BEFORE THE PUBLIC UTILITIES COMMISSION OF OHIO In the Matter of the • Application Seeking Approval of Ohio Power : Company's Proposal to : Case No. 14-1693-EL-RDR Enter into an Affiliate : Power Purchase Agreement : for Inclusion in the Power: Purchase Agreement Rider. : In the Matter of the Application of Ohio Power : Company for Approval of : Case No. 14-1694-EL-AAM Certain Accounting : Authority. PROCEEDINGS before Ms. Greta See and Ms. Sarah Parrot, Attorney Examiners, at the Public Utilities Commission of Ohio, 180 East Broad Street, Room 11-D, Columbus, Ohio, called at 9:00 a.m. on Thursday, October 15, 2015. \_ \_ \_ VOLUME XI ARMSTRONG & OKEY, INC. 222 East Town Street, Second Floor Columbus, Ohio 43215-5201 (614) 224-9481 - (800) 223-9481 Fax - (614) 224-5724

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2668 Thursday Morning Session, 1 2 October 15, 2015. 3 4 EXAMINER PARROT: This is the 5 continuation of the hearing in Case No. 14-1693-EL-RDR. 6 7 Good morning, everyone. Let's start with 8 brief appearances, beginning with the company. 9 MR. NOURSE: Thank you, your Honor. On 10 behalf of Ohio Power Company, Steven T. Nourse, Matthew J. Satterwhite, Matthew S. McKenzie, Daniel 11 12 R. Conway, and Christopher Miller. 13 MR. KURTZ: For the Ohio Energy Group, 14 Michael Kurtz. MR. YURICK: Mark Yurick, on behalf of 15 16 Kroger. 17 MR. PRITCHARD: On behalf of the 18 Industrial Energy Users of Ohio, Matt Pritchard and Frank Darr. 19 20 MR. MARGARD: On behalf of the staff of 21 Public Utility Commission, Steven L. Beeler and 22 Werner L. Margard. MS. BAIR: On behalf of the Ohio Office of 23 24 Consumers' Counsel, Jodi Bair, Kevin Moore, William 25 Michael, Dane Stinson.

2669 1 MS. HENRY: On behalf of Sierra Club, 2 Kristen Henry and Christopher Bzdok. 3 MR. SETTINERI: Good morning, your Honor. 4 On behalf of PJM Power Providers Group, Electric 5 Power Supply Association, Constellation NewEnergy, Exelon Generation, and the Retail Energy Supply 6 Association, M. Howard Petricoff and Michael 7 8 Settineri. 9 MS. GHILONI: On behalf of the Ohio 10 Manufacturers' Association, Danielle L. Ghiloni and 11 Kimberly Bojko. 12 EXAMINER PARROT: Thank you, everyone. I believe Sierra Club has our next 13 14 witness for the day. MS. HENRY: Before we call our first 15 16 witness, I just wanted to state for the record that I 17 distributed earlier this morning the errata to 18 Mr. Chernick's deposition that was taken last week, 19 and I believe if anyone wasn't present, we have copy 20 a here if anybody else would like a copy. 21 And we will call Mr. Chernick to the 22 stand. 23 24 25

2670 1 PAUL L. CHERNICK 2 being first duly sworn, as prescribed by law, was examined and testified as follows: 3 4 DIRECT EXAMINATION 5 By Ms. Henry: Good morning, Mr. Chernick. By whom are 6 Ο. 7 you employed? 8 Α. I'm the president of Resource Insight, 9 Inc., 5 Water Street, Arlington, Massachusetts. 10 Ο. Can you briefly state your educational background, sir? 11 12 Α. I have Bachelor's and Master's degrees 13 from the Massachusetts Institute of Technology. My 14 Master's is in technology and policy. And have you testified before this 15 Ο. 16 Commission before? 17 Yes, I have a few times, as listed in my Α. 18 direct testimony. 19 And have you testified before other Ο. 20 public service commissions? 21 Α. Yes, in approximately 300 proceedings. 22 And have your credentials been accepted Ο. by these other commissions? 23 24 Α. Yes. 25 Q. And are you the same Mr. Chernick who

2671 submitted direct testimony in this proceeding on 1 2 September 11, 2015? 3 Α. T am. 4 MS. HENRY: Your Honor, I would like to 5 mark Sierra Club Exhibit No. 37, a copy of Mr. Chernick's direct testimony, and I handed it to 6 7 the court reporter earlier. 8 EXAMINER PARROT: So marked. 9 (EXHIBIT MARKED FOR IDENTIFICATION.) 10 Q. (By Ms. Henry) Mr. Chernick, do you have a copy of what's been marked Sierra Club Exhibit 37 11 12 in front of you? 13 Α. I do electronically. 14 I have one for you as well. Ο. Yes, I do. 15 Α. 16 Was this document prepared by you or Q. 17 under your direction? 18 Α. Yes. 19 And, I want to ask about changes, Q. 20 additions, or corrections, but I want to caveat this 21 with that at the time you filed your testimony on 22 September 11, you were not aware of the 2015 fundamental forecast, correct? 23 24 Α. That's correct. 25 Q. So setting aside any updates that you

2672 would have regarding the 2015 fundamental forecast, 1 2 do you have any other additional public corrections 3 or changes to the direct testimony? 4 Yes, there are a number of generally Α. 5 minor corrections. And where are those, sir? Hen. 6 Ο. 7 MS. HENRY: Can I approach? 8 EXAMINER PARROT: You may. 9 MS. HENRY: These are the public 10 corrections. 11 Α. So I have five corrections on page 13 in 12 Table 2. There was one value that I copied over 13 incorrectly from the spreadsheet, which I developed 14 it. 15 And the last two lines of that table 16 inadvertently I included the OVEC plants in the 17 "Simple Sum" column but excluded them from the "Net Present Value" column. 18 And I prepared a corrected table, which 19 20 is in the confidential documents. It's the 21 numbers -- most of the numbers in this table are 22 confidential that I understand will be introduced as 23 an exhibit. 24 On page 16, line 7, as a clarification, 25 the reference to the values between 127 and

2673 1 283 million through 2004 should have "excluding OVEC" 2 added to the end. 3 And, sir, did you mean to say 2024? Q. 4 Α. 2024, excuse me. MR. NOURSE: And I'm sorry, you're really 5 talking about page 18, aren't you? 6 7 THE WITNESS: That's a very good catch. 8 Thank you. 9 That's page 18, line 7, the reference to Α. between 127 and 283 million should be clarified as 10 11 "excluding OVEC." 12 Q. And your next correction, sir? 13 Α. And in footnote 9 there are a couple of 14 typos in the -- it should read "Performance Assessment Hours for 2011-2014," and the date which 15 16 got garbled here is 3/23/2015. 17 Q. And the next correction, sir. On page 24. 18 Α. Page 21, sir? 19 Q. 20 Α. Excuse me, on page 21, Table 5, the "CP 21 Penalties" column should read "CP Penalties excluding 22 OVEC." 23 And your last correction, sir? Q. 24 On page 25, the last -- excuse me, the Α. 25 first line which reads "and as bilateral directly,"

the word "bilateral" should be "bilaterals," with an 1 2 S. And those are all my corrections. 3 And do you have any confidential Q. 4 corrections or revisions to the testimony? 5 Α. Yes. As I mentioned before, Table 2 corrections, Table 2 is confidential so the 6 7 corrections are confidential. 8 MS. HENRY: So I believe we're going to mark as Confidential Sierra Club Exhibit 38 a 9 10 description of those confidential corrections, which will be distributed to parties but will not be 11 12 discussed on the record. 13 EXAMINER PARROT: So marked. 14 (EXHIBIT MARKED FOR IDENTIFICATION.) 15 MS. HENRY: May I approach? 16 EXAMINER PARROT: You may. 17 MR. NOURSE: Excuse me, was the public 18 version of the corrections marked as an exhibit, just to facilitate the --19 20 MS. HENRY: I did not mark that as an 21 exhibit. 22 MR. NOURSE: Thank you. 23 MS. HENRY: If that was the practice, I 24 can change that. And, for the record, Exhibit 37 was the confidential version of the testimony. 25

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2675 1 MR. NOURSE: So was the public version 2 marked as an exhibit? 3 MS. HENRY: I have to admit that I don't 4 practice here, so am I supposed to mark both? 5 MR. NOURSE: I believe so. EXAMINER PARROT: I think you should. 6 7 MS. HENRY: So then I'd like to mark 8 we'll make Exhibit 37 can be the public version of 9 Mr. Chernick's testimony, and then we'll make 10 Exhibit 39 the confidential version of Mr. Chernick's 11 testimony. 12 EXAMINER PARROT: So marked. 13 (EXHIBITS MARKED FOR IDENTIFICATION.) 14 (By Ms. Henry) And with the changes and Q. the caveat I mentioned earlier regarding the 2015 15 16 fundamental forecast, would the answers to your 17 questions in Exhibits 37 and 39 be the same this 18 morning? 19 Α. Yes. 20 Q. And are you the same Mr. Chernick who 21 submitted supplemental testimony in this proceeding 22 on September 25, 2015? 23 Α. T am. 24 MS. HENRY: And, your Honor, I would like 25 to mark a copy of Sierra Club Exhibit 40 a copy of

2676 Mr. Chernick's supplemental testimony that was handed 1 to the court reporter earlier. 2 3 EXAMINER PARROT: So marked. 4 (EXHIBIT MARKED FOR IDENTIFICATION.) 5 Ο. Mr. Chernick, do you have a copy of what has been marked as Sierra Club 40 in front of you? 6 7 Α. Yes. 8 Ο. And was this document prepared by you or under your direction? 9 10 Yes. Α. And do you have any corrections or 11 Ο. 12 revisions to your supplemental testimony? 13 Α. I do not. 14 And would your answers to the questions Q. in Exhibit No. 40 be the same this morning? 15 16 They would all be consistent. I would Α. 17 hope that I would be even clearer if I were asked 18 again, but my answers would basically be the same, 19 yes. 20 MS. HENRY: Thank you, your Honor. 21 I would move for the admission of Sierra 22 Club Exhibits 37, 38, 39, and 40, into the record, 23 subject to cross-examination. 24 Thank you, Ms. Henry. EXAMINER PARROT: 25 MS. HENRY: And I now tender Mr. Chernick

2677 1 for cross. 2 EXAMINER PARROT: Mr. Settineri? 3 MR. SETTINERI: No questions, your Honor. 4 EXAMINER PARROT: Ms. Ghiloni? MS. GHILONI: No questions, your Honor. 5 EXAMINER PARROT: Ms. Bair? 6 7 MS. BAIR: No questions. 8 EXAMINER PARROT: Mr. Pritchard? 9 MR. PRITCHARD: No questions your Honor. EXAMINER PARROT: Mr. Yurick? 10 MR. YURICK: Nothing, your Honor. 11 12 EXAMINER PARROT: Mr. Kurtz? 13 MR. KURTZ: Yeah, I do. Thank you, your 14 Honor. 15 16 CROSS-EXAMINATION 17 By Mr. Kurtz: 18 Ο. Is it Dr. Chernick? 19 Α. Mr. Chernick. 20 Q. Mr. Chernick, your overall recommendation 21 is the Commission reject the PPA; is that correct? 22 Α. Yes. 23 Ο. Okay. But on page 49 of your testimony 24 you discuss risk shifting with the PPA. Can you turn 25 to that page, please? Are you there, sir?

2678 1 Α. Yes, I have that. 2 Ο. You cite to the Commission a requirement 3 that a PPA include an alternative plan to allocate 4 the rider's financial risk between both the company 5 and its ratepayers; is that correct? Α. 6 Yes. 7 Q. And you conclude that the PPA would shift 8 almost all the risk to the ratepayers? 9 Α. Yes, I do. 10 And then you make a series of fixes or Q. potential fixes that the Commission might consider 11 12 beginning on page 52; is that correct? Α. 13 Yes. These are fixes to the form of the 14 In addition, they have to be more economical PPA. 15 and subjected to a market test. 16 Okay. Let me just go back before going Ο. 17 through your list of potential fixes. On page 51 you 18 discuss the return on equity embedded into the PPA; is that correct? 19 20 Α. Yes. 21 Ο. You describe it as an extraordinary 22 return. 23 Α. Yes. 24 Would the return on equity be more Ο. 25 equitable, in your opinion, if it flexed down so that

it would reduce costs in the years when the rider was 1 2 projected to be a charge to consumers? In other 3 words, the utility or AEPGR would earn a lower profit 4 margin, so as to offset PPA rider charges? Would 5 that be a more equitable equity formula? My answer here has to do with creating 6 Α. 7 adverse incentives for AEP to keep the plants online, 8 even if they're not economical to ratepayers. To the extent that the return on equity is lower than the 9 10 cost of raising new capital, that would eliminate that adverse incentive, or, at least, greatly reduce 11 12 it. 13 But since they'd be earning a return on 14 some costs on which they could get nothing if they 15 retired the plant, I guess it wouldn't really 16 completely solve the problem, but it would, perhaps, 17 mitigate the problem in terms of the specific issue 18 of incentives that I lay out here. 19 Let me give you a specific example. Q. You 20 note that under current bond conditions, the return 21 on equity would be 11.85 percent? 22 Α. Yes. 23 Okay. The return on equity embedded into Ο. 24 AEP's financial calculations in this case was 11.24 percent. Do you recall? 25

2680 1 Α. That sounds about right. 2 Ο. If a 1 percent return on equity at 3 11.24 percent equals \$12.2 million in revenue 4 requirements, would this be a more equitable return 5 on equity formula if the PPA was projected to be a \$12.2 million charge in a year, just lower the return 6 on equity by 1 percent point --7 8 MS. HENRY: Objection. 9 MR. KURTZ: I'm not finished with my 10 question. 11 -- so as to eliminate the PPA charge in Ο. 12 that year? 13 MS. HENRY: Objection. Compound 14 question. 15 MR. KURTZ: If he understands. 16 EXAMINER PARROT: Hang on just a moment. 17 I'm going to allow the question. 18 If you need clarification, Mr. Chernick, let us know. 19 20 Α. Well, without trying to digest the 21 numbers that you just threw out, it would be better 22 if the return were lower, but reducing from 11.85 to 11.2 -- was that? 23 24 No, 10.24 -- excuse me. 11.24 was the Ο. 25 number in the return on equity based upon

2681 December 2014 Moody's Bond Index plus 650 basis 1 2 points. Are you with me on that? 3 Oh, okay. I'm sorry. Α. 4 And you used a more current Moody's Bond Ο. 5 Index to get 11.85 percent? Α. 6 Yes. 7 Ο. My question, it doesn't make any 8 difference? 9 Α. Okay. 10 If the PPA rider was proposed to be a Q. \$10 million charge in the next year, if you lower the 11 12 return on equity so as to offset that so the PPA 13 would be zero, would that be a more equitable outcome? 14 MS. HENRY: Objection, asked and 15 16 answered. 17 MR. KURTZ: He didn't understand the 18 other question. He indicated it would be more 19 reasonable, but it's a different hypothetical. 20 EXAMINER PARROT: I'm going to allow the 21 question. 22 That would both, I think, reduce the Α. 23 adverse incentives that I'm talking about here, and 24 it would also result in some sharing of the risks --25 Q. Okay.

