 18 No, I have not. Α. 19 Ο. And you have not reviewed whether those 20 programs will provide childcare facilities, have you? 21 Α. T have not. 22 And you have not reviewed whether these Ο. 23 facilities will provide greater flexibility to 24 employees, have you? 25 Α. No, I have not.

1109 1 Ο. And you have not made any conclusions 2 here about whether these facilities will impact the 3 gender balance of the energy field workforce, have 4 vou? 5 Α. Well, yes. The oil-extraction industry 6 has only 12.8 percent females. So we're talking 7 about nearly doubling that number to 35 percent. So we are talking about a dramatic change, potentially 8 9 dramatic change in the number of female employees. 10 Does the survey that you rely on there Ο. 11 draw from other countries, not just the United 12 States? 13 Α. I would have to double-check. I'm not aware of that. 14 15 And to your knowledge, has AEP or the 0. 16 owners of the solar projects committed to hiring a 17 certain percentage of women? 18 You would have to check with my coauthor Α. 19 on that. I'm not aware of any such commitment, but I 20 can't rule that out. 21 Ο. All right. In the section of your 22 testimony titled "Social Benefits of Improved 23 Standard of Living," you state that there's a number 24 of factors considered in the standard-of-living 25 analysis that are impacted by the amount of

1110 1 disposable household income, correct? 2 Α. Yes. 3 Ο. And again, you did not conduct any of this research, correct? 4 5 Α. Correct. 6 Now, with respect to the factor of Ο. 7 education and skills, what would a renewable company have to do to satisfy this health initiative? 8 9 Α. You mean improve standard of living? 10 Ο. Yes. 11 Α. Well, the more household income, 12 disposable household income we can provide in a 13 region of Ohio that is dramatically underemployed, 14 that would indicate a strong improvement in these 15 areas if the common perception is correct that the 16 measures are highly correlated with the disposable 17 household income. 18 Now, in your analysis, you are not giving Ο. 19 any opinion of any commitment by AEP Ohio or the 20 owners of the renewable projects to work/life 21 balance, have you? 2.2 Α. To what. 23 Q. To work/life balance? 24 Α. I'm not sure I understand what you are 25 saying.

	1111
1	Q. Well, you reference in your testimony
2	that on page 9, lines 8 starting on line 18, and
3	the sentence continues on to line 21, you list out
4	various factors that relate to quality of life that
5	could be a social impact here, and I'm asking if AEP
6	Ohio has or the owners of these two renewable
7	projects have made any type of commitment related to
8	any of those factors.
9	A. Again, not to my knowledge, but you might
10	check with my coauthor. I am not aware of any such
11	commitments.
12	Q. Do you know how many companies were
13	surveyed in the study that you rely upon for the
14	point that you are making on page 9 at lines 13 to
15	22?
16	A. United Nations Millennium Development
17	Program, I think, is a credible program.
18	Q. And again, that's not a
19	United-States-limited study, correct?
20	A. I would assume "United Nations" means
21	exactly that, United Nations; so U.S. would be part
22	of it but not all of it.
23	Q. Now, with respect to your section in your
24	testimony on page 10 regarding combating the opioid
25	crisis, are you there?

	1112
1	A. Yes.
2	Q. And you did not author this report that
3	you cite in there, correctly correct?
4	A. No, I did not author that.
5	Q. And did you not well, let me ask you
6	this: Have you personally researched the cause of
7	the opioid crisis?
8	A. I have not. But it's as I state in
9	the it's been identified, described as ground zero
10	for the nations drug overdose academic epidemic,
11	and that's that's the reference to the article
12	that we're talking about.
13	Q. And you also reference an NBC News story,
14	correct?
15	A. That is the reference to the NBC News
16	story. That's the only reference to that story.
17	Q. Okay. And in that story, wouldn't you
18	agree that part of it is that fentanyl is made in
19	China and smuggled into the United States?
20	A. I have no opinion on that one way or the
21	other.
22	Q. And do you have an opinion that the story
23	reports that opioids are then sold by gangs in the
24	U.S.?
25	A. The only point we're making here is that

1113 Ohio, the southern area of Ohio is particularly 1 2 troublesome, that we're -- it's a -- your theory 3 would not explain why a region of Ohio is 4 particularly suspect. 5 Ο. Well, you would agree that none of the 6 people interviewed in that story discussed that the 7 standard of living is a cause of the opioid crisis, 8 did they? 9 Α. Not to my knowledge. 10 MS. WHITFIELD: If I could mark an 11 exhibit. I am on 2, Kroger 2? 12 EXAMINER SEE: So marked. 13 (EXHIBIT MARKED FOR IDENTIFICATION.) 14 Ο. (By Ms. Whitfield) Now, Dr. Buser, what I 15 handed you is an Akron Beacon Journal article you referred to in your testimony, correct? 16 17 Α. Yes. 18 And you recognize this article? Q. 19 Α. Yes. 20 Ο. And this is the article that you believe 21 supports AEP's case to develop renewable generation, 2.2 correct? 23 Α. On a limited basis. I mean, there's 24 obviously many more issues that we regard as more 25 important than this, but this is on a long list of

	1114
1	some of issues. This is on the list.
2	Q. But this article talks about the effects
3	of the opioid crisis in northeast, Ohio, does it not?
4	A. Yes.
5	Q. And you would agree that most of the area
6	discussed in the article is not served by AEP Ohio,
7	is it?
8	A. I don't know the service area for AEP
9	Ohio. The plants under construction would be in, my
10	understanding they would be located in the southwest
11	rather than the northeast, but, other than that, I
12	have no response.
13	Q. And this article does not make any
14	mention of electric generation, does it?
15	A. No.
16	Q. And it doesn't even mention the standard
17	of living causes that you cite in your testimony,
18	does it?
19	A. No, it does not.
20	Q. And none of the people interviewed in
21	this article mentioned nonrenewable electric
22	generation as a cause of this opioid crisis, did
23	they?
24	A. No.
25	MS. WHITFIELD: That's all I have. Thank

	1115
1	you, Dr. Buser.
2	EXAMINER SEE: Mr. Collier.
3	MR. COLLIER: Yes, thank you, your Honor.
4	
5	CROSS-EXAMINATION
6	By Mr. Collier:
7	Q. Mr. Buser, my purpose here is to figure
8	out exactly what you're primarily responsible for and
9	what another witness may be responsible for. So
10	that's where I'm going to go with this.
11	In terms of your testimony, page 2, you
12	indicate the purpose of your testimony is to provide
13	a summary of the economic impact study that you
14	coauthored with Mr. LaFayette; is that correct?
15	A. Yes.
16	Q. All right. But if we go to the study
17	itself which is attached to your exhibit, we'll see a
18	table of contents. Are you with me?
19	A. Not yet, but I'm getting there. Yes,
20	okay.
21	Q. All right. If we go to the table of
22	contents, page 2 of 38, were you primarily
23	responsible for Section III, the "Estimation and
24	Interpretation of Economic Impacts"?
25	A. No, I was not. That was my colleague.