2682 -- and, therefore, would be an 1 Α. 2 improvement. 3 Let's go to page 52 where you list a Ο. 4 number of potential improvements. Third from the 5 bottom you indicate "Setting a fixed charge for the PPA, such as five or ten years"; is that correct? 6 7 Α. Yes. 8 As opposed to the 36 years for the useful Ο. life of Zimmer? 9 10 Well, there is no fixed term at this Α. point. And if the owners of Zimmer wanted to keep it 11 12 online for a hundred years, the PPA, under the terms, 13 as I understand it, would continue that long. 14 That's true. But the projected Q. 15 retirement date is 36 years out? If you know. 16 Something like that, 2051. Α. 17 Okay. Are you aware of the term that has Q. 18 been recommended by OEG Witness Mr. Baron of 15 19 years? 20 Α. Yes, I did see that. 21 Ο. Would that be an improvement along the 22 lines of what you're suggesting? It would be an improvement. Again, you'd 23 Α. 24 have to improve other things to make it worthwhile. 25 Seeing as how the contract is certainly a loser in

the short-term, something shortening the term doesn't 1 2 solve the problems. 3 But with your proposal that essentially 4 the PPA never be allowed to be a positive charge, the 5 rider would never be allowed to be a positive charge to ratepayers, that would certainly eliminate a lot 6 of the problems, although, perhaps, not all of them. 7 8 Actually, I just want to clarify. It Q. 9 actually wouldn't guarantee because the equity return 10 is so much dollars, 137 million, at 11.24 percent, so the maximum flex-down would reduce the PPA charge up 11 12 to 137 million. If it was higher, then there would 13 be a small charge. 14 It would be an improvement. Α. 15 Q. Your next proposed improvement, "Allowing 16 the PUCO to order termination of the PPA with some 17 reasonable notice period, such as two years, without 18 the poison pill of requiring AEP Ohio to pay for all 19 net plant and retirement costs," what do you mean by 20 that? 21 Α. What do I mean? By the first part or the 22 second part or the whole thing? 23 Ο. Just that bullet point. 24 Okay. Well, for example, if you had a Α. 25 15-year contract and the plants were not

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cost-effective to continue operating, under the PPA 1 2 construct, the company could keep them in operation 3 indefinitely, you know, up to the 15 years, even 4 though it's losing money for the ratepayers year 5 after year after year, and, essentially, the ratepayers, the Commission would have no recourse. 6 7 If the contract were amended so that 8 AEPGR agreed that the Commission could terminate the 9 contract with two years' notice, and you're seven or 10 eight years in and the contract is wildly uneconomic, as I expect it to be, then the -- and the Commission 11 12 exercises the notice provision, then, say, at year 13 nine or ten it would end and the ratepayers would 14 stop bleeding. 15 Ο. Did you review Mr. Taylor's proposed 16 three-year historic -- three-year forward unit 17 retirement mechanism which would go on a unit-by-unit 18 basis for each of the PPA units, not by station but 19 by individual units? 20 Α. I saw that he proposed something. I did 21 not look at it in enough details to reply with a 22 comment. Is that similar, though, in your 23 Ο. 24 understanding of what you're proposing? In other 25 words, a mechanism where if the units are continually

1	losing money, they would be dropped from the PPA?
2	A. Again, I'm not I haven't really
3	thought through the details of what he was proposing,
4	but in terms of the intent, I think that there's a
5	great deal of similarity and basically gets at one
6	particular problem, which is that AEP has an
7	incentive to continue operating the plants, even if
8	they're not economic, which is not the case under a
9	deregulated market and wouldn't be the case under a
10	regulated fully regulated market, because the
11	Commission would be looking at the economics of the
12	plants and would be in a position to disallow further
13	expenditures or otherwise hold the company
14	responsible for improvements.
15	Q. One last question, or maybe a couple, on
16	that bullet point. "The poison pill" requiring AEP
17	Ohio and, I guess, and its customers "to pay for all
18	net plant and retirement costs," is that the
19	provision of the draft PPA where whenever the units
20	retire, consumers would, over the last would be
21	required to pay for all the retirement costs?
22	A. Well, I was thinking specifically of the
23	situation under the PPA where the Commission would
24	disallow some cost recovery. Ohio Edison would
25	excuse me. Ohio Power would terminate the contract

2686 1 with AEPGR, and at that point all of the remaining 2 net plants and the retirement costs would be payable 3 in cash. 4 Q. All right. Bigger poison pill than I 5 suggested. Α. Yeah. 6 7 Ο. Remaining net book, plus retirement? 8 Α. That's correct. 9 Are you aware that OEG Witness Mr. Kollen Ο. 10 directly addressed this issue in his testimony, made 11 specific recommendations? 12 Α. I can't say that I recall that, I'm 13 sorry. There was a lot of testimony. 14 Yours included. Ο. 15 Α. Gets to be a jumble. 16 Q. Yours included. 17 Sorry about that. Α. 18 MS. HENRY: Thank you, Mr. Chernick. EXAMINER PARROT: Mr. Nourse. 19 20 21 CROSS-EXAMINATION 22 By Mr. Nourse: Good morning, Mr. Chernick. 23 Q. 24 Good morning. Α. 25 Q. So you do not have a Ph.D., correct?

2687 1 Α. That's correct. 2 Ο. You're not an economist? 3 I don't have a degree in economics, Α. 4 that's correct. 5 Ο. Are you a Sierra Club member? Α. 6 No. 7 Ο. Do you share the views and positions of 8 the Sierra Club as an organization? 9 MS. HENRY: Objection. Relevance. 10 MR. NOURSE: I think it's relevant, your 11 Honor. It goes to his bias. 12 MS. HENRY: Objection. Vague. We have 13 many different positions. Do you want to ask him? 14 EXAMINER PARROT: I'm going to allow the 15 question. 16 And if you need more specificity, let us 17 know, Mr. Chernick. 18 Sort of at the headline level of, as I Α. 19 understand the Sierra Club's principles and 20 objectives, of wanting to preserve natural systems 21 and clean skies and human health and welfare, I 22 certainly sympathize with all of those objectives. 23 Ο. But you haven't written a check or joined 24 as a member of the Sierra Club; is that what you're 25 saying?

2688 1 I'm certainly not a member now. I was Α. 2 trying to remember whether I had ever donated to 3 It's possible that back in the '70s or '80s I them. did. But since I started working for the 4 5 environmental groups as a consultant, I work with 6 consumer groups and state advocates and others, I 7 felt that I wound up donating my time, so that cash 8 donations were superfluous. 9 Did you donate your time in this case due Ο. to the testimony you're presenting today? 10 11 I suspect that I will wind up absorbing Α. 12 some costs that go over the budget we agreed to. 13 Ο. And you are the only Sierra Club witness in this proceeding, correct? 14 15 Α. Yes. 16 And you're presenting not only the Ο. 17 quantitative analysis but also addressing policy issues? 18 19 Α. I am. 20 And you've been working on this case for Ο. 21 almost a year at this point, correct? 22 Α. I think I looked that up when we were 23 doing the deposition. It goes back quite aways, 24 maybe almost a year. 25 Q. Does November 2014 sound correct to you?

2689 1 Α. About that, yes. 2 And your main assignment was to come up Q. 3 with an estimate or range of the net cost for the PPA 4 proposal, correct? 5 Α. Well, that was part of my assignment. Ιt took a large portion of the time, so in that sense a 6 7 major part, not necessarily the most part of it. 8 The majority of your written testimony Q. 9 addresses those quantitative issues, correct? 10 Α. Yes. And let me just divert for a second and 11 Ο. 12 do a couple follow-ups to the questions Mr. Kurtz 13 asked you. And to clarify, I think I want to ask you 14 about two areas that he covered. The first was the 15 ROE flex-down. Do you recall that? 16 Α. Yes. 17 And in your opinion, is it just and Q. 18 reasonable for a providing utility service to receive a ROE of zero? 19 20 Α. Well, in a deregulated market, a power 21 supplier may get a return of zero, an equity return 22 of zero, a total return of zero, a negative return. 23 We're not talking about setting just and reasonable 24 rates in the conventional sense of re-restructuring 25 vertically integrated utilities.

2690 We're talking about a nonutility entity, 1 2 AEPGR, which is a participant in the competitive 3 market and which is at risk for its return on equity 4 and even the return to recover its debt. 5 0. And I understand the context of this 6 case. My question to you is whether it's just and reasonable for a providing utility service to receive 7 a ROE of zero. 8 9 Α. What utility service are you talking about? 10 We're talking about the service in this 11 Ο. 12 case. 13 Α. You're talking about AEP Ohio's distribution service? 14 No, it's not distribution service. 15 Ο. Let 16 me put it this way. So with all the caveats of the 17 circumstances in this case, which everybody's aware 18 of, is it your position that the utility should only 19 receive an ROE of zero if there's going to be a 20 charge for the PPA rider? 21 Α. We weren't talking about a utility that 22 is AEP Ohio getting a return of zero. We're talking 23 about AEPGR getting a return of zero through the 24 mechanism of a revised PPA. 25 Q. Is it your understanding that the

Commission is going to determine the wholesale
 compensation that AEPGR gets in the future through
 this contract?

4 Well, if the contract is not amended in a Α. 5 way that either automatically functions to protect 6 the ratepayers, as with a cap on the costs or by 7 having a fixed cost, then in order to make the PPA a 8 reasonable, plausible, prudent instrument for the 9 Commission to enter into, AEP Generation would have 10 to agree, basically, to allow this Commission to make decisions that it would not normally make for a 11 12 wholesale transaction.

Q. But when you talked to Mr. Kurtz, you said the flex-down to zero would make it better, I think was your phrase.

A. Yes.

16

Q. And what I'm asking you is from the utility's perspective and from AEP Generation Resource's perspective, is it your opinion that it's reasonable to have a ROE of zero during the circumstances of this case?

A. Well, again, I don't see what it has to do with the utility because AEP Ohio, the utility, is simply flowing these costs through. So as long as the agreement is written in such a way that AEP Ohio

1	is not at risk for AEP Generation's inability to
2	provide a valuable service, then I don't see that
3	there's any connection to the utility. The utility's
4	held harmless here, just as if this were an
5	independent power producer offering a contract for
6	wind energy, and if the wind doesn't blow or their
7	plants don't operate well, then the generation owner
8	loses money.
9	And AEP Ohio is not at risk, so the
10	utility really has no skin in the game here, or
11	should have no skin in the game. You don't want to
12	put the Commission in a situation where it has to
13	damage a distribution utility to try and protect the
14	ratepayers if a generation company is unable to
15	perform.
16	In terms of whether it's reasonable, AEP
17	Generation can decide whether or not to enter into a
18	PPA, and if a PPA that protects the ratepayers
19	adequately is not acceptable to AEP Generation, then
20	AEP can continue operating the plants in the
21	competitive market or sell them, which I believe has
22	also been the company suggested it's interested in
23	doing.
24	Q. Okay.
25	A. So those are the alternatives.

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1	Q. So I didn't ask you about what Generation
2	Resources might think. I didn't ask you about the
3	utility.
4	MR. NOURSE: Can I have my question
5	reread?
6	(Record read.)
7	Q. Let me try to redo it one more time here.
8	What I'm asking you is forget about whether it's a
9	utility, and I'm not asking you whether the
10	Commission can force AEPGR to accept the contract.
11	What I'm asking you is to confirm it's your opinion
12	that it's reasonable, under the circumstances of this
13	case, for the seller in the PPA to receive an ROE of
14	zero, given all the other terms and conditions in the
15	contract?
16	A. Well, I have problems with the "other
17	terms and conditions in the contract," but it is
18	reasonable for a generation company offering a
19	long-term contract to a distribution utility for its
20	customers to be at risk for getting no equity return
21	or even a negative equity return in any particular
22	year.
23	Q. A second area Mr. Kurtz asked you about
24	was Section 2.3 of the contract that relates to early
25	termination based on the lack of cost recovery. Do

1 you recall that? 2 Α. Yes. 3 And are you familiar with Section 2.4 of Ο. 4 the contract? I'm not familiar with the sections of the 5 Α. contract by number. I've read through it a number of 6 7 times and this part in particular. 8 Are you familiar with the concept that's 0. 9 in the contract that there can be early termination 10 of units or the entire contract, if it becomes an uneconomic, and that that, therefore, provides for an 11 12 exit fee and termination of the contract, either for 13 specific units or the PPA as a whole? 14 It's my understanding that that's an Α. option for AEP Generation, but I'd have to look at 15 16 the specific contract language to talk about it. 17 It's an option for AEP Ohio, the buyer? Q. 18 MS. HENRY: Do you have copy of the contract to show the witness? 19 20 MR. NOURSE: I'm asking if he understands 21 or recalls Section 2.4. MS. HENRY: You referred to a specific 22 section. I believe if you have document to show 23 24 him --25 MR. NOURSE: Your Honor, I'm not asking

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him to read the document. 1 2 EXAMINER PARROT: I'll allow him to 3 answer the question on that basis. 4 If you need to refer to the document, 5 we'll start with that as well, but let's start with 6 the conceptual basis of the contract first, please. 7 Α. It's my understanding that in the event 8 for the remaining net book of the plant, net book 9 cost of the plant, including the subcosts prior to 10 the signing of the agreement, so that poison pill would remain. 11 12 Q. Okay. 13 Α. And I'd have to check the language of 14 that particular section. Well, let me give you a hypothetical. 15 Ο. If 16 we're ten years into the contract and there's a 17 consensus that market rates have gone down and will 18 remain low for an extended period of time, such that 19 there's consensus that it would be better to get out 20 of the contract, including and net of paying the exit 21 fee to customers -- do you understand the 22 hypothetical? 23 Α. I understand the hypothetical. 24 So my question is --Ο. 25 Α. Although I'm not sure what you mean by

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2696 "consensus" in that regard, since there's a consensus 1 2 by all the parties in this case, except AEP, that 3 have looked at the economics, as far as I recall, 4 that the costs of the contract would be above the 5 benefits for the foreseeable future already, so we have that consensus, except that AEP doesn't want to 6 7 recognize the legality, so I'm not sure how you would 8 define a "consensus." 9 Ο. Mr. Chernick, that has nothing to do with 10 my hypothetical. You refuse today -- that's not what I'm asking. We'll get to that a minute. 11 12 Α. Then you'll have to define "consensus" 13 for me --14 Well, again, I'm talking about a future Q. 15 point in time. I just said ten years out, where 16 there's consensus among the Commission and the 17 parties to the contract --18 Α. So AEP Ohio --19 -- there could be --Ο. 20 MS. HENRY: Can you let the witness --21 MR. NOURSE: He's interrupted my 22 question. 23 MS. HENRY: You interrupted him. 24 (By Mr. Nourse) So, Mr. Chernick, do you Ο. 25 understand the hypothetical about a future point in

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time, ten years out? 1 2 Α. I just need to -- I understand ten years 3 out, but I just need to get clear. The consensus 4 that you're talking about is that the Commission and 5 AEP Ohio and AEP Generation recognize that this contract is a loser and will continue to be a loser? 6 7 At that point in time. Q. 8 Α. Yes. 9 Ο. And looking forward at that point in 10 So do you believe the Commission would -time. first of all, do you believe the Commission would 11 12 continue to allow cost recovery prospectively at that point in time if there's consensus that the contract 13 has become uneconomic? 14 15 Α. So you're asking about a hypothetical in 16 which AEP Ohio and AEP Generation tells the 17 Commission, this contract is uneconomic? 18 No. I said that there's consensus. Ο. The 19 Commission can reach its own views, and the staff 20 with the Commission can help inform the Commission in 21 that regard. 22 Α. I thought that you said that the parties 23 to the contract, that is, the two AEP subsidiaries, 24 agree that the contract is uneconomic. 25 Q. I defined consensus for you as being the

1 Commission and the parties.

A. Okay. So the Commission believes and, in your hypothetical, AEP Generation and AEP Ohio also agree and state to the Commission that the contract is uneconomic. That's your hypothetical?

6

Q. Let's go with that, yeah.

7 Α. Then the Commission would be faced Okay. 8 with the question of what to do with the cost of the 9 poison pill and how those would be flowed to the 10 ratepayers, how much damage to AEP Ohio's financials 11 would be incurred under various approaches, what the 12 cost to customers would be of assuming those costs, 13 and then would have to decide whether to deny cost 14 recovery and essentially pull the trigger on finding 15 out what happens to AEP Ohio.

And that's all under your hypothetical that AEP Generation tells the Commission that this is, this contract --

Q. Mr. Chernick, let me ask you this way.
You have your pejorative term "poison pill," which I
object to. You use that in your testimony. I
believe it's been established that related to Section
2.3 where the cost recovery is diminished and the
company decides to terminate, correct?
MS. HENRY: Your Honor, may I approach?

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2699 And if he's going refer to numbers, can I at least 1 2 hand the witness a copy --3 MR. NOURSE: We don't need to do that, 4 your Honor. 5 Ο. (By Mr. Nourse) So did you follow that question? 6 7 MS. HENRY: May I approach? 8 I'm not sure what the question was. Α. Ι heard the words. I just kind of --9 10 EXAMINER PARROT: Let's rephrase it, Mr. Nourse. 11 12 Ο. Your discussion earlier and your 13 testimony reference to "poison pill" relates to the 14 situation where the company does not have cost recovery and decides to cancel under that provision 15 16 of the contract, correct? 17 Α. Yes. 18 And so now what I'm hearing you, among Ο. 19 your other statements here, is that you also are now 20 calling the other provision in the contract a poison 21 pill that allows the parties to cancel with respect 22 to a unit or with respect to the whole thing because 23 at some point in the future it becomes uneconomic; is 24 that correct? 25 Α. Well, the poison pill part is the balloon

payment at the time of cancellation of the contract 1 2 or amendment of the contract. 3 Q. Okay. So that would apply to both 4 examples, correct? 5 Α. Yes. And are you aware of other contracts that 6 Ο. 7 have liquidated damages or agreed exit fees in the 8 contracts? 9 Α. Yes, some contracts do that. And, those 10 are structured various ways, the various contracts. 11 Ο. And do you refer to those as poison 12 pills? 13 Α. No, not necessarily. 14 Let me shift gears. I want to talk to Q. 15 you about the discovery process in this case. So you 16 reviewed and received discovery responses from the 17 company, not only for Sierra Club's questions, but 18 other intervenors' questions, correct? Yes. I reviewed other intervenors' 19 Α. 20 questions, or, actually, I had an assistant go 21 through as we were drafting the testimony and look 22 for responses that provided information that could be useful in our analysis. 23 24 And Sierra Club also put together sort of 25 a reference of what kinds of information was in each

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1 response that we relied on, and that was basically in 2 the period up through about June or July of this 3 year.

Q. You're saying you didn't get discovery after June or July?

No. But we sort of mothballed the 6 Α. 7 project for a month or so. Since there was no 8 procedural schedule, it wasn't clear when the case 9 was going to pick up again, and then a new schedule 10 was set in August with a September 11 deadline, and at that point we were pretty much just doing updates 11 12 to our earlier draft and doing cleanup and getting it 13 ready to file.

So the process, our review process, was somewhat more limited in that period, although to the extent that there were responses to Sierra Club's questions, we took all of those, but I'm not sure that we had the time to monitor what was coming in in response to the other parties. I'm sure that we looked at some, but we couldn't --

21 Q. Mr. Chernick, I'm asking you some very 22 narrow questions. If we're going to have a long 23 story for each question, we probably won't get 24 finished today if we take that approach.

Α.

Okay.