	1116
1	Q. All right. Were you primarily
2	responsible for Section IV, "Economic Impact
3	Results"?
4	A. No. Again, that was my colleague.
5	Q. Were you primarily responsible for
6	Section V, "State and Local Tax Impacts"?
7	A. No. Again, that was my colleague.
8	Q. All right. How about Section VI,
9	"Non-Quantifiable Economic and Social Benefits of
10	Renewable Energy Technology"?
11	A. That was my primary responsibility, yes.
12	Q. All right. In terms of the tables
13	attached as appendices, in summary, did you have
14	primary responsibility for any of those tables, A-1
15	through the last table which is A-18?
16	A. No. Again, those are the responsibility
17	of my coauthor.
18	Q. Bear with me then. I will try to
19	eliminate a lot of my cross-examination.
20	Well, this question: You say, for
21	purposes of the study, there was information specific
22	to these two projects that was derived from
23	Mr. LaFayette.
24	A. From AEP and Mr. LaFayette, yes.
25	Q. My point is LaFayette gets it, he gets it

1117 from AEP, AEP gets it from Willowbrook and Hecate? 1 2 Α. That makes sense to me. I can't confirm 3 or deny that. And you didn't have any responsibility 4 Ο. 5 for the development of any information that came from 6 the two project developers, Hecate and Willowbrook? 7 Α. No, I did not. 8 Ο. Just a couple of follow-up questions 9 about your earlier testimony. You talked about 10 importing --11 I'm sorry, what? Α. 12 You were talking about Ohio being a net Ο. 13 importer of oil and gas. 14 Α. Yes. 15 Q. Okay. Are you talking about the 16 commodity or the energy produced by the fuel source? 17 It may be a mixture of the two. I mean, Α. 18 we've had various witnesses testify that Ohio is a 19 major importer, I think of coal and oil and gas. 20 Dr. Buser, I think the testimony related 0. 21 to net import of energy fueled by oil and gas, or any 2.2 other source. 23 And it may be that. Again, I'm not --Α. 24 I'm not going to decompose that, but. 25 Q. You are not suggesting that Ohio and the

	1118
1	Ohio Valley region don't have ample supplies of coal
2	and oil and gas?
3	A. Well, if they did have ample supplies, I
4	would be surprised that we're importing energy from
5	neighboring states. I can't rule that out, but,
6	again, I would not that would not be my
7	speculation.
8	Q. You don't really have any information
9	regarding the generation mix of AEP Ohio, do you?
10	A. Generation mix of AEP Ohio specifically?
11	Q. Right.
12	A. No, I do not.
13	Q. Or the PJM system, you wouldn't have
14	any
15	A. No, I do not. It's possible that my
16	coauthor has access to that, but I do not.
17	Q. In the course of your responsibility for
18	Section VI of your report, did you happen to review
19	the number of jobs in Ohio that relate to oil and gas
20	in terms of numbers?
21	A. Not number of jobs, no, not specifically.
22	Q. Or number of jobs relating to coal in
23	terms of numbers?
24	A. Again, not didn't have that data.
25	Q. And and related to not only coal

1119 1 production but coal transportation logistics? 2 Again, not within Ohio. Α. 3 MR. COLLIER: I think with that 4 understanding, and assuming that Mr. LaFayette 5 doesn't punt back to Mr. Buser, we have no further 6 questions. 7 EXAMINER SEE: Mr. Darr. 8 MR. DARR: Very briefly, your Honor. 9 10 CROSS-EXAMINATION 11 By Mr. Darr: 12 Dr. Buser, as part of your preparation Ο. 13 for preparing your report and testimony in this case, 14 did you inquire as to the development of solar 15 facilities by entities other than AEP Ohio? 16 Α. I did not, no. 17 Ο. Are you aware that companies such as 18 Fifth Third Bank Corp and Procter & Gamble are 19 seeking to secure solar power or are seeking to 20 reduce consumption and obtain renewable energy? 21 Α. That's my understanding, but I have no 22 independent verification of that. 23 And what's the source of your Q. 24 understanding? 25 Α. I believe I saw that in one report and

1120 maybe a witness testified to that. I don't recall 1 2 the specific source of it but that's my -- that's my understanding, but I can't tell you why, what's the 3 basis of my understanding. 4 5 At least in regard to the production Ο. 6 output associated with these two facilities, the 7 understanding that Fifth Third and Procter & Gamble 8 are seeking renewable resources is independent of 9 what's going on with regard to the two solar projects 10 that you reviewed; is that correct? 11 Again, I did not have any basis for Α. 12 opining on that one way or the other. 13 MR. DARR: That's all I have. Thank you. 14 EXAMINER SEE: Mr. McNamee? 15 MR. McNAMEE: I have no questions, your 16 Honor. Thank you. 17 EXAMINER SEE: Any redirect, Ms. Blend? 18 MS. BLEND: Thank you, your Honor. May 19 we have just a couple of moments? 20 EXAMINER SEE: Sure. 21 MS. BLEND: Thank you. 2.2 (Discussion off the record.) 23 EXAMINER SEE: Let's go back on the 24 record. Ms. Blend, redirect? 25

	1121
1	MS. BLEND: Thank you, your Honor. Just
2	briefly.
3	
4	REDIRECT EXAMINATION
5	By Ms. Blend:
6	Q. Dr. Buser, could you please turn to page
7	12 of 38 of Exhibit SB/BL-1 to your testimony, your
8	report.
9	A. Yes.
10	Q. Do you recall questions from counsel for
11	the Ohio Consumers' Counsel regarding the bottom
12	paragraph on this page? And specifically the
13	reference to Adams, Brown, and Highland Counties?
14	A. Yes.
15	Q. Does this section of the report relate to
16	state and municipal income taxes or does it relate to
17	the economic impacts your economic impacts
18	analysis generally?
19	A. This was on the fiscal effect, so the tax
20	effect.
21	Q. Okay. So this does not relate to the
22	totality of the economic impact analysis that you and
23	Dr. LaFayette performed?
24	A. I don't think so. Again, I will defer
25	you to my coauthor, but unless he has particular

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1 insights on that. For instance, the local tax rates 2 may differ depending on the location, but other than 3 that, if you are talking about general economic impact versus state and local tax impacts, I would 4 5 not think that would be. So to ask a slightly different question, 6 Ο. 7 would the results -- with the caveat that the state 8 and municipal income taxes might change, with that 9 caveat, would the results of your economic impact 10 analysis be material -- materially different if 11 comparable-sized facilities to those included in your 12 report, with comparable sourcing of goods and 13 services, were located elsewhere in Ohio? 14 Other than the potential local tax Α. 15 effect, no. 16 And do you have Kroger Exhibit 2 in front Ο. 17 of you still? 18 Α. Yes. 19 And you established with Ms. Whitfield, Ο. 20 earlier, that this is an Akron Beacon Journal article 21 you reference in your direct testimony. 2.2 Α. Yes. 23 And I believe you testified, in response Ο. 24 to a question from her, that this article related 25 primarily to or solely to northeastern Ohio. Do you

	1123
1	recall that question?
2	A. I recall that question and I thank you
3	for allowing me to correct my answer. It also
4	includes southwest portions. So certain references
5	to northeast, certain references to southwest. So I
6	should have been clearer in my response. I apologize
7	for that.
8	Q. No apology necessary. And as you
9	indicated, this article also addresses costs in
10	southwest the southwest part of Ohio?
11	A. Correct.
12	MS. BLEND: Thank you. I have no further
13	questions. And the Company renews its motion for
14	admission of AEP Ohio Exhibit 12.
15	EXAMINER SEE: Recross, Mr. Dove?
16	MR. DOVE: No, your Honor. Thank you.
17	EXAMINER SEE: Ms. Leppla?
18	MS. LEPPLA: No, your Honor. Thank you.
19	EXAMINER SEE: Mr. Kurtz?
20	MR. KURTZ: No questions.
21	EXAMINER SEE: Mr. Healey?
22	MR. HEALEY: No, your Honor.
23	EXAMINER SEE: Ms. Glover?
24	MS. GLOVER: No, your Honor.
25	EXAMINER SEE: Mr. Nugent?

1124 1 MR. NUGENT: No, your Honor. 2 EXAMINER SEE: Ms. Whitfield? 3 MS. WHITFIELD: No, your Honor. EXAMINER SEE: Mr. Collier? 4 5 MR. COLLIER: No, thank you. 6 EXAMINER SEE: Mr. Darr? 7 MR. DARR: No, thank you. EXAMINER SEE: Mr. McNamee? 8 9 MR. MCNAMEE: It's unanimous. No 10 questions. Thank you. 11 EXAMINER SEE: With that, are there any 12 objections to the admission of AEP Exhibit 12? 13 Hearing none, AEP Exhibit 12 is admitted into the record. 14 15 (EXHIBIT ADMITTED INTO EVIDENCE.) 16 EXAMINER SEE: Mr. Darr. 17 MR. DARR: Your Honor? 18 EXAMINER SEE: IEU Exhibit 13. 19 MR. DARR: Excuse me, your Honor. For 20 purposes of the voir dire, I would ask for the 21 admission of 13 so the record is complete. 2.2 MS. BLEND: No objection. 23 EXAMINER SEE: Are there any objections 24 to the admission of IEU Exhibit 13? I think I heard 25 a no? IEU 13 is admitted into the record.

1125 1 (EXHIBIT ADMITTED INTO EVIDENCE.) 2 EXAMINER SEE: And Ms. Whitfield. 3 MS. WHITFIELD: Yes, your Honor. I would more for the admission of Kroger Exhibit 2 into 4 evidence. 5 6 EXAMINER SEE: Are there any objections 7 to the admission of Kroger Exhibit 2? 8 MS. BLEND: No, your Honor. 9 EXAMINER SEE: Kroger Exhibit 2 is 10 admitted into the record. 11 (EXHIBIT ADMITTED INTO EVIDENCE.) 12 EXAMINER SEE: Thank you, Dr. Buser. 13 MS. BLEND: The Company calls Bill 14 LaFayette. 15 MR. OLIKER: Your Honor, do we know how 16 late we are going to go tonight? 17 EXAMINER PARROT: Let's go off the record 18 briefly. 19 (Discussion off the record.) 20 EXAMINER PARROT: Let's go back on the 21 record. 2.2 Mr. LaFayette, please raise your right hand. 23 24 (Witness sworn.) 25 EXAMINER PARROT: Thank you.

1126 (EXHIBIT MARKED FOR IDENTIFICATION.) 1 2 3 WILLIAM LAFAYETTE, PH.D. being first duly sworn, as prescribed by law, was 4 5 examined and testified as follows: 6 DIRECT EXAMINATION 7 By Ms. Blend: Good afternoon, Dr. LaFayette. 8 Q. 9 Α. Oh, I'm sorry. 10 Will you please state and spell your name Ο. 11 for the record. 12 Α. My name is Bill LaFayette. Last name L-a 13 capital F-a-y-e-t-t-e. 14 By whom are you employed and in what Ο. 15 capacity? 16 I am self-employed as the owner of Α. 17 Regionomics, LLC. 18 And were you retained by AEP Ohio to Q. 19 prepare and file direct testimony in this proceeding? 20 Α. I was. 21 Ο. Do you have a copy of that direct 22 testimony which has been marked AEP Ohio Exhibit No. 13 before you? 23 24 Α. I do. 25 Q. And was this testimony prepared by you or

1127 under your direction? 1 2 Α. It was prepared by me. 3 Ο. Do you have any changes or corrections to your testimony? 4 5 Α. I have several. Page 1, line 11. Embarrassingly, I said 6 7 University of NTK from 1991 to 1993. That should be 1990 to 1992. 8 9 On page 5, line 20, the word "Any" --"any" -- should be "Many." 10 11 Line -- page 5, line 21, delete "separate 12 and." Page 5, line 22, insert "many of these 13 14 iobs." 15 And finally the -- I guess we got the 16 renumbering of exhibits? Or no, we didn't. 17 Did you have a correction to the Ο. 18 numbering on Exhibit BL-2? 19 I did. Page 2 of -- or what's now page 2 Α. 20 of 6 on BL-1 or BL-1 should be BL-2, 2 of 3. And 21 then what's now BL-1, 3 of 6 should be 3 of 3, not 3 2.2 of 6. 23 And just so it's clear on the record and Q. 24 everyone is on the same page, there are six pages to 25 Exhibit BL-1, correct?

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1	A. Yes.
2	Q. And those are correctly numbered?
3	A. Yes.
4	Q. And then immediately after Exhibit BL-1,
5	there is Exhibit BL-2 and that is correctly numbered
6	Exhibit BL-2, page 1 of 3.
7	A. Yes.
8	Q. Your changes were to correct pages 2 of 3
9	and 3 of 3 and Exhibit BL-2 which were incorrectly
10	designated as Exhibit BL-1 and had incorrect page
11	numbers?
12	A. 2 there are currently 2 of 6, it
13	should be 2 of 3 in BL-2, now designated BL-1, and
14	then 3 of 3 rather than 3 of 6.
15	Q. Thank you.
16	A. Sorry about that.
17	Q. No problem.
18	Dr. LaFayette, if I asked you the
19	questions contained in your direct testimony today,
20	with the changes and corrections that you just
21	described, would your answers be the same?
22	A. Identical.
23	MS. BLEND: Thank you.
24	At this time, the Company moves for
25	admission of AEP Ohio Exhibit No. 13 and Dr.

1129 1 LaFayette is available for cross-examination. 2 EXAMINER PARROT: Thank you, Ms. Blend. 3 Mr. Dove? MS. WHITFIELD: Can I make some motions 4 to strike? Sorry. 5 6 Kroger wants to renew the objection and 7 motion to strike and defer Dr. LaFayette's testimony to Phase II. Consistent with this Bench's directions 8 9 on the first day of the testimony that "to the extent 10 you are trying to get at specific projects that have 11 been proposed that will be addressed in the second 12 phase of this case as proposed by the Company, the 13 attention -- intention there was to defer those cases 14 to the second phase." 15 During prior testimony, we learned that 16 AEP provided certain costs for the specific projects 17 and worked directly with the developers to get 18 budgeting data that went directly to his economic 19 analysis and form the basis of it, so because this 20 had nothing to do with the generic 900 megawatts of 21 unspecified projects that were the subject of this 2.2 hearing, I would renew the motion to strike. 23 EXAMINER PARROT: And I would just note, 24 consistent with Ms. See's ruling, the renewed motion 25 is likewise denied.

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2 would given your Honors's ruling earlier, I would 3 move to strike specifically page 5, lines 13 to 23 4 that it specifically asks him about a contractual 5 provision in the Hecate solar REPA. 6 As you noted, I think part of your	3 in .s not
 4 that it specifically asks him about a contractual 5 provision in the Hecate solar REPA. 6 As you noted, I think part of your 	.s not
5 provision in the Hecate solar REPA. 6 As you noted, I think part of your	not
6 As you noted, I think part of your	not
	not
	not
7 justification for the change in what's happening i	
8 that he with respect to Dr. Buser, that he had	
9 seen or reviewed the REPAs here. It's clear he, i	.n
10 fact, did and is testifying about the specific ter	ms
11 of it.	
12 MR. HEALEY: OCC would join in that	
13 objection, your Honor, as it is very specific to t	he
14 contracts, and the testimony here states that thes	e
15 jobs are in addition to and separate from his	
16 economic development analysis and, therefore, are	not
17 part of that analysis and, therefore, should be	
18 deferred to Phase II.	
19 MR. OLIKER: IGS would join that, your	
20 Honor.	
21 MR. COLLIER: OCA joins.	
22 MR. DARR: IEU joins.	
23 MS. BLEND: Your Honor, the purpose, a	ıs I
24 indicated earlier when we were addressing the over	all
25 motion to strike Drs. Buser and LaFayette's testim	ıony

1 and report, the purpose of the Question and Answer 2 that's at issue here was to distinguish or provide a 3 contrast to a specific REPA provision that's not at issue with respect to the need phase of this 4 5 proceeding and to make it clear that many of the 6 benefits associated with that commitment were not 7 included in the economic impact analysis that 8 Dr. LaFayette performed.

9 So I disagree with the characterization 10 that we're getting into or substantively discussing 11 specific REPA terms. The REPAs are not the subject 12 of a -- the approval of the REPA is not part of this 13 phase of the proceeding and, really, here all we're 14 doing is trying to clarify that was not explicitly 15 made a part of the economic impact analysis that 16 Dr. LaFayette provided. So it's just providing 17 context in trying to provide transparency and 18 clarification around that potential question.