25

2702 1 If you could cooperate with me on this, Ο. 2 we have questions that should be pretty clear, so 3 we'll talk about your deposition, and if I need to, 4 I'll remind you about that. 5 But when I say "you," I'm referring to Resource Insight, Inc., so I don't need to refer to 6 7 all the people that worked for you or who did that. 8 That simplifies things somewhat. Α. 9 Ο. So you were responsible for reviewing 10 discovery responses of the company regarding economic quantitative analysis of the PPA, correct? 11 12 Α. Yes, and inputs that we would find useful 13 in our analysis. 14 And you established a process for Q. 15 monitoring discovery of responses from the company 16 regarding Sierra Club's questions and regarding 17 responses to the other parties' discovery questions, 18 correct? 19 MS. HENRY: Objection. Asked and 20 answered. 21 MR. NOURSE: No, I didn't ask him about 22 the process. MS. HENRY: I believe he described his 23 24 process in the answer. 25 MR. NOURSE: Your Honor, could he

2703 respond? 1 2 EXAMINER PARROT: I'm going to allow it. 3 Yeah, I described that process Α. 4 previously. 5 Ο. Well, okay. So did you talk about the website that you used already, because that's part of 6 7 the process, isn't it? 8 Sierra Club maintained a folder on one of Α. the commercial services, box.com, I believe, where 9 10 they uploaded discovery responses so that we could access them. 11 12 Ο. And you got a response -- you got a 13 notification on your computer every time a response 14 was uploaded to the box.com site, correct? I think it was in the form of 15 Α. Yes. 16 somebody added three files to the site. 17 And there were examples, both in the Q. 18 early rounds of discovery and in the later rounds, 19 where you reviewed responses to another party's 20 questions and asked a follow-up question, correct? 21 Α. Yes. 22 And am I correct that you had access to Q. the company's 2015 fundamental forecast provided in a 23 24 discovery response on September 1, 2015? 25 Α. It's my understanding that it was

2704 provided to Sierra Club on September 1 in some form. 1 2 I don't know when it was uploaded. I certainly 3 didn't know about it or see it until after the 4 testimony was filed. 5 Ο. You would have gotten a notification from the posting in the box.com website, correct? 6 7 Yes, that somebody had uploaded a file. Α. 8 MR. NOURSE: And, your Honor, I'd like to mark an exhibit. It's the Ohio Power Company 9 10 Response to OCC Discovery, Interrogatory Set 5-184; 11 and Request for Production of Documents, RPD 5-05. 12 May we approach? 13 EXAMINER PARROT: You may. 14 Company Exhibit No. 20. (EXHIBIT MARKED FOR IDENTIFICATION.) 15 16 Ο. (By Mr. Nourse) Mr. Chernick, do you 17 have the exhibit we just marked? 18 Α. Yes, I do. 19 And do you see -- is this the format that Q. 20 you used in this case when receiving company 21 responses in discovery? 22 Α. Yes. 23 Ο. And do you see an indication that there 24 was a response, a supplemental response, on 25 September 1st?

2705 1 Α. Yes. 2 Q. And do you see in the RPD on the second 3 page, there is also a response and a document 4 provided on September 1? 5 Α. Yes. Do you recognize that file name as being 6 Ο. 7 the 2015 fundamental forecast of the company? 8 That certainly looks like it, yes. Α. 9 Ο. Thank you. 10 Mr. Chernick, let me ask you a few questions about your overall approach and your method 11 12 that you used in the quantitative portions of your 13 testimony, okay? 14 Now, in your trial testimony you address 15 quantitative analysis in the PPA proposal and offered 16 policy recommendations, correct? 17 Α. Yes. 18 Ο. On behalf of Sierra Club. 19 My testimony is on behalf of Sierra Club, Α. 20 yes. 21 Ο. And I'd like to walk through the overall 22 steps of your quantitative analysis. Was the first 23 step to adjust the company's capacity and energy 24 prices downward? 25 Α. Are you talking here about as it's laid

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1	out in the testimony or chronologically, or doesn't
2	matter? Are we just listing them to get my
3	Q. Same discussion we had at your
4	deposition, so I'm asking you how you did your
5	quantitative analysis and whether the first step is
6	to adjust the company's capacity and energy prices
7	downward.
8	A. Chronologically, I'm not sure. I think
9	we started with the energy analysis, because that's
10	somewhat more complicated, and then did the capacity.
11	Q. So both of those were done as step one?
12	A. They were done early in the process. At
13	the same time we were looking at other factors,
14	availability, O&M projections, various other things
15	that would affect the analysis.
16	Q. Then at that point you reran the PPA net
17	cost spreadsheet, replacing company's capacity and
18	energy prices with your lower RII forecast prices,
19	correct?
20	A. That's correct.
21	Q. And to be clear, you reran the
22	spreadsheet for net costs using lower revenues
23	without reducing the cost, right?
24	A. Yes. We looked at the various cost
25	items, and they seemed to be consistent with

historical or forward prices and didn't see any 1 2 reason to adjust anything. 3 And am I correct that you did not do any Q. 4 dispatch modeling as part of your analysis or work in this case? 5 That's correct. We thought about whether 6 Α. 7 we needed -- would need somebody to do dispatch 8 modeling, but it became clear that at current market 9 conditions, the contract was so wildly uneconomic that the detail that's available through a dispatch 10 model really wouldn't affect the final determination. 11 12 So is it a fair summary of your Q. 13 quantitative analysis that you reduced the revenues, 14 left the costs in place, and calculated a negative number for the PPA? 15 16 MS. HENRY: Objection. 17 EXAMINER PARROT: Grounds? 18 MS. HENRY: That's not what the witness said. 19 20 He asked if it was a EXAMINER PARROT: 21 fair summary, and the witness may disagree if it's 22 not a fair summary. 23 Α. Well, the result was that the one cost 24 item that we believe the company had left out was the 25 penalties for capacity performance, and we added that

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2708 in, but, otherwise, we did not change costs, and we 1 2 changed revenues. We did change revenues. 3 MR. NOURSE: Your Honor, could we 4 approach? 5 EXAMINER PARROT: You may. I'd like to give you a copy of your 6 Ο. 7 deposition transcript, Mr. Chernick. I'm not marking 8 this as an exhibit. I ask you to turn to page 30, 9 and do you see the Q and A at the top of the page? 10 Α. Yes. So let me ask you again. Is it fair to 11 Ο. 12 say that you reduced the revenues, left the cost in 13 place, the result was a bigger negative number? 14 Well, as I said, there was one cost item Α. that we added in, so what I said in the deposition 15 16 missed that point. 17 So are you changing your testimony? Q. 18 MS. HENRY: Objection. That was referred 19 to later in his deposition. 20 MR. NOURSE: Your Honor, that's not 21 relevant. I asked the exact same question and his 22 answer was, "Yes. That was certainly a fact," in the 23 deposition. So I'm asking the same question today 24 and asking if he can give the same answer or if he's 25 changing his testimony.

2709 1 MS. HENRY: And I believe he's saying 2 that's only a partial answer and you have to look at 3 other portions of the deposition. 4 EXAMINER PARROT: The objection is 5 overruled. He may explain himself. I'll limit him to a "yes" or "no" answer. 6 7 Go ahead, Mr. Chernick. 8 My testimony, my direct testimony, in Α. fact, changed a cost item, added in a category that 9 10 the company had not included, and, therefore, in the deposition I misspoke. I had -- I was not thinking 11 12 about that adjustment as being an exception to your 13 statement, that I left the cost in place. I did not 14 adjust other costs, because they seemed to be consistent with, as I said, historical or forward 15 16 prices. 17 So to clarify what you're saying now, you Q. 18 left all the costs that were in Dr. Pearce's analysis in, but you added the cost of capacity1 performance 19 20 penalties? 21 Α. That's correct. 22 Q. Now, I'd like to ask you a few sort of 23 directional relationships about the overall economics 24 in the PPA, and these questions should also sound 25 familiar, Mr. Chernick.

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So I want to ask you about individual 1 2 components, but we're going to leave "all else equal" 3 for this series of questions. Do you understand? 4 Yes. And I think we can agree that "all Α. 5 else" usually isn't equal, but we're talking about 6 just the mathematics. 7 If you have various lines in a 8 calculation and you move -- you increase or decrease one of those lines, you want to know what's the 9 effect on the net at the bottom. 10 That's correct. So let's take capacity 11 Ο. 12 costs first. Well, I'm sorry, let's actually start 13 with revenues. So let's take the capacity prices. 14 And so is it fair to say that, all else being equal, 15 if you increase capacity prices, that would work to 16 the favor of making the PPA more favorable and more 17 economic? 18 Yes. If you do that in your calculation, Α. 19 increase that number, the capacity price in your 20 calculation, the PPA value will go up for that year. 21 Ο. And if you reduce the capacity price, 22 then the economics of the PPA degrades or diminishes, 23 deteriorates, whatever word you want to use, correct? 24 Α. Yes. 25 Q. And that same set of relationships

2711 1 applies for energy prices as well? 2 Α. That's correct. 3 And let's talk about the cost side a Ο. 4 little bit. With respect to fuel costs, if you're 5 increasing fuel costs, the economics from the PPA would degrade or diminish; and if you're reducing 6 7 fuel cost, the economics in the PPA would improve, 8 correct? 9 Yes, again, if you're just changing that Α. one line in your calculation. 10 11 And the same goes for emission allowances Ο. 12 and other consumables associated with the fuel? Α. 13 Yes. If you increase the amount you have 14 through those things in your calculation, then it will make the PPA less favorable. If you decrease 15 16 them, it will make it more favorable. 17 Q. Then another category of costs, let's 18 talk about capital and O&M, if we could lump them 19 together, and also include within capital and O&M any 20 investments that could be associated with environmental requirements, okay? Do you understand 21 22 that category? 23 Α. Yes. 24 And so as we increase the capital and O&M Ο. 25 on the cost side, that's going to degrade the

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1 economics of the PPA, and if we decrease them, it's
2 going to improve the economics of the PPA, correct?

A. Again, that's if you're just changing those particular lines of the calculation, that would be the effect.

Q. And capacity performance revenue, back on the revenue side, although you may take this on in the cost side in your answer -- let's just stick with capacity performance, which you agree could include not only function revenue but payments from -payments from incentives if the unit is performing above its UCAP during a performance hour, correct?

13

A. Yes.

14 Q. And so increasing those would improve the 15 economics of the PPA; decreasing them would degrade 16 the economics of the PPA?

A. Yes. And the auction revenues would be part of the capacity costs -- or capacity revenues we've already talked about, so you don't want to double count them, but the effect is the same whether it's in the capacity revenues line or in a second line for incentive for overperforming.

23 Q. That's fair. I just forgot to mention it 24 earlier. Okay. And then, I guess, finally, on the 25 capacity performance penalty potential, there would

2713 be a penalty during a performance hour, that would 1 2 essentially be the initial cost and would have the 3 relationship or the impact we talked about earlier for the other costs? 4 5 Α. That would be correct. Now, did your analysis include components 6 Ο. 7 that tended to bias the cost upward, your 8 quantitative analysis? 9 By "bias" do vou mean overstate compared Α. to a reasonable expectation for the future? 10 11 Ο. Yes. 12 Α. Not intentionally. 13 Ο. Okay. And do any components of your 14 analysis bias toward lowering revenues in the PPA? No. I just tried to be realistic about 15 Α. 16 the revenues, even to the side of being 17 conservatively high. 18 If you were convinced there was a net Ο. 19 quantitative benefit of the PPA, would you endorse 20 approval of it? 21 Α. Well, I think there's still policy 22 For example, if the Commission thought problems. that the PPA would be worth 7 cents over some term 23 24 and it would cost 6 and a half cents, then the 25 Commission still ought to require a competitive

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market test to see if somebody else would come in at
 6 cents or 5 and a half cents.

3 So being an improvement over the status 4 quo would not be enough of a test. There are also 5 the structural problems that even if I thought that 6 the PPA was likely to be cost-effective, but there are these adverse incentives for AEP Generation to 7 8 continue spending money on plants and earning a 9 return on them, that would still bother me, and I 10 think aspects of the PPA still should be rewritten, but we're so far from that situation that I haven't 11 12 really looked at just what would be necessary if the 13 PPA actually looked cost-effective.

Q. And I appreciate all your explanation. But are you saying that even if you were convinced there was a net quantitative benefit to be realized, you would still not, as you sit here today, recommend approval of the PPA? Is that correct?

19A. No. There's some improvement to the20contract form and some -- and the need for a market21test.

Q. Do you agree that a properly structured PPA rider could achieve a useful energy price for the benefit of the ratepayers?

25

A. I'm sure that there's some PPA that would

1 provide a useful hedge. 2 Do you agree that customers might be Q. 3 willing to pay a little bit more if they reduce their 4 risk, Mr. Chernick? 5 Α. Yes, that having price stability is worth 6 something. The PPA doesn't do that very effectively, 7 but having a PPA that did that would be worth 8 something to customers. 9 I'd like to talk to you a little bit Ο. 10 about the types of generation capacity resources that are out there, that are available, and ask for your 11 12 views regarding a couple questions here. 13 So as we look at the major generation 14 types, nuclear, gas, electric, renewable -- you follow me? 15 16 Α. You've listed "electric" in there. 17 I'm sorry. I apologize. Nuclear, coal, Q. 18 gas-fired electric, and renewable. You with me? 19 Α. Yes. 20 Q. Can you rank those in your mind relative 21 to reliability, those four categories? 22 What do you mean in terms of reliability? Α. 23 Ο. As you look at comparing a nuclear unit 24 to a gas-fired electric generator or a coal unit to a 25 renewable unit, how do they rank in terms of

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1 reliability?

2 Α. Are you talking about contributing to 3 reducing the loss of load probability for PJM? 4 That would be a factor in reliability. Ο. 5 What are the other factors that you consider important for reliability? 6 7 Α. Well, since this PPA is -- I thought was 8 being offered primarily in terms of price 9 stabilization benefits, the reliability of energy 10 generation over the course of a year would be another 11 important factor, if that's what you mean by 12 comparing the reliability. 13 Ο. Well, I want you to give your opinion of 14 what you mean by reliability in the rank of types of generation I listed. 15

A. Usually when you're talking about reliability, you're talking about keeping the lights on, of reducing the loss-of-load reliability. If you're just talking about reliability in general, you can be thinking about that. I'm just trying to make sure we're talking about the same thing and not sailing past one another.

Q. It's good to be clear. But would you agree that major factors of reliability would be whether a unit could be dispatched during peak-demand

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2717 1 period? 2 Whether it's operating at times of need, Α. 3 which would tend to be high-load times, but also 4 times when there are other large outages. 5 Ο. Whether the unit's available and operating --6 7 Α. Yes. 8 Ο. -- at the time of the peak? 9 And in your experience based on the 10 generation types we're talking about, what would rank 11 first, nuclear, coal, gas, renewables? 12 Α. Well, first of all, for some renewables 13 you have to distinguish between the nameplate 14 capacity or installed capacity and the equivalent capacity, because they don't -- they aren't always 15 16 able to operate due to the resource availability; the 17 wind isn't blowing, the sun isn't shining. 18 So are we putting them at the bottom? Ο. 19 I'm just saying you have to be Α. No. 20 realistic about what the numbers are. You don't --21 wouldn't think of a megawatt of installed wind 22 capacity as being equivalent to a megawatt of 23 installed nuclear capacity. 24 Ο. I agree. 25 Α. PJM adjusts those capacity values down

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1	to I don't remember exactly what term they used,
2	because different organizations use different terms,
3	but something like firm capacity. And at some time,
4	such as the cold weather this last winter, I know PJM
5	found that wind was overperforming compared to its
6	capacity rate, its firm capacity, now, obviously,
7	operating at less than the maximum capacity but
8	operating well above what had been attributed to
9	them.
10	Q. Okay.
11	A. So whether you consider them to be highly
12	reliable or only 40 or 50 percent reliable depends
13	upon whether you're measuring from their nameplate
14	capacity or the capacity that PJM counts on them for.
15	Q. Okay. Well, going back to our definition
16	of reliability, we talked about the expectation of a
17	particular unit being available, being in operation
18	during the time of the peak. Are you saying that you
19	can predict that during the peak it's going to be
20	very windy and the wind generation will be available
21	every time there's a peak demand?
22	MS. HENRY: Objection. Misstates his
23	testimony.
24	MR. NOURSE: I'm asking him to clarify.
25	What he just gave was a big explanation and didn't

1 answer my question. 2 EXAMINER PARROT: The objection's 3 overruled. 4 Α. No, you can't count on any power plant 5 always being available. 6 Ο. Okay. 7 Α. Reliability is a statistical concept. 8 So are you not willing to say that Ο. renewable power is less reliable than nuclear power? 9 10 Α. Again, it depends upon what you -- how you're measuring and if you're looking at the PJM 11 12 UCAP, unforced capacity values, and asking which of 13 these resources performs best at the times that we need it. 14 Certainly for the winter, wind has been 15 16 performing well, and that makes sense because your 17 high loads are likely be at times when its windy, because there's increased demands for electric 18 19 heating. But if you do it per megawatt of installed 20 capacity, you're going to get a different result. 21 Ο. So doesn't the fact that renewable has a 22 lower value for installed capacity -- isn't that an indication of lower reliability? 23 24 Well, it's lower reliability per megawatt Α. 25 of installed capacity but not per megawatt of

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2720 1 unforced capacity, necessarily. 2 And so you have to install -- for a Q. 3 50-megawatt wind farm, you're going to get a fraction 4 of that in terms of capacity value, correct? 5 Α. Yes. And if we compare that to a -- 50 6 Ο. megawatts is a bad example. But if we have a 7 8 300-megawatt wind farm, we compare that to a gas unit or a small coal unit on a megawatt basis, you'd agree 9 10 the wind would be less reliable in terms of the 11 definition we used at the outset of our questions? 12 Α. Yes. You've now clarified that you're 13 talking in terms of installed capacity and per 14 megawatt of installed capacity. Wind will give you less reliability than a nuclear plant under most 15 16 circumstances or a coal plant or a gas plant. 17 Do you agree that there are situations in Q. 18 which paying more than the market price for renewable 19 resources makes sense and is a good idea? 20 Α. Yes. 21 Ο. Do you agree that when it comes to the 22 financial need for a generation unit, that if there's something the market's not taking into account that 23 24 the Commission wants to take into account, you'd be 25 presented with a legitimate decision whether the

1 generation resource needs support? 2 Yes; especially if, overall, the factors Α. 3 that aren't being taken into account would make it a 4 valuable resource for Ohio and/or the ratepayers. 5 Ο. Okay. And then switching back to 6 renewable, if a renewable project won't happen 7 without financial support, then financial need is 8 relevant, correct? 9 Α. You would like to avoid paying more than 10 the project needs to get off ground, and the way you usually determine that is to have alternative 11 12 projects compete with one another. 13 Ο. Okay. But leaving aside the level of 14 support now, which I think is what you're addressing 15 in your answer, that if the Commission wants the 16 project to happen or to be retained and it needs 17 support, then the Sierra Club is willing to provide 18 some level of support, correct? 19 MS. HENRY: Objection. He's our expert 20 witness. This gentleman does not work for Sierra 21 Club. He does not speak for Sierra Club. You can 22 ask him question about his opinion as an expert. 23 Turn to page 40 of your deposition, and Ο. 24 you see the Q and A, the last full Q and A, page 40? 25 Α. Yes.