MR. HEALEY: Your Honor, this goes to my issue of prejudice. We are now, again, inserting evidence that there are benefits from the REPAs specifically not from a generic economic development perspective. Ms. Blend just said we want to put in the record there are additional benefits from these specific Willowbrook and Highland REPAs. I have not

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1132 1 been allowed to put into evidence the cost of those 2 REPAs. It is prejudicial to OCC. It is prejudicial 3 to the ruling this Bench has already made, telling OCC and other intervenors that they have to reserve 4 5 that portion of their testimony to Phase II. MS. BLEND: And cross-examination 6 7 regarding those benefits, which would be separate or 8 in addition to the benefits that are the subject of 9 the economic impact study, can be asked in Phase II. 10 MS. WHITFIELD: Your Honor, may I respond 11 just briefly? 12 AEP Ohio cannot have it both ways. They 13 cannot cite as justification for why Dr. Buser's 14 testimony and report to come in that it didn't cite 15 specific REPA provisions, and then say where 16 Dr. LaFayette actually says "Are you aware of a 17 contractual provision in the REPA?" and he goes on 18 and talks about that actual contractual provision and 19 then say that's allowed. It cannot be both ways. 20 Thank you. 21 EXAMINER PARROT: Consistent with the 22 ruling from earlier this afternoon, the motion to strike is denied. 23 24 Mr. Dove, any questions? 25 MR. DOVE: No, your Honor.

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1	EXAMINER PARROT: Ms. Leppla?
2	MS. LEPPLA: No, your Honor.
3	EXAMINER PARROT: Mr. Kurtz?
4	MR. KURTZ: No questions.
5	EXAMINER PARROT: Mr. Oliker?
6	MR. OLIKER: Your Honor, I will let OCC
7	go first.
8	EXAMINER PARROT: Mr. Healey.
9	MR. HEALEY: Thank you.
10	
11	CROSS-EXAMINATION
12	By Mr. Healey:
13	Q. Can you please turn to page 5 of your
14	testimony.
15	A. Okay.
16	Q. And just to confirm that I read it right,
17	when you made an amendment to line 20, the first word
18	of that first full sentence "Any" has now become
19	"Many"?
20	A. Uh-huh. Yes.
21	Q. And so, if many of the benefits that are
22	associated with the jobs commitment would be separate
23	and in addition, you are not testifying that all of
24	those benefits would be in addition, correct?
25	A. Correct.

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1134 1 Ο. So some of them would be duplicative of 2 your economic develop -- economic development 3 analysis? I would not say "duplicative." I would 4 Α. 5 say included in. MS. BLEND: And just for clarity on the 6 7 record, we did -- one of Dr. LaFayette's corrections 8 was to delete the words "separate and" from the 9 sentence Mr. Healey just read. 10 (By Mr. Healey) But if we were to count Ο. 11 them once in your economic development analysis and 12 then count them again, that would be double counting, 13 correct? 14 Correct, it would be. And so, if I were Α. 15 to do that analysis, I would -- I would take those 16 jobs out because they had already been counted. 17 Ο. But you've not done that analysis yet, 18 correct? 19 I have not been asked to. Α. No. 20 Ο. So for purposes of the Commission's 21 consideration of Phase I, it would not be accurate 2.2 for the Commission to find that there are 113 23 additional jobs on top of your economic development 24 analysis, correct? 25 Α. Correct.

1135 1 Ο. Do you have a copy of the report that was 2 attached to your colleague's testimony in front of 3 you? 4 Α. The economic impact report. 5 Q. Yes. Got it. 6 Α. 7 Q. And please turn to page 8 of 38. 8 Α. Okay. 9 Ο. And the very last sentence on this page 10 says "However, for goods manufactured in Ohio - solar 11 panels being the largest example here - the entire 12 process from manufacture through delivery can be 13 included." Do you see that sentence? 14 Α. Yes. 15 Ο. Does this mean that for the purpose of 16 your economic development study, you assumed that all 17 solar panels necessary for building the 400 megawatts 18 proposed would be built in Ohio? 19 For purposes of my economic impact study, Α. 20 I asked, through AEP, the developers to tell me the 21 goods and services that would be provided from Ohio-based companies, simply because those are the 22 23 only ones that can be counted. I know that there 24 were solar panels to be manufactured in Ohio. Ι 25 don't recall whether it was 100 percent or less, but

1136 1 only the ones that are planned to be manufactured in 2 the State of Ohio are included in this analysis. 3 But sitting here today, you don't recall Ο. what the input was into the model, whether it was 4 5 100 percent or some other number? The input into the model was the value of 6 Α. 7 the solar panels that were to be manufactured in Ohio. 8 9 Ο. And that was not necessarily 100 percent 10 of all necessary solar panels, correct? 11 Α. I don't recall. 12 Ο. You are aware that the developers have 13 not committed to purchasing 100 percent of the solar 14 panels from Ohio companies, correct? 15 Α. Correct. They have not committed but, 16 again, they told me what was going to be provided 17 from Ohio companies and I relied on that. 18 MR. HEALEY: Your Honor, I am going to 19 move to strike that response. It started with "they 20 told me." He is relying on an out-of-court statement 21 by individuals that work for companies that are not 2.2 here to be cross-examined and that is obvious 23 hearsay. 24 EXAMINER PARROT: Overruled. I am sorry. 25 The motion is denied. I am sorry, Mr. Healey.

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Q. (By Mr. Healey) Would you consider
yourself an economist?
A. Yes.
Q. And as an economist, you would expect
that a rationale business, all else equal, will
purchase the cheapest solar panels they can purchase,
correct?
A. Correct.
Q. And did you attempt to compare the price
of solar panels manufactured in Ohio to the price of
solar panels manufactured elsewhere?
A. I did not. I simply relied on the
developer's assertion that that's what they were
going to do.
Q. So you didn't exercise any independent
judgment on that issue.
A. No.
Q. Could you turn to page 12 of 38 of the
report, please. The last paragraph third starting
at the third line, mentions that the direct employees
of the two projects would be assumed to be assumed
to live in Brown and Highland for the Highland
project, and then Adams, Brown, and Highland for the
Willowbrook project, correct?
A. Yes.

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1	Q. Now, I believe your colleague testified
2	and noted that this statement is made in the context
3	of state and municipal income taxes. Is that same
4	assumption made for your entire study?
5	A. It is absolutely not. The economic
6	impact covers the entire State of Ohio. The only
7	reason to make this assumption here is to generate a
8	level of of local income taxes and local sales
9	taxes.
10	Q. So
11	A. You have to assume that people are going
12	to go somewhere to do that.
13	Q. You assumed, in your study, that the
14	projects would generate 1,690 direct employment
15	positions, correct?
16	A. Correct.
17	Q. But you did not assume those would all be
18	in those three counties?
19	A. They would not be. They would certainly
20	not be because part of those direct jobs include the
21	manufacture of the solar panels and the inverters and
22	other products that are being produced other in
23	other places within Ohio.
24	Q. But for purposes of the tax analysis, you
25	did assume that all 1,600-plus would be those three

1139 counties? 1 2 Α. Yes. 3 Q. Yes. So that is -- that is a slight error on 4 Α. 5 the -- on the local taxes. 6 Ο. And you haven't measured the magnitude of 7 that error, correct? It would not be great simply because 8 Α. 9 there's variance among counties in sales taxes, 10 there's variance among municipalities in -- in income 11 tax rates. 12 Ο. Were you aware of this error prior to our 13 questioning over the last 2 to 3 minutes? 14 Α. No. 15 Ο. So you have not quantified the value of 16 the error, correct? 17 Α. No. 18 It's possible, given the geography of Q. these counties, that some of the direct employees 19 20 could live in Kentucky and commute across state lines to Ohio, isn't it? 21 2.2 Α. Conceivable. 23 Q. And did your economic development 24 analysis account for that possibility? 25 Α. It would not, simply because the -- the

1140 jobs that the model produces are jobs only within 1 2 Ohio. 3 Q. So one of the assumptions of the model is --4 One of the assumptions is that the direct 5 Α. 6 employees are within Ohio. 7 Ο. And did you assume that the direct 8 construction jobs would be filled by current permanent residents of those three counties? 9 10 Α. I did not. I -- wait. I assumed that 11 they would be local during the construction period. 12 I did not necessarily assume that they would be 13 permanent local residents so. 14 So, for example, when a large Ο. 15 construction project like this is done --16 They bring people in. Α. 17 Thank you. I appreciate that answer. Ο. Ιf 18 you wouldn't mind letting me finish my question. 19 Α. Sorry. 20 Ο. So we have a clean record. I understand 21 that you knew what I was going to ask, but. 2.2 And so, you did not analyze the labor 23 market in Adams, Brown, and Highland Counties to 24 determine the extent to which there is adequate 25 skilled labor to fill the necessary construction

1141 1 jobs, correct? 2 Α. I did not. 3 Q. For purposes of your economic development study, did you account for any of the potential costs 4 5 that customers might pay for AEP's proposal through 6 their electricity bills? 7 Α. I did not. The -- the argument that I 8 was given was that -- that bills would, over the long 9 run, decline. 10 But you didn't personally --Ο. 11 Α. I did not. 12 Q. You didn't personally verify whether that 13 assumption is reasonable or not, did you? Correct, I did not. 14 Α. 15 Ο. And to the extent customers do, in fact, 16 pay a cost, let's assume in the short run, that would reduce their ability to spend money out in the 17 18 marketplace, correct? 19 Α. But it would still be a purchase made 20 within Ohio. And so, it would be -- it would -- it 21 would reallocate spending within Ohio. But it would 22 not reduce spending within Ohio. 23 So instead of spending it on some other Q. 24 goods, they would be spending it on electricity, 25 correct?