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2722 Have you reviewed it? 1 Q. 2 Α. Yes. 3 And I asked you as a Sierra Club witness, Ο. 4 same example we just discussed, and you said, if "we 5 want it and it needs support, we're willing to provide some support." Do you see that? 6 7 Yes. I wasn't speaking for the Sierra Α. 8 Club there. And by "we" I meant the consumers, the regulatory community, the public in general. 9 10 Do you see in the question where I said, Q. "I'm asking you as the Sierra Club witness"? Do you 11 12 see that, Mr. Chernick? 13 Α. Yes. 14 MS. HENRY: Objection. It was clarified earlier in the deposition that he did not work for 15 16 Sierra Club and that all -- and we can point to those 17 questions, and we can do that on the record. 18 MR. NOURSE: Your Honor --19 EXAMINER PARROT: I think Mr. Chernick 20 has already explained his response. Let's move on, 21 please. 22 (By Mr. Nourse) And, Mr. Chernick, do Ο. 23 you agree that with existing coal plants, like the 24 ones being discussed in this case, the Commission 25 might find other benefits, such as economic

2723 development or the reliability benefits, and that 1 2 would be the basis for considering financial need in 3 the context of the PPA proposal? 4 Α. In principle, that is possible. I don't 5 think that's been demonstrated in this case. But you agree with my question? 6 Ο. 7 Α. In principle, that the Commission could 8 find that there were economic-development benefits or 9 reliability benefits and be willing to support a 10 plant that was otherwise not economic, at least until an alternative came along that provided those 11 12 benefits and was more economic. 13 Ο. Does the Sierra Club support generation 14 electricity through units fueled by natural gas? I'm pretty sure that the Sierra Club has 15 Α. 16 endorsed some natural gas-fired projects. 17 MR. NOURSE: Your Honor, I'd like to mark an exhibit as AEP Ohio Exhibit 21. 18 (EXHIBIT MARKED FOR IDENTIFICATION.) 19 20 Q. Do you have the exhibit in front of you, Mr. Chernick? 21 22 Α. Yes, I do. 23 Ο. Does this appear to be a printout from 24 the sierraclub.org website? 25 Α. That's what it says it is.

2724 1 Ο. Do you see the statement in the second 2 sentence in the body, "It is clear that we cannot 3 transition from one fossil fuel to another and expect 4 to see major climate benefits. We need to move 5 beyond natural gas"? Do you see that? Α. 6 Yes. 7 And is this section of the website Ο. 8 entitled "Why Move Beyond Natural Gas"? 9 MS. HENRY: Objection. He's already said 10 he doesn't work with Sierra Club. He's not a member of the Sierra Club. There's no foundation laid that 11 12 he would even have any knowledge. You haven't laid a foundation for this document. 13 MR. NOURSE: Your Honor, I did. I asked 14 him if it appeared to be from Sierra Club and this is 15 16 relating to --17 MS. HENRY: I can pull up anything from a 18 website and have a URL. That doesn't establish foundation. 19 20 MR. NOURSE: Are you done? 21 MS. HENRY: Yes. 22 MR. NOURSE: Your Honor, this is 23 clearly -- he is the Sierra Club witness. He 24 indicated he's the policy witness, and this is from 25 Sierra Club's website. It's a self-authenticating

2725 statement of the party, and I'm using it to refresh 1 2 his recollection, since he couldn't recall whether 3 Sierra Club opposes gas generation. 4 MS. HENRY: Can I ask a question? Are documents from USEPA's website also 5 self-authenticating? 6 7 MR. NOURSE: They've been entered into 8 this record. 9 EXAMINER PARROT: All right. 10 I would like to know, Mr. Chernick, have you seen this before? 11 12 THE WITNESS: No. 13 EXAMINER PARROT: Go ahead, Mr. Nourse. 14 I'm sorry. I think we have a question 15 pending, don't we? 16 Can we reread the last question. 17 (Record read.) 18 MS. HENRY: Objection. The witness has 19 said he's never seen this before. He's asking him to 20 read a statement he's never seen before from a 21 document. No foundation laid. 22 MR. NOURSE: Again, your Honor, this is a statement from the Sierra Club's website. They're a 23 24 party in this case. He's the witness. He's a policy 25 witness. He couldn't answer any question about their

2726 position on natural gas. I'm using it to refresh his 1 2 recollection. 3 EXAMINER PARROT: I'm going to allow the 4 question for that purpose. 5 Α. I'm sorry, I was not -- in my previous answer I was not referring to the website. I was 6 7 referring to proceedings that I've been involved with 8 which involved construction or purchase of natural gas-fired power plants. 9 10 Well --Q. So I'm -- you know, this is not a matter 11 Α. 12 of refreshing my memory. Your question was, does it 13 appear to be from a page labeled "beyond natural gas" or "Why move beyond natural gas," and the answer is 14 that's what the header and the footer seem to 15 16 indicate. 17 Ο. My question was about the sentence -- you 18 saw the sentence, "It is clear we cannot transition 19 from one fossil fuel to another and expect to see 20 major climate benefits. We need to move beyond 21 natural gas." 22 Α. Yes. MS. HENRY: Objection, your Honor. 23 He 24 said he's using this document to refresh his memory 25 about the question when he said, Is it true that

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Sierra Club would oppose a natural gas plant? 1 And I 2 believe Mr. Chernick said no. He used this to 3 refresh his memory, and he said, No, based on my 4 experience, that's not the case. 5 EXAMINER PARROT: I'm not sure we got that far yes, so I'm going to allow this to continue 6 7 a bit and see where it goes. 8 Mr. Nourse, I'm a little confused because Α. 9 this piece seems to be related to natural gas 10 drilling and production and not whether building a new natural gas plant is warranted, and, therefore, 11 12 it's not really on point because you could certainly 13 support more gas capacity as backup and supplement to 14 renewable energy without advocating for greater annual gas extraction or combustion. 15 16 Were you aware of the Sierra Club's 0. 17 position that we need to leapfrog over gas whenever 18 possible in favor of truly clean energy? 19 Where are you reading from this document? Α. 20 Ο. I'm reading from the last bullet on the 21 second page. But if you don't need refreshing, I'm 22 asking you, are you aware of Sierra Club's position? I think that I have seen indications 23 Α. 24 previously that Sierra Club would like to go to 25 renewables where that's possible in preference to

1 natural gas.

2	Q. And when people talk, like Sierra Club,
3	and anyone, yourself, talk about clean energy in
4	connection with gas, that doesn't just involve
5	production, it involves burning gas for energy,
6	doesn't it?
7	A. Well, if you're talking about CO2, for
8	example, global-warming issues, climate change, then
9	burning of natural gas is a concern. It may not be
10	your biggest concern in that situation, and it may be
11	the best of your alternatives at some particular
12	point in time and in place.
13	Q. And is it your understanding that the
14	Sierra Club's "Beyond Natural Gas Campaign" is
15	designed to curb gas-fired electric-generation units?
16	MS. HENRY: Objection. What's the
17	relevance? I mean, I've been patient, but what's the
18	relevancy of Sierra Club's I mean, to this docket?
19	EXAMINER PARROT: Response, Mr. Nourse?
20	MR. NOURSE: Well, the relevance I think
21	is obvious, your Honor. If we're advocating he's
22	up here advocating prices ten years from now that are
23	lower than today's prices, and if we're against coal
24	and if we're against gas, I'm not sure what's left
25	that's going to certainly keep prices low in the

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2729 1 long-term, so that's the relevance. 2 And I'm not sure if Sierra Club is 3 ashamed of its website. I mean, there's been tons of 4 documents from AEP that the witnesses had not seen 5 before that have been entered into evidence in this 6 case, and none of them have been objected to. 7 They're self-authenticating from the company's 8 website, in this case, the organization's website. 9 This witness is the policy witness, the only policy 10 witness, in this case for Sierra Club. 11 MS. HENRY: Mr. Nourse, I'm not ashamed 12 to work for Sierra Club. You can look at my computer 13 and see how proud I am to work at the Sierra Club. 14 But I will -- my point was, you know, very irrelevant 15 to this proceeding. 16 EXAMINER PARROT: And I disagree. The 17 objection is overruled. 18 Mr. Chernick, please answer the question. And let's save the basis about the 19 20 admissibility of documents until we get to that 21 point, please. 22 MR. NOURSE: Thank you. 23 THE WITNESS: I'm sorry, I don't remember 24 the question. 25 (Record read.)

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1	A. I don't have any information about the
2	Sierra Club's "Beyond Natural Gas Campaign," other
3	than a little bit that I've seen in the media, so
4	anyone who's concerned about reducing carbon dioxide
5	emissions, global-warming emissions is going to be
6	interested in reducing the amount of gas burned, but
7	not as concerned as they are about reducing the
8	amount of coal burned.
9	Q. So are you saying Sierra Club hates gas
10	less than it hates coal?
11	MS. HENRY: Objection. Misstates his
12	testimony.
13	EXAMINER PARROT: Overruled.
14	A. I don't think "hates" is an appropriate
15	term. I think that the environmental problems from
16	gas combustion are less than those from coal
17	combustion, and so most people involved in
18	environmental protection, climate protection, are
19	more concerned about coal than natural gas.
20	And, again, the issue is not the number
21	of plants that you have but their efficiency of gas
22	burning or how much CO2, at least.
23	Q. And to be clear, Mr. Chernick, I'm not
24	asking what you think most people think. I'm asking
25	you what Sierra Club thinks, and you're representing

2731 1 Sierra Club today. That's what I want to know about. 2 Okay? 3 Okay. And I'm trying very hard to tell Α. 4 you what I know, which is very limited because I have 5 never been in a meeting involving the "Beyond Natural Gas" project, or whatever they call it. 6 7 So is it your understanding that the Q. 8 Sierra Club's position is that we should leave the vast majority of fossil fuels in the ground? 9 10 I think that's the consensus in the Α. scientific community. And I don't know for sure, but 11 12 I would assume that Sierra Club would have accepted 13 that consensus. 14 Okay. And are you aware of the Dirty Ο. Fuels Campaign of Sierra Club? 15 16 Α. That does not ring a bell. 17 MR. NOURSE: Your Honor, may we approach? 18 EXAMINER PARROT: You may. 19 MS. HENRY: Your Honor, if it will speed 20 things along, we'll stipulate that Sierra Club has a 21 "Beyond Natural Gas Campaign." I don't know, we may 22 have a Dirty Fuels Campaign as well. MR. NOURSE: Thanks for the offer. I'd 23 24 like to cover this with the witness, though. 25 Your Honor, I'd like to mark this as AEP

1 Exhibit No. 22.

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2	(EXHIBIT MARKED FOR IDENTIFICATION.)
3	MS. HENRY: Objection. I mean
4	EXAMINER PARROT: I haven't gotten to
5	that point yet, Ms. Henry. Let's wait a bit, please.
6	Q. (By Mr. Nourse) Okay. And in context of
7	what I just asked you about, the familiarity with the
8	Dirty Fuels Campaign of Sierra Club and the statement
9	that "We should leave the vast majority of fossil
10	fuels in the ground," by Sierra Club Dirty Fuels
11	campaign director, Lena Moffitt, you're not aware of
12	the campaign or those statements, correct,
13	Mr. Chernick?
14	A. That's correct.
15	Q. And is it your understanding or do you
16	have an understanding of whether the Sierra Club's
17	position regarding not only coal, but also gas, that
18	it not only means stopping pipelines from being
19	built, but leaving untouched 80 percent of the
20	remaining coal reserve, 50 percent of the remaining
21	gas reserves, 30 percent of the remaining oil
22	reserves?
23	MS. HENRY: Objection, your Honor. We
24	haven't even established if he's seen this document
25	before. You're just reading numbers from an article.

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2733 I can read an article. That doesn't mean there's a 1 2 foundation laid. 3 MR. NOURSE: I asked him if he had an 4 understanding of whether Sierra Club's position was 5 as quoted. 6 MS. HENRY: I believe he says he's never 7 even heard of the campaign, so throwing out 8 statistics on a piece of paper that he's never 9 seen -- of course, if he's never heard of the 10 campaign, he's probably not going to know the 11 statistics on it. 12 MR. NOURSE: I disagree because the 13 campaign name has little to do with what the 14 substantive position is. 15 EXAMINER PARROT: The objection is 16 overruled. Mr. Chernick, if you can answer the 17 18 question, please do so. 19 I don't know about the specific Α. 20 percentages for where those came from, but the 21 general point that most of the fossil resources have to stay in the ground if we're going to have a world 22 23 that looks anything like what we have is, I think, a 24 consensus view in the climate-modeling community. 25 Q. But regardless of whether it's a

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1	consensus view in any particular community, is that
2	your understanding of the Sierra Club's position on
3	these issues?
4	A. I told you before, I assume that Sierra
5	Club accepts the science, but I don't have any
6	specific information about that.
7	Q. Well, we haven't talked yet about
8	science, Mr. Chernick. I asked you whether Sierra
9	Club's position is to leave fossil fuels in the
10	ground, including
11	MS. HENRY: And I believe
12	Q 80 percent of the remaining coal
13	reserves, 50 percent of the remaining gas reserves,
14	30 percent of the remaining oil reserves.
15	A. I have never seen those numbers from
16	Sierra Club in the past, so I don't know, but we are
17	talking about science here.
18	Q. And you'd agree with that?
19	A. I don't know about the numbers.
20	Q. Okay. But you agree with the overall
21	position, just leave it in the ground?
22	A. A large percentage of the carbon that's
23	grown underground has to stay there, barring some
24	technological breakthrough that would allow us to
25	extract it and store it safely in order to avoid much

greater climate change than we're already committed 1 2 to. That's my understanding of the scientific 3 consensus. 4 And I haven't -- I'm not familiar with 5 the literature on exactly what that comes to in terms 6 of percentages of resources domestically or 7 worldwide. 8 Now, if Sierra Club is successful in the Ο. Dirty Fuels Campaign and Beyond Natural Gas Campaign 9 10 and no more coal or gas units are built in the next ten years, what would you see capacity and energy 11 12 prices doing in the future? 13 Α. I haven't seen anything in here that 14 indicates that either of those campaigns has a 15 position that no new gas plants should be built. 16 Are you saying Sierra Club supports new Ο. 17 gas generation? Where there's a better alternative --18 Α. 19 well, you're getting into speculation here on my part 20 because I haven't -- I'm involved in a small number of cases for Sierra Club. But frequently we are 21 22 advocating for the retirement of coal plants and construction of gas peakers or combined cycle as 23 24 appropriate to the extent necessary to provide a 25 bridge to a renewable future.

2736 1 Ο. To bring it back to the case and your 2 testimony, then, did your capacity and energy 3 forecast envision closure of gas and coal units over 4 the next ten years? 5 Α. My energy forecast is based on the forward prices today, which is what AEP Ohio could 6 buy electric energy for today, hedging the deposit of 7 8 power, and, therefore, it includes the retirements 9 that the market participants include in their 10 expectations when they're deciding what price they'll 11 accept. 12 Does that mean that you think market Q. 13 participants believe Sierra Club's campaigns will fail? 14 15 MS. HENRY: Objection. He admitted to 16 not even having information about the campaign. 17 MR. NOURSE: Well, my question was about 18 future market prices and whether if coal and gas 19 units closed, what's that going to do, should be 20 pretty obvious, but I'm not sure if he answered that. 21 EXAMINER PARROT: If you can answer the 22 question, please do so. 23 Α. No. 24 So if coal and gas units close over the 0. 25 next ten years, you believe energy prices and

1 capacity prices will remain at or below the current 2 level?

3 Well, my projection is for rising Α. 4 capacity prices, and I do assume that some new gas 5 plants will continue to be built where needed for reliability. On the energy side, I think I would be 6 7 shocked if anybody involved in the power-marketing 8 business did not believe that a large number of coal plants were going to retire between now and 2024 and 9 10 some gas, but not a lot, will retire and other gas plants will be built. I expect that to be the 11 12 expectation of almost all participants.

Q. So your analysis assumes gas plants will be built during that period, even though Sierra Club may oppose them?

A. Well, I'm not aware of Sierra Club opposing the construction of gas plants, except where they don't appear to be necessary or there are better alternatives.

20 Q. If we leave it in the ground -- if you 21 leave the gas in the ground, do you expect gas prices 22 to increase?

A. Well, in the very long term, gas prices are -- may increase as you reach whatever threshold you set for the amount of gas you're going to take

In the short term, as energy efficiency and 1 out. 2 renewables reduce the demand for gas, both for 3 electric generation and directly, that pushes down 4 the price of gas; and so it really depends on how 5 much gas you're producing how fast. And I really haven't looked at it on that level. 6 7 So is it fair to sum up this area, before Ο. 8 we move on, to say that you didn't determine what Sierra Club's position was about future gas units 9 10 being built, and you didn't incorporate that decision and that position into your assumptions of 11 12 forward-capacity and energy prices? 13 Α. Well, again, I have the experience of 14 working on a number of cases for the Sierra Club, so I have some insight into the positions that they've 15 16 taken on whether it's sometimes necessary to build 17 gas plant. 18 Okay. Go ahead. Ο. 19 But no, I did not -- first of all, the Α. 20 forwards are not my judgment. They're the judgment 21 of people who are making financial decisions about 22 the future prices of gas and what prices they're 23 willing to lock in today. So my opinion about what 24 might or might not happen is not all that relevant. 25

Q. Do you think the forward prices -- and

we'll get into a whole separate discussion about this later, but do you think the forward prices in this context incorporates Sierra Club's position in their future view or the view of those hedge-contract prices?

A. It's my guess that the people who were involved in this process expect some new pipelines to be built and some new gas plants to be built, and they clearly expect gas to continue to be produced for a decade or more in the future.

Q. Mr. Chernick, were you aware of the recent announcement by Entergy closing the Pilgrim Nuclear Power Station due, in part, to poor market conditions?

15 Α. I think it's probably due to the fact 16 that if the absolute bottom of the NRC's safety 17 ratings were any lower, the NRC would require that it 18 be shut down. It's one of the oldest units. It's a 19 single-unit plant, one of the oldest nuclear units in 20 the country. It's a single unit, and it's a small 21 unit, a little over 600 megawatts, so it has a number 22 of strikes against it, and it's hardly surprising 23 they're shutting down.

Q. I gather by your answer the answer is,yes, you were aware of the announcement?

2740 1 Α. Yes. 2 Ο. Did you view a press release about that? 3 I think I've read articles, which are Α. 4 probably based in part on the press release. 5 MR. NOURSE: Your Honor, I'd like to mark AEP Ohio Exhibit 23. 6 7 (EXHIBIT MARKED FOR IDENTIFICATION.) 8 MR. NOURSE: May we approach? 9 EXAMINER PARROT: You may. 10 Q. Mr. Chernick, as you glance at this press release by Entergy, see if it refreshes your 11 12 recollection on what the company had indicated on the 13 announcement. 14 Is this plant in MS. HENRY: 15 Massachusetts? I'm going to object to the relevancy. 16 MR. NOURSE: Your Honor, it's a nuclear 17 plant that's announcing closure. I think it's 18 relevant to the things we've just been talking about, 19 what's going to happen in the future, what prices are 20 going to be. He said he was familiar with it. 21 EXAMINER PARROT: I'll allow it. 22 This doesn't look like it's exactly the Α. 23 same as the articles I've read, but there's a lot of 24 overlap. 25 Q. But you agree that, and consistent with

2741 your recollection and what you read before, part of 1 2 the basis for the announced retirement was poor 3 market conditions? 4 Yes, that's one of the things they cite. Α. 5 Ο. And this particular plant is in the ISO New England RTO, correct? 6 7 Α. Yes. 8 And if you turn to page 2, the second Ο. bullet, one of the cited factors to the retirement 9 10 financial factors was wholesale energy market design flaws, suppression of energy and capacity prices in a 11 12 region -- which, presumably, refers to the ISO New 13 England, correct? 14 That would be the relevant region. Α. Ι 15 don't think they described any actual market design 16 flaws, other than the fact that they would like to 17 get credit for being carbon free and their -- and, 18 apparently, the benefits of the existing carbon price 19 in New England are not enough to overcome their 20 operation problems. 21 Ο. And have you heard those same complaints 22 about the PJM capacity and energy market? 23 Α. Exelon has complained vociferously that 24 its nuclear plants need more money. 25 Q. And does Sierra Club believe that nuclear

2742 plants should get credit for being carbon free, 1 2 reliable --3 I haven't any idea what Sierra Club Α. 4 believes. You don't know? 5 Ο. Α. I don't know. 6 7 Ο. Okay. Mr. Chernick, let me shift gears 8 again --9 MS. HENRY: It's been two hours. Do you want a break? 10 MR. NOURSE: If you want a break, more 11 12 than happy. 13 THE WITNESS: Seems like a good time. 14 EXAMINER PARROT: Let's take a ten-minute break. 15 16 (Recess taken.) 17 EXAMINER PARROT: Go back on the record. 18 Go ahead, Mr. Nourse. 19 MR. NOURSE: Thank you, your Honor. 20 Ο. (By Mr. Nourse) Mr. Chernick, we were 21 just shifting gears to a new topic, and I want to 22 talk to you about some of the basic economic 23 considerations that you might look at with respect to 24 an individual generation plant. So do you agree that 25 an important measure of performance is the unit's

availability to produce energy and get net energy 1 2 revenues? 3 Availability is significant input, yes. Α. 4 And increasing a unit's capacity factor Ο. 5 by running when the market price energy is below your running cost doesn't make sense, right? 6 7 Well, not on a commitment-period basis. Α. 8 And by "commitment period," I mean for the period of 9 time for which you need to warm up the plant, ramp up 10 to generate, cool off, and then be prepared to start 11 up again. 12 You find plants that have to run in some 13 hours, especially coal plants, because if they 14 weren't running then, they wouldn't be available in a later hour when it would be economic to run them. 15 16 If you have a quick start kind of unit, 17 you only want to run it in the hours for which it's 18 profitable. And so that's a fair clarification, and I 19 Q. 20 wasn't really asking about hours, but if you're an 21 operator of a plant, you're going to start up and run 22 for a period of time where you think the revenues are 23 going to exceed your costs, right? 24 Yes. And that's basically the way that Α. 25 the PJM dispatch system works. They dispatch its

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2744 units based on their bid prices, hopefully so that 1 2 they're running when they're profitable. 3 And so a decision to run the plant during Ο. 4 a period of time would be based on the revenues that 5 are expected during that period of time overall, 6 correct? 7 Α. That's correct. 8 And, in other words, the plant operator Ο. only incurs incremental or available costs when it 9 10 can sell energy at prices higher than its costs, 11 correct? 12 Α. Correct. 13 Ο. Do you agree that an economic analysis would be flawed if it assumes the cost of ruining the 14 unit would be incurred even when the market prices 15 16 were below the variable costs of running it? 17 Well, it's a simplification that may or Α. 18 may not matter, per the situation. So, as I said, 19 there are times when you have to run the unit in 20 order to get revenues in another time period, and you 21 incur losses on an hourly basis for a while. 22 And if you have a base-load plant, and 23 without changing dispatch the reduction, for example, 24 in energy prices and, perhaps, fuel prices results in 25 being wildly uneconomic, it's unlikely that running

1 it less is going to make it economic since such a 2 large portion of the revenues come from energy and 3 since your fixed costs just get spread over fewer 4 lines.

Q. Again, I'm not talking about hourly. I'm talking about the operator making a decision based on a chunk of time and a chunk of revenue associated with running during that time, and the operator's not going to run if we're going to lose money, correct?

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A. That's basically the case, yes.

Q. And a model that assumed that the operator would run during that period at a loss would be flawed, correct?

A. Well, it would slightly overstate the operating losses from the plant or understate the net energy revenues. It could be slight, if you're assuming that a plant that should be running at 5 percent capacity factor, you assume that that runs a hundred percent of the time, then you're going have a major difference in the results.

21 Q. Let me shift gears, Mr. Chernick. I want 22 to talk about the PJM market, get a general idea of 23 your understanding and opinions relating to the 24 structure and features of the PJM market.

Α.

Okay.

2746 And this should sound familiar as well. 1 Ο. 2 Do you agree that the PJM capacity market is an 3 administrative or regulatory market? 4 Α. Yes. 5 Ο. Would you agree that historically over 80 percent of the offers in the capacity market have 6 7 been zero? 8 Α. I don't know. 9 Ο. Why do generators employ that strategy of bidding in at zero? 10 If you are -- your generator is going to 11 Α. 12 be viable or expected to be viable without any 13 capacity revenues, then there's no reason for you to 14 bid a capacity price. You want to take whatever the 15 price is, because if you're going to make money just 16 on energy sales, the capacity price is gravy, and you 17 want to just make sure that you clear at whatever 18 that price is, and bidding zero is one way to do it. 19 You can bid at any price, so long as you were sure 20 that it was less than the market clearing price. 21 Ο. But would you agree that if the majority 22 of bidders are coming in at zero, that has an effect 23 of suppressing clearing prices? 24 No, not if that's the right price for Α. 25 them. If it costs a \$100 million to run your plant

for a year and your expectation is that your revenues 1 2 from energy and, perhaps, from RECs and other 3 benefits are going to be a \$130 million, you 4 basically want to step up and say I'll take whatever 5 the price is for capacity. I'm going to be here, I'll provide capacity. 6 7 With capacity performance you probably 8 want to bid something more than that, because there's 9 some cost in promising that you're going to be there. 10 But before capacity performance was a big issue, zero was the rational thing. 11 12 Ο. And is it true that PJM caps the auction 13 clearing price at one and a half times the Net CONE? Where Net CONE is the PJM's 14 Α. Yes. 15 estimate for a benchmark, power plant cost minus the 16 expected energy and ancillary service revenues. 17 Is that benchmark based on a gas Ο. 18 combined-cycle unit? Not an actual one. 19 The actual ones come Α. 20 in with much lower costs of new entry. It's a 21 hypothetical construct which has proven to be much 22 higher than reality. 23 And you're familiar with the variable Q. 24 resource requirement or VRR curve? 25 Α. Yes.

And you agree that PJM administratively 1 Ο. 2 establishes that curve? 3 That's correct. Α. 4 And that directly influences the clearing Q. 5 price, correct? That's correct. It was implemented to 6 Α. 7 keep the price from dropping to zero or near zero in 8 situations where there was excess capacity. 9 Ο. You agree that PJM and the market monitor 10 have the ability and the practice of reviewing and approving offers into the auction, capacity auction? 11 12 Α. Yes. They certainly review the 13 qualification of the bid, and there are conditions 14 that are -- situations where they review the price as well. 15 16 And some restrictions apply, right? Q. 17 In particular, for new resources Α. Yes. 18 there's a minimum offer price rule, M-O-P-R, or MOPR that applies to, I believe, just natural-gas combined 19 20 cycle and combustion turbine and integrated-gas 21 cycle. 22 But you're not stating all the rules and Q. 23 conditions apply. You're just agreeing there are 24 some rules and conditions, and that's an example, 25 correct?

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	2749
1	A. Yes.
2	Q. Do you know what happens if the auction
3	fails to procure or clear enough capacity?
4	A. Well, there would be incremental auctions
5	to provide additional capacity.
6	Q. And what if those fail?
7	A. I believe that PJM also has the ability
8	to well, there are a couple of mechanisms. One is
9	that they have a reliability must-run option of
10	giving a contract to a plant, to a generation
11	resource, to guarantee enough revenue to cover the
12	forward-going costs to keep the plant online. And I
13	believe that PJM also has authority to run subsidiary
14	auctions to bring on short-term resources to bridge
15	the gap.
16	Q. And are you aware of what's referred to
17	as regulatory backstop?
18	A. I haven't looked at it for a while. I
19	know I've seen it.
20	Q. You agree that PJM has the flexibility to
21	provide a cost-based compensation to generators in
22	order to get enough resources online?
23	A. That's what I was describing that as
24	reliability must-run, yes.
25	Q. So there's not a separate ability to

enter into cost-based contracts beyond the 1 2 reliability must-run? 3 Well, they may divide it into contracts Α. 4 that are justified by a local transmission constraint 5 versus those that are required for a broader region of the RTO. That's a detail I haven't gotten into. 6 7 Okay. But by your answer, I gather you Q. 8 are agreeing that the RMR option relates to potential retirement of a unit and PJM's view that there would 9 10 be a reliability gap that has to be addressed by continued operation of that plant? 11 12 Α. Yes. 13 Ο. But my question about the auction and the 14 regulatory backstop is whether it's your understanding that if the auctions and the 15 16 incremental auctions fail, does PJM have the option 17 of contracting with individual generators on a 18 cost-based rate basis to keep adequate resources online? 19 20 I believe so. I haven't looked at that Α. 21 in quite some time. 22 Ο. I'd like to ask you some general 23 questions about your understanding of how the PPA 24 rider works, Mr. Chernick. And, first of all, the 25 PPA rider, when I say that, I'm referring to the

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2751 retail rate mechanism, not the wholesale purchase 1 2 power agreement. Do you understand that? 3 Α. Yes. 4 And will you agree that without the PPA Ο. 5 rider -- actually, let me back up. Let me first ask you a couple questions about Generation Resources, 6 7 the seller, and under the wholesale contract. Let me 8 ask you a few questions about that before we get into 9 retail provider, okay? 10 So without the PPA, if the wholesale 11 prices rise above the cost of operating PPA units, 12 the difference in margin will be profit to AEPGR, 13 correct? 14 If it goes above the operation expenses, Α. 15 plus debt service and depreciation, then I think by 16 definition anything in addition to that would be 17 considered profit. 18 And if you assume with me that under the Ο. 19 PPA there are a number of years in the future where 20 that occurs and there's profit above the cost, AEP 21 Generation Resources would retain those profits 22 without the PPA, correct? 23 MS. HENRY: Can we have that question 24 read back? 25 (Record read.)

2752 If that were to occur in particularly 1 Α. 2 years -- in units or plants, then yes, the AEP 3 Generation would get a return on equity, which would 4 be something higher than zero. 5 Ο. And it could be higher than 11.24 for some period of time, under my hypothetical? 6 7 Α. Mathematically that's possible, yes. 8 Now, would you agree that upward-price Ο. volatility is greater than downward-price volatility 9 in the PJM market? 10 First of all, are you talking about the 11 Α. 12 energy market? 13 Ο. Let's start with hourly energy prices. 14 Hourly energy prices. As a mathematical Α. 15 fact, or perhaps a real aspect of the market, if your 16 prices are running about, say, 4 cents, you could 17 have an hour in which it's 12 cents, but you're not 18 likely to have -- down by the same amount and be a 19 negative 4 cents. So on an hourly-basis price, the 20 highest prices are higher above the average and the 21 lowest prices are below. 22 And those high price spikes tend to occur Ο. during spikes in demand or load, such as those caused 23 24 by extreme weather, correct? 25 Α. That's one thing that can cause a spike.

2753 Generation outages can also do it, as can 1 2 transmission outages. 3 And would you agree in shifting to retail Ο. 4 pricing that there's a risk premium in any fixed 5 retail price? I'm sorry. Can you be more specific 6 Α. 7 about what kind of retail price you're talking about? 8 Yeah. I want to cover in Ohio. Let's Ο. talk about Ohio. So there are standard service offer 9 10 prices for nonshopping customers. There are competitive retail electric suppliers', CRES, 11 12 offerings for shopping retail customers. Are you 13 familiar with those options? 14 Α. Yes. 15 Ο. And so under both of those options, would 16 you agree that there's a risk premium embedded in any 17 fixed retail price? 18 Well, you can call it a risk premium. Α. Ι 19 would expect that the supplier would take into 20 account the probability of having to supply 21 additional energy at high-price, high-load times and, 22 perhaps, to dump some contracted energy into the 23 market in low-load, low-price times following the 24 shape of the customer's load. 25 So unless you have a completely flat load

2754 shape, you would expect to have some -- have that 1 2 factor factored in, and you could think of that as 3 being -- accounting for the risk of higher prices. 4 Ο. In other words, if suppliers, retail 5 suppliers, were providing a fixed number of kilowatt-hours, it would be a lower price, wouldn't 6 7 it? 8 If it were a flat block of energy of 100 Α. 9 megawatt-hours per hour for a given period of time, 10 that tends to be lower than the cost of serving actual load for, say, the entire residential class. 11 12 And you would agree that these retail Q. 13 fixed-rate offerings follow the wholesale market 14 trends and pricing levels? 15 Α. Yes, they follow the forwards. 16 And those prices would be sufficient to Ο. 17 cover either the CRES provider or the auction 18 supplier's costs requiring forward contracts and 19 hedges and compensating them for whatever residual 20 risk is left? That's what they're -- they're trying to 21 Α. 22 do that and make a little money on the side, and they would do that with or without the PPA. 23 24 But retail rates reflect those Ο. 25 influences?