1142 1 Α. Within Ohio, yes. 2 Do you know whether -- do you know Ο. whether individual customers of AEP would pay sales 3 tax on any such charges through their electricity 4 bill? 5 T do not. 6 Α. 7 Q. Assuming they do not pay sales tax on this type of charge, whereas they might pay sales tax 8 9 on goods at a store, that would reduce local sales 10 tax revenues, correct? 11 Α. Slightly. 12 And you did not account for that in your Q. 13 analysis, did you? 14 Α. No. 15 MR. HEALEY: That's all I have, your 16 Honor. Thank you. 17 EXAMINER PARROT: Mr. Oliker? 18 MR. OLIKER: Sure. Just a few questions, 19 your Honor. 20 21 CROSS-EXAMINATION 22 By Mr. Oliker: 23 Good afternoon, Dr. LaFayette. Q. 24 Good afternoon. Α. 25 Q. Am I correct that you do not have a

1143 background in energy markets? 1 2 Α. I do not. 3 Q. And you do not understand the operation of the dispatch order on PJM's electric grid? 4 5 Α. I do not. 6 But for purposes of your study, you Ο. 7 assumed that no generation resources would retire if 8 the Application that's been proposed here is 9 approved? 10 Α. That is what I was told by the Company. 11 And that's one of the underlying assumptions of the 12 study. 13 Ο. And, again, you did not think to validate 14 whether that assumption had credit? 15 Α. I do not have the expertise to do that. 16 Ο. And am I correct that for purposes of 17 your study, you did not perform any analysis to 18 determine the impact of the proposal in this case on 19 development of renewable resources by the competitive 20 market? 21 Α. T did not. 22 When, earlier, you indicated to counsel Ο. 23 for the OCC that they told me about a certain 24 assumption, who was "they" from the Company? 25 Α. Joe.

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1	Q. Joe Karrasch?
2	A. Yes. I was blanking on the name.
3	Q. And that is specifically a witness from
4	the 18-1392 case that you initially filed your
5	testimony in?
6	A. I don't know.
7	MR. OLIKER: Your Honor, I would once
8	again renew the motion to strike on the grounds that
9	now we are bootstrapping additional evidence from the
10	RDR case into this case without any ability to
11	cross-examine the witnesses.
12	MS. BLEND: I disagree, your Honor.
13	Mr. Oliker asked who provided the information to
14	Dr. LaFayette. Dr. LaFayette answered his question.
15	Mr. Karrasch is a manager of renewable energy.
16	Regarding renewable energy purchase, he, in his
17	day-to-day job activities, deals with renewable
18	energy purchase agreements, negotiates on behalf of
19	the Company, and he is the business contact one of
20	the business contacts with the developer, so we're
21	not bootstrapping any evidence in here. That was a
22	part of Dr. LaFayette's prefiled testimony or the
23	report.
24	Mr. Oliker asked the question. The fact
25	that that individual also happens to be a witness in

1145 1 the second phase of this proceeding is coincidental 2 and has no bearing on -- has no bearing. 3 MR. OLIKER: Your Honor, counsel for AEP made my point. They are a witness in the case that 4 5 we're not allowed to ask questions about, yet they are allowed to provide evidence to this witness that 6 7 is not subject to cross-examination. It's 8 prejudicial. 9 MS. BLEND: In this regard, Mr. Karrasch 10 is a fact witness, and IGS had the opportunity to 11 and, in fact, took significant amounts of discovery 12 in these cases and could have asked this question --13 could have taken a deposition of Mr. Karrasch, a fact 14 witness, or subpoenaed him as a fact witness if they 15 had questions about the assumptions that were 16 provided to Drs. Buser and LaFayette for the study, but they didn't do so. It's not prejudicial to IGS. 17 18 MR. OLIKER: Your Honor, the burden is 19 not on a party to simply subpoena a witness when 20 there's reliance on hearsay. The correct ruling is 21 simply to keep the hearsay out. 22 MS. BLEND: And it's fair -- it's fair, 23 under the expert rules in Ohio, that an expert can be 24 provided facts and assumptions by their client, and 25 Dr. LaFayette and Dr. Buser have testified about the

1146 1 assumptions that they were provided. 2 EXAMINER PARROT: And your renewed motion 3 is denied, Mr. Oliker. Go ahead. 4 Ο. (By Mr. Oliker) Dr. LaFayette, am I 5 correct that you do not know the amount of Ohio coal 6 electricity production that will be displaced by the 7 proposal in this case? 8 Α. The Company told me that there would be 9 none, that this would -- that this power would be 10 incremental, and I went on that assumption. That was 11 the first question I asked. 12 Ο. Okay. And you would agree that the 13 electrical output of these generation resources 14 proposed in this case could displace electrical 15 output from coal-fired generation within the state, 16 if you know? 17 Α. I do not know. 18 MR. OLIKER: Thank you. Those are all 19 the questions I have, your Honor. 20 Thank you, Dr. LaFayette. 21 THE WITNESS: Thank you. 2.2 EXAMINER PARROT: Ms. Glover? 23 MS. GLOVER: No questions, your Honor. 24 EXAMINER PARROT: Ms. Whitfield? 25 MS. WHITFIELD: Yes, your Honor.

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1	CROSS-EXAMINATION
2	By Ms. Whitfield:
3	Q. Dr. LaFayette, as part of your economic
4	analysis, you draw the conclusion that the
5	construction of the solar projects are projected to
6	impact Ohio by adding jobs, correct?
7	A. Correct.
8	Q. And you would agree, though, that those
9	impacts are temporary, correct?
10	A. Yes, they are, as is the case for any
11	construction project.
12	Q. They just last as long as the
13	construction project lasts, correct?
14	A. Correct.
15	Q. And the permanent impacts are
16	significantly less, aren't they?
17	A. They are.
18	Q. And even those permanent impacts are just
19	mere projections by you, correct?
20	A. They are estimates.
21	Q. That you are projecting, correct?
22	A. That I am making on the basis of the
23	projections, yes.
24	Q. And for the permanent jobs, you projected
25	only 51 jobs being created, correct?

	1148
1	A. Correct.
2	Q. And that was that the earnings from those
3	jobs were projected to be about 2.5 million in
4	additional earnings, right?
5	A. I don't want to say something under
6	testimony.
7	Q. Sure. If you would look at page 5 of 38,
8	your Table S-2.
9	A. Yes, yes. The earnings are 2.56 million.
10	Q. You don't know how many workers will be
11	employed by the specific solar projects, do you?
12	A. I do not. That's a conclusion that comes
13	from the model. The model projects the number of
14	employees.
15	Q. Do you know how many workers it typically
16	takes to run a solar array?
17	A. No.
18	Q. Do you know if most of those jobs or
19	positions would be in the maintenance of the solar
20	array?
21	A. There would be a number in maintenance.
22	There would be a number in engineering, in the
23	management of the plant, the back office operations,
24	and so forth.
25	Q. But you don't have any specific numbers

1149 1 as to each of those categories, do you? 2 Α. Those aren't available. No. 3 Q. Now, isn't it true that the construction jobs you cited will be created regardless of whether 4 AEP Ohio is an investor in either solar project? 5 Α. Correct. 6 7 0. And that's --8 And, therefore, the project in a generic Α. 9 sense. 10 And that's irregardless of whether AEP Ο. Ohio is involved as an investor. 11 12 Α. Correct. 13 Ο. And that's the same for the earnings --14 the \$2.56 million in earnings that you claim will be 15 created, that's got no dependence on AEP Ohio's involvement in those projects, correct? 16 17 Α. Correct. 18 And likewise isn't it true that the Ο. 19 permanent jobs you cite will be created regardless of 20 whether AEP Ohio is an investor in the project? 21 Α. Yes. 22 Q. Now, you state that part of the focus of 23 your study was on the tax effects for the State of 24 Ohio. 25 Α. Yes.

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1150
                 For the purpose of your analysis, did you
 1
            0.
 2
     consider tax breaks or tax reductions that a
     developer might obtain for doing the renewable
 3
     project?
 4
 5
            Α.
                 No.
                      I did not consider the developer's
 6
     taxes. I only considered the taxes of the operating
 7
     company and the workers and then only some of those.
                 And which -- well, strike that.
 8
            Ο.
 9
                 You didn't consider property tax
10
     abatements in your analysis, did you?
11
            Α.
                 No, although I could.
12
            Ο.
                 Well, would it be reasonable to assume
13
     that those tax -- the tax benefits you list could
14
     decrease if you would have considered property tax
15
     abatement and the other tax breaks and tax
16
     reductions?
17
            Α.
                 Yes.
18
                 And, again, isn't it true that the added
            Ο.
19
     tax benefits that you cite in your economic analysis
20
     would exist regardless of whether AEP Ohio is
21
     involved as an investor otherwise in the projects?
2.2
            Α.
                 Correct.
23
                 MS. WHITFIELD: That's all I have.
                                                      Thank
24
     you, Dr. LaFayette.
25
                 EXAMINER PARROT: Mr. Collier?
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1151 1 MR. COLLIER: Thank you. 2 3 CROSS-EXAMINATION By Mr. Collier: 4 5 Ο. Starting with your testimony, 6 Dr. LaFayette, I would like to turn your attention to 7 page 5. 8 Α. Yes. 9 Ο. Here you discuss a contractual provision 10 in the Hecate solar REPA that contains an additional 11 commitment for full-time permanent jobs. Do you see 12 that? 13 Α. Yes. 14 All right. And the commitment is 113 Ο. 15 full-time permanent jobs that are not related to construction or operation of the solar facility; is 16 17 that correct? 18 Α. That's -- that are -- that may, in part, 19 be, but partially are not. 20 All right. Did AEP indicate to you what 0. 21 the incremental cost of that commitment was? 2.2 Α. No. 23 Or what the differential REPA cost would Q. 24 be for the commitment of these particular employees? 25 Α. No.

1152
Q. Did you review the Hecate REPA contract,
how the contract itself addressed the economic
A. I did not.
Q. I would like to turn your attention now
to the report itself, beginning at page 8 of 38. Are
you with me?
A. Yes.
Q. All right. You state, third paragraph,
"The nature of solar projects poses a particular
challenge, however. The construction of such a
facility is significantly different from the standard
construction projects that are assumed in the four
available construction multipliers." Do you see
that?
A. Yes.
Q. How is the construction of a solar
project different from standard construction
projects?
A. A standard construction project would be,
say, for example, a commercial building, an office
building, for example. And that would have an array
of suppliers supplying various types of goods and
services, and this project is different in the sense
that it it's setting up solar panels, and so the
array of suppliers and the array of goods and

1153 services would be different. In most cases, for a 1 2 standard building, you would not be engaging mass numbers of manufacturers of solar panels, for 3 4 example. You go on and say "This implies that 5 Ο. 6 using the standard construction and power generation 7 multipliers could significantly misstate the impacts of these facilities." 8 9 Α. Yes. 10 All right. And then you say "it is vital Ο. to take a different 'bill of goods' estimation 11 12 approach." 13 Α. Yes. 14 And what is that "bill of goods" Ο. 15 estimation approach? 16 That relies on a detailed line-by-line Α. 17 projection of the goods to be provided and the costs 18 of each of those goods. And so, for -- for concrete, you wouldn't just lump it into total -- total 19 20 construction costs. You would look at the economic 21 impact of the concrete manufacturing industry. 2.2 All right. So it's a line-by-line Ο. 23 analysis that you have to do? 24 Α. Yes; far more complicated. 25 Q. As opposed to what, an aggregate

1154 1 analysis? 2 Α. Yes, where you simply take the total value of the construction, apply the construction 3 industry multiplier to it, and get your result. 4 5 Q. All right. So your challenge was to do a 6 line-by-line analysis? 7 Α. Yes. 8 Q. You go on to state, in doing this 9 analysis, "attention must be paid to whether the 10 goods are sourced in Ohio." 11 Α. Yes. 12 Ο. And that's because if the goods are not 13 sourced in Ohio, there won't be any Ohio benefit. 14 Α. No impact, correct. 15 Ο. So not only do you have to do a line-by-line analysis, you have to determine line by 16 17 line with regard to particular goods as to what the 18 source of those goods would be. 19 Α. Yes. 20 Ο. And you conclude "for goods manufactured 21 in Ohio - solar panels being the largest example here 2.2 - the entire process from manufacture through delivery can be included." 23 24 Α. Yes. 25 Q. And should be analyzed.

1155 1 Α. Yes. 2 So it's the entire flow chain from source Ο. 3 of manufacture through transportation and direct installation. 4 5 Α. Yes. 6 Now, I would like to ask you with regard Ο. 7 to your report, is there a particular table in the 8 appendix or otherwise that we can look at to determine construction -- direct construction costs 9 10 of a facility itself? 11 There is not. Those numbers were Α. 12 confidential, and so I don't include them. 13 Ο. And why were they confidential? Were they confidential because of the manufacturer or --14 They were -- they were confidential from 15 Α. 16 the developers. 17 And what did that -- I don't want to get Ο. 18 into the exact confidentiality provision, but as a 19 general matter, what kinds of goods or services are 20 we talking about that were held to be confidential? 21 Α. The inverters, the solar panels, the 22 grading of the site, the landscaping of the site, the 23 fencing, goods and services, of that nature. 24 Well, let me ask you this, if we go to 0. 25 Table 1 at page 10 of 38, you have -- this table

1156 1 addresses construction impacts. 2 Α. Yes. 3 Ο. Under "Direct" you have a total of output of 30 -- \$332,396. 4 5 Α. That's 332 million. Okay. "000" omitted, right? 6 Ο. 7 Α. Yes. Q. For all these entries. 8 9 Α. Yes. 10 Okay. So the total construction output Ο. is 254 thousand -- million-968-thousand for the 11 12 Highland project and \$77,427,000 for the Willowbrook 13 project. 14 Α. Yes. 15 Q. Can you equate those construction outputs 16 per dollar per megawatt? No. And the reason why you can't is that 17 Α. 18 some of those direct output totals would be -- would 19 omit goods manufactured in other states but 20 wholesaled in Ohio, so only the wholesale component 21 would be included. 2.2 All right. Just for comparison sake, go Ο. 23 to your Table A-1 in the Appendix, 21 of 38. Are you 24 with me? 25 Α. Yes.

	1157
1	Q. Here, for the Highland project, you have
2	the output impact by industry sector; is that
3	correct?
4	A. Yes.
5	Q. All right. And for construction you have
6	74 million 590 dollars 590,921.
7	A. Yes.
8	Q. And durable goods manufacturing,
9	95,576,480.
10	A. 96,576,480.
11	Q. 96 million, all right. What's the
12	difference between construction and durable goods
13	manufactured?
14	A. The durable goods manufacturing would
15	include the the inverters and the the goods
16	produced within the State of Ohio.
17	Q. All right. Then you have real estate and
18	rental and leasing, \$37,645,807, correct?
19	A. Correct.
20	Q. And what does the leasing relate to?
21	A. The leasing relates mostly, as I recall,
22	to the leasing of the equipment used in the
23	construction process.
24	Q. Where, anywhere, does the lease cost of
25	the land itself in which these panels will be

1158 installed --1 2 Α. That's -- that is in there. 3 Q. That's part of that, just not broken down. 4 5 Α. Right. 6 Ο. All right. Now, with regard to that, and 7 going back to your indication you have to do this 8 line by line, were you told the number of solar 9 panels that Willowbrook would expect to employ in its 10 operation? 11 The number of solar panels? Α. 12 Q. Yeah. 13 Α. No. 14 Were you told that it could include Ο. anywhere from 425,000 to 570,000 solar panels? 15 16 Α. No. 17 MS. BLEND: Objection as answered. 18 Were you told the specific model or Ο. 19 manufacturer of any of the solar panels? 20 Α. No. 21 Ο. Were you told the manufacturer of the 2.2 inverter? 23 Α. No. 24 Were you told the source of the solar 0. 25 panels?