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1	A. Yes. And they would, with or without the
2	PPA.
3	Q. Okay. Now, let's talk a little bit about
4	the PPA rider. I assume that's what you meant when
5	you said "without the PPA"?
6	A. Correct.
7	Q. The PPA rider, the retail rate mechanism.
8	So would you agree that during the times when market
9	prices are higher than the PPA cost, customers would
10	receive a credit by operation of the PPA rider?
11	A. Well, there may be a time lag, so that
12	if, for example, prices are very high one winter or
13	certain days within a winter, and the PPA units make
14	extra operating profits on those days, then that
15	would show up in, I believe, a reconciliation of the
16	PPA rider down the road.
17	Q. Okay. So depending on how frequently the
18	rider is reconciled, there could be a timing
19	difference there; is that what you're saying?
20	A. Yes, except when you said when this
21	happens at times of high prices. Well, it might not
22	be exactly at the time of the high price. It might
23	be the next summer. It might be the next winter.
24	But the way that the PPA is set up,
25	higher prices would flow through as a benefit to the

ratepayers, which may or may not cover the cost of 1 2 the PPA, but, incrementally, it would either reduce 3 the PPA charge or increase the credit. 4 Again, setting aside the lag issue, that Q. 5 relationship of running counter to the market price trend would relate to the same time period, and the 6 company would account for it that way, regardless of 7 8 when it's trued up or reconciled; is that your 9 understanding? 10 Α. I'm not sure exactly how the company would do its accounting, but I suspect there would be 11 12 an attempt to coordinate the timing of the costs and 13 the accrual of the liability for a refund to 14 customers, and the additional revenues, that the 15 company would try to coordinate that on its books, 16 but I really haven't seen it. 17 Would you expect when the Commission Q. 18 administers the PPA rider, that there would be a 19 forecast -- there would be two components to updating 20 the rider. One would be a forecast of rejection, and 21 two would be a reconciliation? Is that your 22 expectation? 23 Α. Yes. 24 So the reconciliation would capture Ο. 25 things that actually happened that were not already

captured in the prediction of the forecast of what 1 2 was expected, correct? 3 It would be a different accounting for Α. 4 the actual operation of the plants, the actual market 5 prices, the actual operating costs, and so on. That's my understanding. 6 7 And let me ask you another general Q. 8 question I forgot to ask you earlier. It's on a different topic. 9 10 Α. Okay. The PPA units, each of those units are 11 Ο. 12 actual generating plants that are operating out there 13 in the real world, and they have employees, and 14 they're large businesses in the areas they operate; is that your understanding? 15 16 Well, they certainly have employees and Α. 17 their business is in the areas they operate. I don't 18 know how large they are compared to other businesses 19 in those specific areas, but many of these plants are 20 large enough that I'm sure the municipality pays some 21 attention to them. 22 Ο. And so you would agree that there would 23 be adverse economic impacts if any of the individual 24 plants were closed? 25 Α. Well, closing a power plant certainly has

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adverse impacts on, or can have, anyway, on the people who work there and on the people who run the coffee shop right outside the plant's gates and would result in a reduction often in the municipality's tax base.

But there are also economic benefits, 6 7 such as if the alternative is paying for a plant that 8 costs more than its worth, then rates would be lower, 9 people have more disposable income, will spend more 10 of it locally, and so on, businesses will face lower 11 rates, so it's complicated even before you start 12 looking at what would replace that plant. New 13 construction, conservation programs, rooftop PVs, all 14 of those have economic impacts.

Q. You haven't studied or incorporated into your analysis, your quantitative analysis, any primary or secondary economic development, economic impacts of plant closures, have you?

A. I don't think I really deal with the economic development issues. The company didn't really address the Commission's condition that the rate effects and the economic impacts of the rate effects be studied. I didn't see that there was any real need to weigh in on that.

25

Q. But my question was, you didn't study the

economic impacts of plant closure, nor did you 1 2 include any such analysis in your testimony; am I 3 correct? 4 Α. That is correct. 5 Ο. Speaking of your testimony, how about if we open it up and talk about it a little bit. 6 If you 7 could turn to page 7 of your direct testimony. 8 And, by the way, I am using the 9 confidential version, but I don't expect during this 10 session that you would need to disclose any confidential data. If you believe that your answer 11 12 would require that, please indicate without 13 disclosing the confidential data, and we'll save it 14 for a separate session that we are going to need to have about some confidential data, okay? 15 16 Α. Yes. 17 Q. Thank you. 18 Mr. Chernick, on page 7, it's the third bullet from the bottom. You don't have line numbers 19 20 here, but it's the last sentence I want you to look 21 at there. And that bullet says, "AEP cannot have it 22 both ways, simultaneously arguing that prices will be 23 high enough to render the PPA economic for 24 ratepayers, but the prices would be low enough to make the PPA units uneconomic to operate." Do you 25

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2760 see that? 1 2 Α. Yes. 3 And does AEP's analysis, in your Ο. 4 understanding, maintain the market prices that remain 5 low for more than a few years? No. AEP's projections, even with the 6 Α. 7 2015 update, include unrealistically high market 8 prices. 9 I understand your position on that. Ο. But 10 what I'm asking you is about your "both ways" argument here, and I'm trying to clarify what that's 11 12 premised on. 13 Would you agree that AEP's numbers, 14 setting aside your opinions about them, do not 15 project losses, even under the low case, for more 16 than a couple years in the future? 17 Α. I'd have to check that particular value 18 for how many years out they go, but I'll take that, 19 subject to check, and it will be in Dr. Pearce's 20 Exhibit 2. 21 Ο. Let me ask you this way. What's your 22 understanding of the company's view of these units being on the bubble economically? Do you recall that 23 24 term? 25 Α. Yes.

2761 And what's your recollection about what 1 Ο. 2 the company means when it said that? 3 It didn't really make much sense to say Α. 4 that the plants would be profitable to the consumers, 5 including some costs that would be uneconomic to run, excluding some costs. Shutting the plants down does 6 7 get rid of any of the sunk costs, so I was never able 8 to reconcile the company's position on that point. 9 Well, now, under your analysis, you agree Ο. that in the company's base case, the units would not 10 recover for sunk costs, right? 11 12 Α. Under the base case, I believe --13 Q. Sorry. I'm asking under your analysis of 14 the --With my assumptions? 15 Α. 16 Ο. Yeah. 17 They would not -- well, no, they would Α. 18 not recover their sunk costs, true. 19 And using your low market prices, I'll Q. 20 say low relative to the company's, the plants would 21 actually retire, right? 22 Α. That would be that -- that appears to be 23 economic for a generator operating in the competitive 24 market. 25 Q. So on one hand, you're saying that plants

are already profitable enough to run, but on the other hand, you're saying they're going to retire; is that your position?

A. No, no. I would advise AEP Generation to plan on shutting these plants down and start moving in that direction in a timely and well-organized fashion, based upon a realistic view of future prices.

9 And when AEP talks about plants being on 10 the "bubble," one interpretation of that would be 11 when we look at what prices are really going to be, 12 these plants are losers, and we don't think they're 13 worth continuing to run.

But that world is inconsistent with the world in which they are so profitable that they are not only profitable to keep running, but they're profitable enough to cover all the sunk costs that AEP Generation wants to dump on the ratepayers.

19 Q. So, again, you're saying they're 20 profitable enough to run, but under your view of the 21 world, they're going to retire or be forced out of 22 the market?

23 MS. HENRY: Objection, misstates his 24 testimony entirely. I believe he said the exact 25 opposite.

2763 MR. NOURSE: Did you hear the end of my 1 2 question? EXAMINER PARROT: I'm going to overrule 3 4 the objection. 5 And if you need clarification or if you 6 feel it misstates your prior testimony, let us know 7 that, certainly. I think we still need to nail down 8 this point. 9 What I'm saying is that in the world Α. No. 10 that I see, that the market projects these plants are not worth operating, and they certainly are not going 11 12 to pay off their sunk costs. 13 In some of the company's world, at least 14 some of the plants, maybe all the plants, are worth 15 operating in some of those futures, and some of them 16 would even pay for their sunk costs. 17 But under your view, would you agree that Q. 18 the PPA units have a financial need under the 19 Commission's factors that they've outlined in the AEP 20 order? 21 Α. Well, before you can talk about a 22 financial need, I think you have to talk about what 23 the purpose is. But if the Commission found that one 24 or more of these units was necessary for some reason, 25 then I think they probably do have a financial need

2764 1 to keep them operating. But that would be only until 2 something less expensive could be implemented to 3 replace them. 4 And on page 8 you talk about your Ο. 5 recommendations, which include a competitive procurement option, correct? 6 7 Α. Yes. 8 And you characterize that as being less Ο. 9 expensive or likely to be less expensive, correct? 10 Α. Yes. And have you done a study or quantitative 11 Ο. 12 analysis to support that conclusion? 13 Α. Well, if you simply look at the energy 14 forwards, what parties are buying and selling blocks 15 of energy for the future for, those prices are 16 considerably below the cost of the PPA. And if you 17 can buy power for 3-1/2 or 4 cents, I don't see why 18 you would instead want to sign up for a PPA that 19 would cost 6 or 7 cents and could get -- cost a lot 20 more. 21 Ο. Is your understanding that one can go out 22 on the futures market and buy 3,100 megawatts of 23 power over 30 years, the next 30 years? 24 I don't believe that the PPA involves Α. 25 3,100 megawatts of power for 30 years. It's about

2765 1 3,000 megawatts of capacity, but it's -- the end 2 dates anticipated for the plants are very 3 considerable. 4 Some of them are longer than 30 years, Ο. 5 right? Zimmer is projecting it would operate 6 Α. 7 until 2051. 8 On page 3 at the bottom of the page, you Ο. 9 reference 3,111 megawatts as related to the PPA 10 units. Am I correct? 11 Α. Yes. 12 Ο. So can you go to the forward market, buy 13 3,100 megawatts of power for a 30-year term? 14 Α. Once again, that's not comparable to the 15 PPA. You can't buy through the brokers, through the 16 formal markets, for more than about ten years. And 17 how long you can do a bilateral for, you would have 18 to test the market to find that out. I don't know 19 why you would want to have a 30-year contract. 20 That's a different question. But let me Ο. 21 ask you this way, if we took each unit that you have 22 listed on page 3 and used their current retirement 23 date, could we go buy blocks of power to match up 24 with the capacity and the expected life of the unit 25 on your futures market?

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2766
                  Now, through the futures market you would
 1
             Α.
 2
      want to do a bilateral or several bilaterals with
 3
      various parties. Again, if for some reason you
 4
      wanted to do that -- and I haven't seen a
 5
      demonstration that you would want to. I said that
      the Commission should want to.
 6
 7
                  Okay. Well, if you take your competitive
             Q.
 8
      procurement option and try to do the exact same thing
      through bilateral contracts, what's your basis for
 9
10
      saying it would be less expensive?
11
                  MS. HENRY: Asked and answered.
12
      Objection. Asked and answered.
13
                  MR. NOURSE: His answer was the forwards
14
     market. We just examined how that would work, so I'm
15
      asking --
16
                  MS. HENRY: I believe he said it works
17
      for ten years, and I believe he said that the time
18
      frame, that the 30-year time frame is --
19
                  EXAMINER PARROT: Overruled.
20
                  I wouldn't advocate that the Commission
             Α.
21
      look for that long of a contract. Although you might
22
      get a very good offer with a longer time period, you
     have to test in the market. You can't just make
23
24
      these things up in your head.
25
             Q. And you can't just make up the fact that
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2767 you're saying it's going to be cheaper without a 1 2 basis, Mr. Chernick. So are you telling me the 3 Commission --4 MS. HENRY: Objection. Is that a 5 question? It will be cheaper until they go pursue 6 Ο. 7 that option? 8 MS. HENRY: Objection. Testifying. 9 EXAMINER PARROT: Overruled. 10 Answer the question, Mr. Chernick. I said that they are likely to be less 11 Α. 12 expensive. As it is, AEP Generation has stated the 13 price at which it would like to sell this power. Ι 14 said it's not even a price as stated, the terms under 15 which it would like to be able to charge whatever it 16 spends on the plants, plus recover costs that it's 17 already committed to. But it stated its opening bid. 18 In a competitive market you would expect that there would be other bidders who would have resources and 19 20 would bid closer to their cost or closer to lower 21 cost and would beat that price. 22 You know, I said AEP Generation should be 23 free to compete as long as there is an independent 24 auction manager, and, perhaps, AEP Generation would 25 sharpen its pencil and come up with a real price

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proposal instead of the nebulous terms of the PPA, a better price, and would actually be the winner. But that's to be determined.

Q. I appreciate all your commentary, but,
Mr. Chernick, I'm asking you, is it true that the
Commission would not know whether your competitive
option would be cheaper until they actually pursue it
and determine whether it's cheaper?

9 Α. Yes. Following competitive procurement, 10 the Commission would know whether AEP was the winner with the current PPA bid if somehow that could be 11 12 evaluated by the market manager, by the auction 13 manager, and would know whether the anticipated cost 14 of the PPA was higher or lower than the cost of whatever contracts are entered into. 15

We would -- we may never know what the actual PPA would cost since if the Commission acts in the best interest of ratepayers, it will reject the PPA. Some of these units that are not cost-effective to keep running will retire in the near term and others probably before the dates that are specified.

And so we'll probably never know what -how much extra it would have cost the ratepayers to go ahead with this. But we will have some measure to compare to the PPA proposal once competitive bids

2769 have been solicited. 1 2 Okay. Mr. Chernick, how long would your Q. recommended RFP process take? 3 4 Α. Well, we walked through that in the 5 deposition. And I think I was -- I came up with a total of something around six months. 6 7 Well, let's look at page 90-91. I think Q. 8 it was the better part of a year, as I recall. Top of the page 91, Mr. Chernick. 9 10 I said more than six months. Α. More than six months. And possibly 11 Ο. 12 closer to a year. Is that where we ended up? 13 Α. Let's look back at the middle of page 90. 14 I said you'd want to have two or three months to 15 develop the RFP and have it reviewed by the 16 Commission, then another six weeks or so for bidders 17 to make their proposals, then a few months for the 18 regulatory review. So assuming that that's three and 19 three and one and a half, that would be about seven 20 and a half months. 21 Ο. And then I asked you were you recommending that the Commission undertake the 22 23 decision on all of that before getting input from the 24 Sierra Club, you said no --25 Α. No.

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1	Q takes some time to get that input,
2	right?
3	A. No, that's not what I said.
4	Q. All right. So moving on pardon me?
5	A. Nothing.
6	Q. So moving on, if the Commission
7	undertakes that RFP option and recommending after
8	rejecting the PPA, as you recommend, there's
9	certainly no guarantee that if they reach the end of
10	that process and don't have a better deal, that the
11	PPA would still be available, correct?
12	A. Well, it's hard to see who AEP Generation
13	can sell this power to at a better price and at more
14	favorable terms than what they proposed.
15	Q. So you believe AEP Generation Resources
16	will just sit on the sidelines and wait for that to
17	happen for several months and reoffer the same offer
18	later?
19	A. Well, I would hope that they would make a
20	really serious offer instead of simply repeating the
21	proposed PPA, which is very badly flawed.
22	Q. I thought you mentioned this earlier, but
23	it's possible that AEP Generation Resources would
24	prevail in your RFP process, correct?
25	A. That's possible.

Γ

2771 1 Okay. So it might be the best offer out Ο. 2 there, wouldn't you agree? 3 AEP might come up with an offer that was Α. 4 the best offer or Dynegy might or AES or any number 5 of other parties. Are there any offers on the table by any 6 Ο. 7 party that you're aware of that match up with the 8 time frame and the scope and size of the PPA 9 proposal? 10 I don't know of any offers. Nobody's Α. solicited offers, and no rationale has ever been 11 12 provided for either the scope or the duration of the 13 PPA, so again, I don't know why you keep using that as a benchmark. 14 15 Q. Well, okay. 16 You only do an analysis in 2024. Α. So 17 anything beyond that, there's no justification for 18 the PPA beyond that point. 19 I appreciate your viewpoint, Q. 20 Mr. Chernick. 21 Let me ask you on your NPV, net present 22 value analysis, you do those calculations throughout your testimony, correct? 23 24 Α. Yes. 25 Q. And you use an 8 percent discount for all

2772 those NPV calculations? 1 2 Α. I use an 8 percent discount rate, yes. 3 And turning to Table 2 on page 13. Ο. Again, let's not get into confidential data, but that 4 5 would be necessary to answer my questions. And this table has been corrected. 6 Α. 7 Ο. I understand, but I'm not going to ask 8 you about the numbers. 9 Α. That's fine. 10 Ο. So the bottom part of the table presents 11 essentially an alternative set of units; is that 12 correct? 13 Α. That is correct. 14 So in that alternative set you've Q. excluded units that you consider uneconomic? 15 16 That are uneconomic in AEP's base case Α. 17 but with AEP's own calculations through the PPA 18 mechanism, yes. 19 They were uneconomic if you look at just Q. 20 that plant on a standalone basis? 21 Α. Yes. I used Dr. Pearce's unit-by-unit 22 calculations that he built up his Exhibit 2 from and 23 just took those numbers and summarized them that the 24 numbers in the "Simple Sum" column are directed from 25 his workpapers, and the present net -- "Present Value

	2773
1	benefit" is my calculation from his workpapers.
2	Q. I understand. Can you turn to page 16,
3	and directing your attention to footnote 8 and the
4	associated text up in the narrative.
5	So am I understanding correctly that you
6	did not update the auction prices that you use based
7	on the known auction results that have occurred, as
8	we sit here today?
9	A. Right. The last ones came in what, 11
10	days and two days before my testimony was due, so I
11	didn't have a chance to incorporate them.
12	Q. Are you talking about your
13	September 11th testimony?
14	A. Yes.
15	Q. And you didn't include them in your
16	September 25th testimony either, did you?
17	A. No. I didn't do another capacity
18	calculation.
19	Q. But you did update your views on energy
20	prices and forward energy values in your supplemental
21	testimony?
22	MS. HENRY: Objection. Misstates his
23	testimony.
24	MR. NOURSE: It's a question, your Honor.
25	EXAMINER PARROT: Overruled.