	1159
1	A. Only to the extent that they were to be
2	sourced within Ohio.
3	Q. Did they tell you how many solar panels
4	would be sourced in Ohio?
5	A. No. Just gave me the aggregate dollar
6	amount.
7	Q. Just gave you an aggregate dollar amount
8	without your ability to verify whether that source of
9	that particular facility was in Ohio or elsewhere?
10	That is, the panel.
11	A. They gave me the total amount that was to
12	be purchased from Ohio suppliers.
13	Q. And as far as you know, that information
14	came from had to come from the developer.
15	A. Correct.
16	Q. Two steps removed from you, right?
17	A. Yes.
18	Q. Did you have any direct communications
19	with the developer to verify anything that AEP was
20	telling you?
21	A. I did not.
22	Q. The inverters, same questions, did the
23	were you told by AEP the specific model or source of
24	the inverters?
25	A. No.

	1160
1	Q. Isn't it a fact that, under the REPA
2	contract, Willowbrook could acquire both the solar
3	panels and the inverters from Canada?
4	A. I don't know.
5	MS. BLEND: Objection, your Honor.
6	Q. Did you look at the specific REPA
7	agreement to determine whether there was a
8	contractual commitment as to the source or
9	origination of any component of the facility?
10	A. I did not.
11	Q. You understand that the developer will
12	install and construct not only the solar panels but
13	the connections of the solar panel facility to a
14	delivery point; is that correct?
15	MS. BLEND: Objection, your Honor. We're
16	now into Phase II project-specific terms and
17	conditions of REPAs. I don't know how this and,
18	furthermore so it's outside the scope of this
19	proceeding and, furthermore, I don't know or believe
20	that the construction details associated with, you
21	know, from an engineering perspective, how these
22	arrays are going to be put together is relevant to
23	Dr. LaFayette's testimony, and it's far outside the
24	scope of his testimony.
25	MR. COLLIER: I am talking just

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1 specifically about goods, facilities, physical 2 facilities, and whether or not they were included in 3 these construction costs. MS. BLEND: And Dr. LaFayette -- the 4 5 questions were not -- that was not what the 6 questioning -- line of questioning was, first of all; 7 but, second of all, Dr. LaFayette's testified several 8 times now he was provided the dollar amounts 9 associated with the various goods and services. He 10 didn't need and didn't utilize the details about the 11 type of the goods or anything like that. He's 12 answered that question at least two or three 13 different times now. 14 MR. COLLIER: The specific question, 15 besides the panels themselves, what equipment would 16 be required to get it to the point of delivery. 17 EXAMINER PARROT: Let's try to rephrase 18 the question perhaps, Mr. Collier. 19 Ο. (By Mr. Collier) Did you include, in 20 construction costs, any substation connection costs? 21 Α. T did not. 2.2 Ο. You did not or you don't know? 23 I was not provided a line item that said Α. 24 substation costs. 25 Ο. And you don't know, one way or another,

1162 whether AEP told -- the number AEP gave you included 1 2 substation connection costs. 3 Α. I do not. Were you able to verify that the point of 4 Ο. 5 connection for the Willowbrook facility would be the 6 138-kV Wildcat substation owned and operated by AEP 7 Ohio? 8 MS. BLEND: Objection, your Honor, 9 outside the scope of Phase I. This is the same 10 question that Mr. Collier asked yesterday of another 11 witness, I think it was yesterday. Actually it might 12 have been Wednesday, of Witness Ali, and your Honor 13 sustained the objection at that time as being outside 14 the scope of Phase I. 15 MR. COLLIER: The question goes to goods, 16 facilities and plant costs, line by line, that this 17 witness was provided. 18 MS. BLEND: I disagree, your Honor. The 19 point of connection and specifically which substation 20 it would be has no bearing on the costs that 21 Dr. LaFayette was provided to perform his economic 22 impact analysis. 23 MR. COLLIER: He doesn't know that. You 24 don't know that, because all he was given was a lump 25 sum. He doesn't know how it was broken down.

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1	EXAMINER PARROT: All right.
2	Mr. Collier, if you want to try to rephrase, go
3	ahead, but with respect to the question that's
4	pending, the objection is sustained.
5	Q. (By Mr. Collier) Was there any portion of
6	the construction costs that included substation
7	facilities?
8	A. Not to my knowledge.
9	Q. You don't know whether it was broken down
10	or not?
11	A. No.
12	Q. All right. The owner of the facility is
13	an entity called Blue Planet Renewable Energy which
14	is, in turn, a joint venture between MAP Energy and
15	Ohio or Open Road Renewables, LLC.
16	MS. BLEND: Objection, your Honor.
17	Q. Is that correct?
18	MS. BLEND: Objection. We are getting
19	into project-specific Phase II issues, and it's
20	outside the scope of Dr. LaFayette's testimony and
21	analysis in this case.
22	MR. COLLIER: I am trying to figure out
23	what the source of all this information came from,
24	No. 1; and, No. 2, how the developer or where the
25	developer is actually located.

Γ

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1	MS. BLEND: And Dr. LaFayette testified
2	several times he received the information from AEP
3	who received a budget with categorical dollar amounts
4	for different categories of costs from the developer.
5	And that was the extent of what he received. He has
6	testified to that two or three times already, and the
7	corporate holding structure of the developer has
8	absolutely no bearing on Dr. LaFayette's analysis.
9	MR. COLLIER: Identification of the
10	developer who is the source of the information would
11	probably be pertinent, wouldn't it?
12	EXAMINER PARROT: The objection to the
13	question that's pending is sustained.
14	Q. (By Mr. Collier) Were you provided
15	what was the lump sum figure that AEP gave you for
16	the Willowbrook facility?
17	A. I don't recall.
18	MS. BLEND: I am also going to object.
19	You are getting into confidential information here
20	depending on the question and the answer.
21	MR. COLLIER: No claim of confidentiality
22	has been indicated for any of the information that
23	was provided to this witness. All I can do is pursue
24	it. If there is a claim of confidentiality on a
25	specific question, you can raise it.

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1	EXAMINER PARROT: He answered he doesn't
2	know, so proceed.
3	Q. All right. Now, were you provided,
4	separate from the construction, the actual lease
5	costs of the land itself?
6	A. I was.
7	Q. And what was that figure?
8	A. I can't that's confidential.
9	Q. Isn't it a fact that, in the operating
10	phase, Willowbrook will only employ 20 to 24 direct
11	jobs?
12	A. Correct, according to my analysis.
13	Q. Okay. To Hecate, the Highland project,
14	were you told the number of solar panels that would
15	be employed in this project?
16	A. I was not.
17	Q. Were you told the model or manufacturer
18	of the solar panels?
19	A. I was not.
20	Q. Were you told whether there would be
21	1,100,000 ground-mounted modules?
22	A. I was not.
23	Q. Were you told the manufacturer's source
24	of the modules?
25	A. Only to the extent that they if they

1166 came from within Ohio, I was told the lump sum that 1 2 came from within Ohio. 3 Ο. And, again, that would be what AEP was told by the developer which was passed on to you. 4 5 Α. Correct. 6 You did not, yourself, independently Ο. 7 verify the source or model of the solar panels here. I did not. 8 Α. 9 Ο. Were you told for the Highland project, 10 Highland would only employ 5 new direct and 10 secondary jobs in the operation phase? 11 12 Α. That -- that was the -- the Highland 13 project direct jobs, according to my -- according to 14 the RIMS II model, is 12. 15 Q. All right. 16 MR. COLLIER: If I can have a moment, 17 your Honor? 18 Were you told anything by AEP regarding Q. 19 the source of financing for either one of these 20 projects? 21 Α. T was not. 22 Were you told anything about the debt or Ο. debt service costs for this project? 23 24 Debt service cost is not included in a Α. 25 standard economic impact analysis.