Γ

2774 I provided updated forward prices which 1 Α. 2 were just a matter of pulling them off the website 3 and dropping them into my table. 4 Okay. So in your section of your Q. 5 testimony, actually begins on page 15 and following that, what you call the omitted performance 6 7 penalties --8 Α. Yes. 9 -- is the main conclusion here the effect Ο. 10 that the capacity performance rules on PPA units that they're likely to incur penalties? 11 12 Α. Yes. 13 Ο. And it's certainly possible that the unit 14 could earn additional capacity performance revenues and incentives without any penalties, isn't it? 15 16 It's possible if they're lucky and don't Α. 17 have any outages that happen to coincide with the 18 performance outages. 19 And you would agree that the actual Q. 20 capacity performance penalties, if any, would be 21 driven, in part, by how AEP bids the units in the 22 capacity auction in the future? 23 Α. Yes. AEP can reduce its capacity 24 revenues by bidding in a lower UCAP and then having 25 lower penalties when -- that could provide that UCAP.

2775 1 Ο. And on page 17, there in the bottom 2 answer under Figure 1, you refer to the capacity 3 performance penalties as "severe." Do you see that? 4 Α. Yes. 5 Ο. And is it your understanding that the 6 purpose and design of the capacity performance regime 7 was to increase reliability through assessment of 8 severe penalties? 9 Α. I would say to improve performance 10 perhaps, also to get bidders to state lower UCAP values that better reflected their reliability and to 11 12 penalize providers who were performing less well than 13 they had promised. 14 Would you agree that one of the purposes Q. 15 was to increase capacity revenue to reliable 16 resources? 17 Α. I believe that that's one of the Yes. 18 things that PJM talked about. 19 Now, starting on page 18, I believe you Q. 20 had a correction about this earlier with the range 21 of -- your predicted range of capacity performance 22 penalties, and I believe in the answer at the top, 23 near the top of page 18, you clarified that that 24 range was excluding OVEC, correct? 25 Α. Yes, in the first answer, full answer on

2776 1 that page. 2 And I guess these numbers are public so Ο. 3 we should talk about it. So the range that includes 4 OVEC is actually a third of the way down the page, 5 page 19, of 191 million to 425 million? Α. 6 Yes. 7 Q. And that's your actual prediction of what 8 the penalties will be? 9 That's my estimate. Α. 10 Yeah, okay. Is that a prediction or you Q. 11 take issue with the word "prediction"? I don't know. I think of prediction as 12 Α. 13 being more associated with gambling and estimates 14 related to economic analysis. All right. Well, your range that you 15 Ο. 16 project is based on compliance hours, ranging from 17 13-1/2, at the least, to 30 hours, at the most; is 18 that right? 19 Α. Yes. 20 And the compliance hours is really the Q. 21 driving factor in the range, right? 22 Α. Yes. 23 Ο. There's nothing else that changes your 24 assumption? 25 Α. Yes.

2777 And you actually have Table 3 on page 18 1 Ο. 2 that gives historic compliance hours, correct? 3 Α. Yes. 4 And you calculate an average of 13-1/2Ο. 5 hours? Yes. And as you can see, the hours go up 6 Α. 7 from an average of 6 in 2011 and '12, to 16 in 2013, 8 26 in 2014, and PJM uses 30 as their projection for 9 the future. So they seem to see an upward trend, and 10 I didn't want to weigh in on that one way or the 11 other. 12 Ο. So PJM's 30 is the maximum, isn't it? 13 Α. No, no. It was a value that they assumed 14 would be typical when they converted the CONE, the 15 cost of new entry, which is in dollars per 16 megawatt-day into a dollar per megawatt-hour penalty. 17 They took the CONE, expressed it for the year, 18 divided by the number of hours of performance 19 compliance that they expected. They needed a number 20 to do that and they used 30. It's not a maximum. 21 Ο. So you -- and you say PJM assumes that 30 22 hours will occur each year of compliance hours? 23 Α. I would say that is probably assuming 24 that that would be an average. I'm not sure that 25 they explained exactly what they think the 30 hours

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1 means but they certainly seem to think it's a typical 2 value to use.

Q. Well, okay. I'm not going to touch that one. But what I want to ask you is that the objective, I guess, empirical fact is that 30 hours is higher than any of the historical numbers you have listed here, right?

Α.

Yes.

8

9 Q. And the bottom of your range is actually 10 the average of the historical hours. So wouldn't you 11 agree that the -- that you're actually setting a 12 range of what may happen, that zero would be the 13 bottom or even a negative number would be the bottom 14 of the range since it's possible to yield incentive 15 payments with no capacity performance penalties?

16 Let's take the zero. There could be a Α. 17 year in which there were zero performance hours, and 18 so instead of a typical value or an average value, 19 you were asking what could happen in individual years 20 and doing some sort of simulation to do a cash flow 21 analysis for a plant. You could certainly say okay, 22 somewhere between zero, and then try and figure out 23 what it would be if resources were tight, just at the 24 reserve margin, or maybe a little short, or there 25 were lots of imports or various other considerations,

2779 and you can do that calculation. 1 2 Q. Okay. 3 And you could come up with a wide range. Α. 4 If we want to talk about the range of Ο. 5 expected capacity penalties, the bottom of the range would be zero, wouldn't it? 6 7 Α. Not for expected. In any one year you 8 might have zero, but you haven't had zero compliance 9 hours. In the last four years they had, I think, 10 five hours in the AEP region in February of 2015. Ι think it was RTO-wide. So it's not clear what the 11 12 total for this year will be yet, but I certainly 13 wouldn't say that an expectation of zero is 14 reasonable. And I think there's also an expectation 15 that capacity margins are shrinking in PJM and in 16 MISO. 17 Let me get back to my question. So have Q. 18 there been any compliance hours in 2015 as we sit here in mid-October? 19 20 Α. Yes. 21 Ο. When were they? 22 Well, I know of five in February, I Α. 23 believe. I looked at the PJM report on this winter's 24 performance and that number that -- I don't know 25 whether there have been any since then.

2780 You believe there's five compliance hours 1 Ο. 2 in February 2015? 3 That's my understanding, yes. I can find Α. the document during the lunch break if you want. 4 5 Ο. Now, the Table 3 here that we mentioned the Figure 26 in 2014, that was driven by the polar 6 vortex, correct? 7 8 Yes, that would include the hours during Α. 9 the polar vortex. 10 And using 30 hours is a number that's Ο. 15 percent above that polar vortex number; is that 11 12 right? 13 Α. Yes, it's about 15 percent. 14 Now, in your estimate of the expected Q. 15 capacity performance penalty, you basically assume 16 that you use the historical forced outage rate and 17 basically apply that to the compliance in the range of 13-1/2 to 30; is that correct? 18 19 Yes. I think I said that was probably Α. 20 conservative given that the plants are old and aging 21 and reliability problems are likely to increase over 22 time. Well, it wouldn't surprise you that I 23 Q. 24 might argue it's aggressive, and I want to ask about 25 that because are you saying the incentive for

2781 operators to run during compliance hours is the same 1 2 as it's always been historically? 3 Well, no. The incentive to run, if you Α. 4 can, is higher. 5 Ο. It's higher --Because, remember, AEP Generation is not 6 Α. 7 going to be on the hook for the performance of these 8 plants, and any performance penalties are going to 9 flow through to ratepayers under the PPA, so I'm not 10 sure that AEP's incentives have really changed as a result of the capacity performance system. 11 12 Well, so it's your understanding that AEP Q. 13 Ohio, as the buyer of the PPA, will control dispatch of the units? 14 15 Α. Yes, in principle. 16 Is it your understanding that AEP Ohio, Ο. 17 as the buyer of the PPA, will either approve or veto 18 capital improvements to these plants, the affiliated 19 PPA plants? 20 Α. I don't know whether it has veto power. 21 There's a three-member committee consisting of AEP 22 Generation, AEP Services, and AEP Ohio. Since AEP 23 Ohio gets most of its information from AEP Services, 24 as a practical matter, I don't know what AEP Ohio 25 could do other than ask some questions of AEP

2782 1 Service. 2 So you believe under the PPA major Ο. 3 capital improvements are subject to a three-way vote 4 and AEP doesn't have any veto rights? 5 Α. I would have to check that. I do not recall that detail. I know that there's a three-part 6 7 committee. I'm not sure whether they, in fact, have 8 the -- whether the decision has to be unanimous. 9 Is it your understanding that the budgets Ο. 10 for the plants, O&M budgets and things like entering into new fuel contracts, would be things that AEP 11 12 Ohio has some level of control over and 13 decision-making authority under PPA? 14 What were the two categories, fuel Α. contracts and --15 16 O&M budget, annual budget. Ο. 17 I believe that the O&M budget would be Α. 18 subject to that committee. I do not recall whether 19 fuel contracts would be, but that certainly is 20 plausible. And AEP's decisions under all those 21 Ο. 22 provisions would be part of what the Commission 23 reviews for prudence when the company comes in to 24 recover PPA costs; is that your understanding? 25 MS. HENRY: Objection. Vague. He didn't

define which element of AEP. He just referred to
 AEP. There's different AEP entities involved in
 this.

4 I'll rephrase. I was talking about AEP Ο. 5 Ohio. So AEP Ohio, the buyer under the PPA, has all of these actions and decisions, some of which we just 6 7 went through. And do you agree that when AEP Ohio 8 comes in for retail cost recovery of the costs associated with the PPA, the Commission will be 9 10 reviewing AEP Ohio's decisions and actions for prudence when they review retail recovery issues? 11

A. They certainly would have the right to do that. As a practical matter, just how much would get done within the structure of the PPA rider process, I don't know, but the Commission could review those decisions.

Q. But it's your belief that in the context of our discussion about capacity -- performance capacities that AEP Ohio and AEPGR can run up the tab, run those costs through the PPA rider with impunity; is that your position?

A. Well, if the penalties show up in the contract, the Commission has two choices: It can say well, we don't think those were reasonable and deny recovery, triggering the balloon payment, poison-pill

1	termination of contract, which may be the better
2	option. But the Commission would have to think
3	through just what that does to Ohio Edison and to
4	ratepayers and how that sudden liability could be
5	dealt with in terms of ratepaying.
6	Q. I'm going back to your statement. You
7	believe that the new capacity performance regime and
8	the incentives that apparently everybody else has to
9	operate differently and be online during compliance
10	hours, it's your belief that AEP Ohio under the PPA
11	and AEPGR under the PPA would not have those
12	incentives; am I correct?
13	A. Well, incentives would be greatly
14	diluted by the operation of the PPA. When you say
15	"everybody else," you're talking about competitive
16	generators for fully regulated generators subject to
17	ongoing prudence review and disallowance of
18	generation-related costs from their generation rate
19	base, and I guess consumer-owned utilities,
20	communities. So those three categories all have some
21	incentives, the strongest one probably being in the
22	competitive market.
23	Q. But you agree that others who have
24	ongoing prudence reviews, disallowance, would have
25	that incentive, correct?

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A. Yes. Because the Virginia commission can
tag Dominion for poor performance to the plants, and
that comes out of the equity return on the
generation. The Ohio Commission would not be able to
reduce the return on Ohio generation AEP
Generation rate base. They would have to the only
dog they compete with would be AEP Ohio, which is a
smaller dog.
Q. Well, that's your understanding of the

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10 PPA, is that the Commission would not have the ability to, based on prudence or imprudent, exclude capacity performance penalties?

And have that cost not flow to AEP Ohio, 13 Α. 14 that's my understanding. They could say you can't 15 collect it from ratepayers, which would either 16 degrade the financial condition of AEP Ohio and 17 possibly cause lots of other problems; or trigger the 18 termination of the contract and the balloon payment, 19 which would trigger other problems; or they could 20 just let it go through.

21 Q. How is that different from your example 22 in Virginia or other regulated states?

A. The difference is that in Virginia if the
Virginia Corporation Commission says this was
imprudent and we're docking you \$20 million,

\$30 million, that comes out of the return on 1 2 Dominion's very large generation rate base, and 3 you're not going to put them in financial distress 4 because of that or give a much larger number. 5 In this case, in this situation, you 6 would have to impose that cost on the distribution 7 company, which was not operating the plants and which 8 you're then going to be left with a -- I mean, obviously, it doesn't matter if it's a million 9 10 dollars or two, but if it's a large disallowance, AEP Ohio is going to be facing financial difficulties 11 12 that the PUCO is going to have to deal with. 13 I'm not saying it's insurmountable, but 14 it's not something that I think the PUC would want to 15 enter into lightly. 16 So is your analysis in the answer you Ο. 17 just gave premised on your conclusion that AEP Ohio, 18 as the buyer in the PPA, cannot influence, through 19 all the things we talked about earlier, cannot 20 influence the level or occurrence of any capacity 21 performance penalty? 22 MS. HENRY: Objection. Ιt mischaracterizes what has been said. 23 24 MR. NOURSE: I can't hear what she said. 25 MS. HENRY: I said, objection. Ιt

1 mischaracterizes his testimony. 2 MR. NOURSE: Well, I'm clarifying, your 3 Honor. His whole answer is premised on the fact that 4 he thinks AEP Generation Resources will be able to 5 act with impunity, and I want to understand that's 6 his perspective about how the PPA contract would 7 work. 8 MS. HENRY: And it's been asked and 9 answered and been a series of questions. 10 EXAMINER PARROT: I'm not sure it has 11 been. I'm going to overrule the objection. 12 Α. And your question was whether AEP Ohio 13 would have any influence, and the answer is, well, 14 they conceivably could have some influence, but it's hard to see how that could be substantial because 15 16 they rely for their analysis on the same service 17 company that's doing analyses for the generation 18 company. 19 And unless they build up their own 20 analytical ability and essentially their ability to 21 run power plants by proxy and hire a whole bunch of 22 new people and build up a large staff to review all 23 of these things and look for better alternatives, 24 they're going to have very little influence. 25 Then there's the problem of -- if you're

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1	talking about the O&M budget, for example, and AEP
2	Generation tables the budget and says, okay, this is
3	what we want, even assuming that AEP Ohio were really
4	an independent actor and could look and say oh, no,
5	no, you're not spending enough money on this or
6	you're spending too much money on that, what are they
7	going do? Assuming that they have veto power, do
8	they just veto it and there's no O&M budget?
9	They can't run the plant on their own.
10	It's being run by the generation company. They're
11	not really an independent party. This is not as
12	though you were dealing with an operating company
13	which consisted of Dynegy, which was running the
14	plants, and AEP Ohio and some third party just
15	advising them. You're talking about one corporation
16	with one set of shareholders that they're serving.
17	Q. Okay. Are you done?
18	A. Yes. You asked me a question.
19	Q. Here's what I want to ask you. Your
20	answers have all been premised on a penalty that the
21	Commission has, what you're characterizing as a
22	Hobson's choice, either disallow and cause financial
23	injury to the utility or allow it, even though it's
24	imprudent. Okay?
25	A. Yes.

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Q. My question -- my example, it relates to the scenario under the contract where the penalty is avoided to begin with and the incentives that we talked about that have changed for all the rest of the world also apply to this situation.

6 So my question is, is it your opinion 7 that under the PPA contract, AEP Ohio's rights 8 regarding capital, O&M, fuel contracts, and dispatch 9 to the plant have no effect on how -- on whether the 10 capacity performance penalty is incurred? Is that 11 your testimony?

A. No, that wasn't my testimony. I wouldn't say it would have no effect. To the extent that you actually have somebody who's from AEP Ohio, who is on that three-person committee and is worrying about how he's going to explain this to the Commission, that person may ask some questions, push in some directions that make things a little better.

19 Q. Does the three-person committee apply to 20 capital investments?

MS. HENRY: He already said he wasn't sure what applied to Mr. Nourse. Already asked and answered.

24 MR. NOURSE: Your Honor, I'm responding 25 to his answer. He's pinning it all on the operating

1 committee.

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2	MS. HENRY: He's already stated that he's
3	not sure. He'd have to go back and review on which
4	entity makes which decisions. He said he had to go
5	back and look at it.
6	If you want to provide him with the
7	agreement, but he's already stated that he does not
8	remember exactly which entity makes which decisions.
9	Q. (By Mr. Nourse) Let me rephrase. So,
10	Mr. Chernick, your answer relies on the operating
11	committee as a rationale how AEP Ohio's influence
12	would be weak in the outcome of the capacity
13	performance penalty; am I correct?
14	A. Yes, AEP Ohio's
15	Q. Thank you.
16	A not a separate entity.
17	Q. AEP Ohio's not a separate entity, is that
18	what you just said?
19	A. Right. It's part of AEP. It's a
20	subsidiary of AEP. They have the same shareholders.
21	They have the same corporate management.
22	MR. NOURSE: Your Honor, I was going to
23	move on. I still want to talk capacity performance
24	some more, but this might be a good time to take a
25	lunch break, if you'd like.