1167 1 MR. COLLIER: All right. I'm sorry. Ιf 2 I could have just one more moment, your Honor. 3 That's all the questions I have. Thank 4 you. 5 EXAMINER PARROT: Mr. Darr? 6 7 CROSS-EXAMINATION 8 By Mr. Darr: 9 Ο. With regard to the economic impact model 10 or the IO model that you used, it does not explicitly 11 include a time function; is that correct? 12 Α. That is correct. 13 Q. So whatever the total impact, and the 14 change in economic activity, could be realized over a 15 very short period of time or a very long period of 16 time, correct? 17 Α. Correct. It depends on -- in the case of 18 the construction, it depends on the length of time of 19 construction. 20 Ο. Another concern is the persistence of 21 change in any activity, correct? 2.2 Α. Correct. 23 Short-term projects, for example, Q. 24 construction projects, are likely to have a 25 diminished effect because local businesses are

1168 likely -- or less likely to hire -- excuse me, are 1 2 likely to hire fewer workers or purchase fewer 3 intermediate inputs during that -- because the project is short term in length, correct? 4 5 Α. Correct. And I believe this was a question that 6 Ο. 7 was given to you from Mr. Buser, your study did not address the effect that the construction of these two 8 9 solar projects would have on the efforts of other 10 parties to construct similar solar projects; is that 11 correct? 12 Α. Correct. 13 Ο. Finally, in regard to the work that you 14 did for AEP, am I correct that you did not identify 15 and you were not asked to identify whether or not 16 there were any market failures that would prevent the 17 construction of similar solar projects? 18 I was not asked that question. Α. 19 Ο. And that's not part of your study, is it? 20 Α. It is not. 21 MR. DARR: Thank you. Nothing further. 2.2 EXAMINER PARROT: Mr. McNamee? 23 MR. McNAMEE: No questions. 24 EXAMINER PARROT: Any redirect? 25 MS. BLEND: If we could just have a

1169 1 moment, your Honor? 2 EXAMINER PARROT: Go ahead. 3 (Pause in proceedings.) 4 MS. BLEND: Thank you, your Honor. 5 6 REDIRECT EXAMINATION 7 By Ms. Blend: 8 Dr. LaFayette, do you recall earlier, Ο. 9 when you were talking with counsel for OCC about the 10 state and local income taxes, and you indicated that 11 your -- for purposes of your analysis you assumed 12 that all of the jobs used -- for that analysis all 13 jobs would be located in Adams, Brown, and Highland Counties? 14 15 Α. Yes. 16 And if, in fact, some of those jobs were 0. 17 not located in those three counties, you testified 18 that the tax impact -- I believe you testified the 19 tax impact could be different --20 Α. Yes. 21 Ο. -- than those you calculated? 2.2 Α. Yes. 23 The tax impact -- depending on where the Q. 24 jobs are located, the tax -- the state and local 25 income tax impact -- impacts could be higher than

1170 those you calculated, correct? 1 2 Α. Correct. 3 Ο. Do you recall questions that you received about tax abatement? 4 5 Α. Yes. Which taxes do you understand could be 6 Ο. 7 subject to a tax abatement? 8 Α. Primarily property taxes. 9 Ο. And who would have to approve a tax 10 abatement? The county and primarily the affected 11 Α. 12 school board. 13 Ο. And are you aware whether any tax 14 abatements have been approved --15 Α. I am -- I am not. -- here? You recall several questions by 16 Ο. counsel for the Ohio Coal Association regarding the 17 18 manufacture of certain pieces of equipment and the 19 models of certain pieces of equipment? 20 Α. Yes. 21 Ο. Would who or what company manufacturers a 22 piece of equipment, or a part, or a component, affect 23 your analysis in any way? 24 Completely irrelevant except as to the Α. 25 extent that they were produced in Ohio versus

1171 1 elsewhere. 2 Okay. But assume no change in where they Ο. were produced, who manufactured it would not impact 3 your analysis? 4 5 Α. It's irrelevant. It would not impact. 6 Again, the caveat about where it was Ο. 7 manufactured, would the model of a part, whether it 8 was one particular model or a different particular 9 model, affect your analysis in any way? 10 Α. Not at all. 11 MS. BLEND: Thank you, Dr. LaFayette. 12 I have no further questions. The Company renews its motion for admission of AEP Ohio Exhibit 13 No. 13. 14 15 EXAMINER PARROT: Mr. Dove? 16 MR. DOVE: No more questions, your Honor. 17 EXAMINER PARROT: Mr. Kurtz? 18 MR. KURTZ: No questions. 19 EXAMINER PARROT: Mr. Healey? 20 MR. HEALEY: No, your Honor. 21 EXAMINER PARROT: Ms. Glover? 2.2 MS. GLOVER: No, your Honor. 23 EXAMINER PARROT: Ms. Whitfield? 24 MS. WHITFIELD: No, your Honor. 25 EXAMINER PARROT: Mr. Collier?

	1172
1	MR. COLLIER: Yes, I do on redirect.
2	Sorry. I didn't hear you.
3	
4	RECROSS-EXAMINATION
5	By Mr. Collier:
6	Q. Again, based on your report, goods
7	manufactured in Ohio, specifically solar panels being
8	the largest example, would be included only to the
9	extent that the goods were actually manufactured in
10	Ohio.
11	A. Correct.
12	Q. And you don't know a facility or the
13	manufacturer of those solar panels themselves?
14	A. I do not.
15	Q. You relied on what AEP told you, right?
16	A. Through the developer, yes. AEP through
17	the develop or the developer through AEP.
18	Q. The fact of the matter is you did not
19	independently verify the source of the solar panels,
20	whether they were manufactured in Ohio or not.
21	A. No.
22	MS. BLEND: Objection, asked and
23	answered. Also outside the scope of redirect.
24	MR. COLLIER: I think he just answered
25	it. And I have no further questions, your Honor.

1173 1 EXAMINER PARROT: Mr. Darr? 2 MR. DARR: No questions. 3 EXAMINER PARROT: Mr. McNamee? MR. McNAMEE: No questions, your Honor. 4 5 Thank you. 6 EXAMINER PARROT: All right. Ms. Blend 7 has moved for the admission of Company Exhibit No. 8 13. Are there any objections? 9 Hearing none, Company Exhibit No. 13 is 10 admitted. 11 (EXHIBIT ADMITTED INTO EVIDENCE.) 12 EXAMINER PARROT: Thank you very much, 13 Dr. LaFayette. 14 THE WITNESS: Thank you. 15 EXAMINER PARROT: All right. Let's break 16 for the day. We will reconvene on Tuesday at 9:00 17 a.m., and I think we will pick up with Mr. Rinebolt 18 and then Mr. Torpey, I would guess, right? 19 MS. BLEND: That would be our expectation 20 too. 21 EXAMINER PARROT: Thank you, everyone. 22 Have a good night. 23 (Thereupon, at 5:44 p.m., the hearing was 24 adjourned.) 25

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1	CERTIFICATE
2	I do hereby certify that the foregoing is a
3	true and correct transcript of the proceedings taken
4	by me in this matter on Friday, January 18, 2019, and
5	carefully compared with my original stenographic
6	notes.
7	
8	Karen Sue Gibson, Registered Merit Reporter.
9	
10	Carolyn M. Burke, Registered
11	Professional Reporter.
12	(KSG-6679)
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Case No(s). 18-0501-EL-FOR, 18-1392-EL-RDR, 18-1393-EL-ATA

Summary: Transcript in the matter of the Long-Term Forecast Report of the Ohio Power Company hearing held on 01/18/19 - Volume IV electronically filed by Mr. Ken Spencer on behalf of Armstrong & Okey, Inc. and Gibson, Karen Sue Mrs.