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1	EXAMINER PARROT: Let's go off the record
2	for a moment.
3	(Off the record.)
4	EXAMINER PARROT: At this point we're
5	going to break for lunch. We will reconvene at 1:30.
6	(Lunch recess taken.)
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2792 1 Thursday Afternoon Session, 2 October 15, 2015. 3 4 EXAMINER PARROT: Go back on the record. 5 Go ahead, Mr. Nourse. MR. NOURSE: Thank you, your Honor. 6 7 8 CROSS-EXAMINATION (Continued) 9 By Mr. Nourse: 10 Q. Mr. Chernick, I want to ask you some additional questions about your capacity performance 11 12 range that you developed we had been discussing 13 before the break, okay? 14 Α. Sure. 15 Ο. And on the bottom of page 18 you're 16 stating the assumptions that you made, and the first 17 one is that you take Net CONE starting from '17-'18 18 and escalate at 4 percent annually. 19 Yes. Yes, that's correct. Α. 20 Q. I wanted to show your workpaper, and this 21 is confidential, but I don't think we'll need to 22 disclose any confidential data in discussing this. 23 All the parties at the table are clear so I'm going 24 to hand this out. 25 But, again, I just want to ask you a

2793 1 couple of questions on the public record, okay? 2 MS. HENRY: Is it an exhibit? 3 Mr. Chernick, do you recognize the Q. 4 two-page confidential document I handed you as part 5 of your confidential workpapers relating to the capacity performance costs? 6 7 Α. Yes. 8 And I want to discuss with you the middle Ο. 9 part of the tables. There are two tables, one on 10 each page. It's basically -- sorry, it's basically line 30, "UCAP Net CONE," see that? 11 12 Α. Yes. 13 Ο. And, first of all, on the first page this 14 represents your calculation of the 191 million, the 15 bottom end of your range, correct? 16 Α. That is correct. 17 Q. And the second page represents your 18 calculation for the top end of 424 million. I think 19 is what you use in your testimony, correct? 20 Α. Yes. So with that I'm directing your attention 21 Ο. 22 to line 30, UCAP Net CONE RTO, so are these numbers in that row annualized or calendarized? 23 24 I understand what you're asking, whether Α. 25 they're for the capacity or for the calendar year. Ι

2794 believe that they're for the capacity year, but I 1 would have to check that. I'm sorry you didn't ask 2 3 for it before lunch. 4 Ο. I didn't want to hand out confidential 5 documents right before lunch. Let me help refresh 6 you on this. 7 MR. NOURSE: And I would mark this as an 8 exhibit, your Honor, Exhibit 24. Let me just give it to the witness and his counsel and I'll ask a 9 10 preliminary question to make sure nothing on here is 11 confidential. 12 (EXHIBIT MARKED FOR IDENTIFICATION.) 13 Ο. So, Mr. Chernick, there's these numbers, 14 and I'll represent to you they are the PJM planning 15 year Net CONE numbers for the planning years 16 indicated, and then there's a "Calendar Year" column 17 and then there's a "Calendarized Net" CONE column, 18 okay? 19 Α. Yes. 20 And none of those numbers would be Ο. confidential; am I correct? 21 22 Α. That is correct. So the numbers to the left under 23 Ο. 24 "Planning Year," Net CONE, look correct to you as far 25 as the planning years indicated, '15-16, '16-'17?

2795 1 Α. Yes. 2 MR. PRITCHARD: Sorry to interrupt, 3 Were these two documents marked as exhibits? Steve. 4 MR. NOURSE: Just the one. The one we're 5 talking about now is an exhibit. The other one is a workpaper. I just was using that to bring in this 6 7 public exhibit. 8 And so, Mr. Chernick, the numbers in the Ο. 9 column entitled "Chernick's Net CONE," a line up with 10 line 30 of your confidential workpaper, capacity performance, correct? 11 12 Α. That is correct. 13 Ο. And you, of course, know how to transform 14 a planning year number into a calendar year? Α. 15 Yes. 16 And do these calendarized Net CONE in the Ο. 17 middle of the table look correct on that basis? 18 It would be five months at the earlier Α. 19 planning year, the year ending -- planning year 20 ending in the calendar year, and seven months from 21 the planning year, beginning in the calendar year. 22 So just to use an example -- I'm sorry, Q. 23 qo ahead. 24 And just eyeballing them, yeah, looks Α. 25 like this is about right.

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1	Q. So just to use an example, if we were to
2	use the '15-'16 planning year number of 311.07 and
3	the '16-'17 number of 330.53, we would take 311.07
4	times 7 and add that to 330.53 times 5 and then
5	divide by 12, right?
6	A. I'm sorry, you're doing the '16-'17?
7	Q. No. I'm sorry. What I want to do is
8	transform these planning year numbers into
9	calendarized, so let's use 2016 as an example. Here
10	in the chart it has 322.42.
11	A. So you have 7 months of the 330 and 5
12	months of 311, because the first
13	Q. It would actually be the other way
14	around, Mr. Chernick.
15	A. In calendar year '16, you have 5 months,
16	January through May, that are at the '15-'16 rate,
17	and then 7 months, June through September, at the
18	higher rate for 2016-17. And, in fact, you're coming
19	up with something above the average of 111 and 230,
20	so it looks like you're doing it looks right.
21	Q. Let me ask you, because with all due
22	respect, I think you misstated in your last answer,
23	and we can read it. You can opine on that, but let
24	me try again and see. So for calculating 2016, which
25	would be he middle column, 322.42, that's a

2797 calendarized year, and we would be taking 7 months of 1 2 the '15-'16 number, right, 311.07? That would be 7 3 months, June through December? 4 MS. HENRY: Are you trying to get to the 5 calculation? MR. NOURSE: Your Honor, can I just --6 7 MS. HENRY: I'm trying to --8 Α. The '15-'16 year runs from June of 2015 9 through May of 2016. 10 Q. Right. Therefore, for 2016 there are 5 months, 11 Α. 12 January through May of the '15-'16 year that are in 13 2016 calendar year. And then 7 months of the '16-'17 year. 14 Q. 15 Α. Right. 16 And I apologize if that's what you said Ο. 17 before. 18 Right. Α. 19 Do you need a calculator? Q. 20 Α. No, no. I'm perfectly willing to take these as being accurate. 21 22 Subject to that math, that's what these Q. calendarized Net CONE numbers in the middle of the 23 24 table should be; is that correct? 25 Α. That looks about right, yes.

2798 Then if we go back to your workpaper for 1 Ο. 2 a moment, I asked you earlier if the line 30 numbers 3 were calendarized. I believe you indicated that they 4 were. 5 Α. I think I told you I didn't know and I'd 6 have to check. But the answer should be that they 7 are -- they're planning year numbers. 8 But you're applying this workpaper, Q. vou're applying planning year numbers through the 9 course of calendar years? 10 Α. 11 Yes. 12 Ο. And based on AEP Ohio Exhibit 24, that 13 would actually overstate the effect of calendar year 14 calculating by not using calendarized numbers, correct? 15 16 Yes. In 2016 and 2017, it's about a Α. 17 2 percent difference, and the difference in 2018-19 18 is because I didn't have the actual value when I was 19 doing this analysis, and I assumed that it would 20 continue to rise, but, in fact, it fell. 21 Ο. You're taking us right where I wanted to 22 qo. So page 18 in footnote 10, you say that -- in reference to the above calculation, you say, "This 23 24 may be slightly overstated since Net CONE fell from '17-'18 to '18-'19." 25

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1	A. Uh-huh.
2	Q. Is that based on an actual review of the
3	'18-'19 number?
4	A. Yes.
5	Q. And if you turn to page 43, Table 17,
6	right there we see the '18-'19 number
7	A. Yes.
8	Q of \$300.57, right?
9	A. Yes.
10	Q. So it wasn't that you actually didn't
11	have the information; you just didn't use it in
12	calculating this number?
13	A. I didn't have it when I was doing this
14	analysis.
15	Q. Which analysis?
16	A. I had it by the time that I finished up
17	the testimony, but I didn't go back and redo this
18	capacity performance analysis with that correction.
19	Q. So when you say it's "slightly
20	overstated" in footnote 10, that's a reference to
21	your use of \$365.44 in 2018 rather than the
22	calendarized 321.75, correct?
23	A. I don't know that I actually did that
24	calculation, but that's what I was referring to.
25	Q. And that's more than slightly overstated,

2800 1 wouldn't you agree? That's what? 12 percent for that one 2 Α. 3 year, and, of course, we don't know what will happen 4 after that. 5 0. Okay. But, again, looking at AEP Ohio Exhibit 24, for '18-'19 you use \$365 instead of 6 7 \$300.57? 8 Α. Uh-huh. 9 Ο. That's about 20 percent -- in excess of a 20 percent difference, isn't it? 10 11 No. 20 percent would be \$64, so it's Α. 12 under 20 percent. I was guessing that it was 12 or 13 13. 14 It's almost 20 percent on the nose then. Q. Α. 15 No. 16 Let me ask you --Ο. 17 If it were 20 percent, it would be \$62.30 Α. 18 or 34 cents, so it's considerably less. It might be 19 15 percent. I guess I can take out my phone and 20 actually do the calculation. 21 Ο. Let me ask you again. So you use the 22 \$365.44 --23 Α. Yes. 24 -- instead of what you have in Table 17 Ο. 25 on page 43, which is \$300 and change, right?

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1	A. That is correct.
2	Q. And that's a difference of 65
3	approximately \$65?
4	A. Wait a minute. I used the value for
5	the calendar year should have been 322, and I used
6	365. That's the difference that you show of \$43.70.
7	Q. On table sorry, go ahead.
8	A. And you're right, for the earlier years I
9	got lazy and I used the planning year number rather
10	than the calendar year number, and they were only
11	they only differed by about 2 percent.
12	Q. Well, I'm talking about '18-'19. That
13	was my question.
14	A. For '18-'19 I didn't look at the updated
15	number. I either did this analysis before the new
16	one came out or it just slipped my mind to look and
17	see if the new CONE had been posted.
18	Q. So the new CONE was in your testimony?
19	A. Oh, yes. And certainly by the time I
20	filed my testimony I had the new CONE. I just didn't
21	go back and redo this analysis.
22	Q. And that inflated number was further
23	inflated in all remaining years of your projection,
24	right?
25	MS. HENRY: Objection. You're testifying

about it. Did he notice it was overstated in his 1 2 testimony? He acknowledged it here. I believe that 3 you're using inflammatory language. It's 4 inappropriate. 5 Ο. (By Mr. Nourse) Well, Mr. Chernick, the 6 number that you agreed was too high was used and 7 further inflated throughout the rest of the years in 8 your analysis, correct? And I want you to do the 9 math and try to correct it. You'd add another 10 correction into the record, but I'm asking you a specific question. 11 12 Α. Well, it's not really a correction to the 13 record. I had to make an assumption about what the 14 future CONE would be. And I don't know, they might 15 rise very slowly from the 300. They might jump back 16 up to 350 or higher. You could make other 17 assumptions. 18 But your approach was to take a beginning Ο. 19 number and escalate 4 percent; am I correct? 20 Α. That is correct. 21 Ο. And mechanically you used a higher number 22 than the actual number, and you further inflated it throughout the remaining years in your analysis; am I 23 24 correct? 25 Α. Yes. And if I had been aware that the

2803 CONE had dropped in 2018-19, and I had the time to 1 2 think about what that meant and how to deal with it, 3 I think I probably would have inflated that number 4 for a period of years and then assumed a new reset 5 and used some kind of average from the earlier years, again, assuming some escalation in the CONE from that 6 7 base. But I would have done a different kind of 8 analysis had I known that the Net CONEs were going to 9 drop in 2018 and '19. 10 MR. NOURSE: Your Honor, I think my question was very clear. And I've been very patient 11 12 with this witness, but I would move to strike 13 everything after the answer "yes." 14 MS. HENRY: Objection. He's explaining 15 his answer. Every witness that I have seen in this 16 hearing has been allowed that opportunity. 17 MR. NOURSE: I asked him a mechanical 18 question about his analysis, and he went on to defend 19 the substance of why he would have done something 20 different if he had it all to do over again. That's 21 not what I asked him. 22 MS. HENRY: You asked him a mechanical 23 question about his analysis, and he provided the 24 context of that mechanical analysis, how long it 25 takes to do an analysis, when you can incorporate new

	2804
1	information, how long it takes to incorporate new
2	information.
3	MR. NOURSE: That would be redirect, your
4	Honor.
5	EXAMINER PARROT: I'm going to deny your
6	motion to strike, Mr. Nourse. I believe it provides
7	a full response.
8	Q. (By Mr. Nourse) Mr. Chernick, shouldn't
9	the prospect of capacity performance penalties raise
10	prices in and of itself?
11	A. Raise the market clearing capacity price?
12	Yes, that's what you would expect, and that's what
13	we've seen.
14	Q. And do your forward prices reflect an
15	additional risk starting in 2021 when a hundred
16	percent of the planning year capacity units must
17	qualify as capacity performance?
18	A. Are you talking about a particular
19	calculation?
20	Q. You have a table showing your energy
21	forecast. I believe it's Table 8. You have a table
22	showing your capacity forecast. Can you show me how
23	those reflect the bump that would be expected between
24	now and 2021?
25	A. I don't believe that it would necessarily

## 2805 have any direct effect on the capacity -- excuse me, 1 2 on the energy market. In the capacity market I start 3 with a capacity performance price of 164.77 in 2019. 4 This is in Table 17. And for the year -- the 5 capacity year ending 2019, the actual price was 6 164.77, and I escalate from there. 7 So your escalation is a flat 5 percent, Q. 8 correct? 9 That is correct. Α. 10 Q. And so, again, my question, where in your RII capacity price projections, Table 17, does the 11 12 phase-in of capacity performance from 80 percent and 13 90 percent to 100 percent, inflating your 2021, how 14 is that reflected in your prices? 15 Α. 2019, this is the price for capacity 16 performance, so the escalation from that point on 17 includes capacity performance responsibilities. 18 Is it your understanding that all Q. 19 capacity -- all resources clearing in the auction 20 have to be capacity performance starting in '18-'19? 21 Α. No. There's separate procurements for 22 base and performance capacity, and this is the 23 performance capacity price. 24 Do you know what level of capacity Ο. 25 resources had to clear as capacity performance

2806 1 resources in the '18-'19 auction? 2 Α. I believe it was a minimum of 80 percent, 3 and I think a little bit more than that cleared. 4 Ο. And in the '19-'20 auction, 90 percent 5 has to clear, correct? Α. That is correct. 6 7 And the '20-'21 auction, 100 percent has Ο. 8 to clear, correct? 9 Α. Yes. 10 Ο. And so each increment as we go up -would you agree that going from 80 percent to 11 12 90 percent is about 17,000 megawatts? 13 MS. HENRY: Objection. You said you're not going from 80 to 90, that it already cleared 14 above 90 percent calendarized in his testimony. 15 16 MR. NOURSE: My question is not relating 17 to characterizing his testimony, your Honor. 18 EXAMINER PARROT: I'll allow the 19 question. 20 Α. I'm sorry, the question part of the 21 question was what? 22 So in the '18-'19 auction, you agreed Ο. that 80 percent of the clearing capacity resources 23 24 had to be capacity performance resources? 25 Α. Right.

2807 1 And so when we jump up to 90 percent in Ο. 2 the '19-'20 planning year, do you know how many 3 additional megawatts of capacity that didn't clear as 4 capacity performance resources now have to be cleared 5 as capacity? I would have to check. 6 Α. 7 Ο. Okay. Does 17,000 megawatts sound about 8 right, 10 percent? 9 Α. It's of that order of magnitude, but I don't have all of these numbers in my head. 10 11 And then an additional 10 percent that Ο. 12 didn't clear before has to clear in addition to 13 everybody that already cleared in the '20-'21 auction, correct? 14 15 Α. Yes. 16 So the addition of tens of thousands of Ο. 17 megawatts to the auction as clearing capacity 18 performance resources should bump the price up, shouldn't it? 19 20 Α. Well, and I do bump the price up, and 21 these prices were high enough to attract new generic 22 gas-fired generation. So it's not clear that you 23 need substantially higher prices in the future to get 24 more of it. 25 And I escalated the price at 5 percent to

allow for the possibility that future generation 1 2 options would be more expensive in terms of needing 3 to look hard to find a good site, although there are 4 actually lots of good sites available. But, anyway, 5 I put in some extra. You put 5 percent? 6 Ο. 7 Α. Yes. 8 You're saying the 5 percent covers the Ο. additional tens of thousands of megawatts that have 9 10 to clear by 2021 as capacity performance resources? Well, it certainly could. For example, 11 Α. 12 from 2017-18 to 2018-19, the capacity performance 13 price went up by from \$151.50 to the \$164.77. And 14 those are actuals, not my projections that I made before I saw the actuals. So that's a \$13 increase 15 16 on a \$151 base -- excuse me. Let me just do a quick 17 calculation. 18 We're talking about your 5 percent Ο. 19 escalator, not your use of actual numbers. 20 Α. That's about an 8.8 percent increase, and 21 that's with an increase -- a substantial increase in 22 the amount of capacity that was required as was going 23 to be acquired as capacity performance and with 24 increasing penalties for nonperformance. And, that 25 was an 8.8 increase.

	2809
1	Q. Mr. Chernick
2	A. So saying a 5 percent increase or just
3	another 10 percent increase sounds plausible.
4	Q. So that's the entire reason you escalated
5	by 5 percent, was to account for the bump in capacity
6	performance resources?
7	A. It's a combination of capacity
8	performance and the possibility that the future
9	development might be more expensive than current.
10	Q. Are these numbers in Table 17 under the
11	RII Projection column nominal?
12	A. Yes.
13	Q. As opposed to real?
14	A. Yes.
15	Q. So you didn't account for any inflation
16	separately? That's just that's also embedded in
17	your 5 percent, isn't it?
18	A. Right. So I think I said something about
19	this is 5 percent, which is higher than the 2 percent
20	inflation, general inflation, that most people
21	expect, and that would be an allowance for such
22	factors as increased difficulty of finding good sites
23	at some point in the future.
24	Q. So in real terms, your 5 percent
25	escalator is really a 3 percent escalator, correct?

1 Α. Correct. 2 And now the 3 percent captures the bump Q. 3 that we talked about going from 80 to 90, 90 to 100? 4 Α. It's the same as the 5 percent. 5 Ο. And does the 3 percent also capture all the facts of future load growth and the impact on 6 7 price it might have? 8 Again, the only way that future load Α. growth would matter would be if additional capacity 9 10 additions, the ones that are needed to meet the requirements in 2020 or 2021, are more expensive than 11 the plants being built for '16-'17, '17-'18, '18-'19. 12 13 Ο. Well, my question goes to your whole 14 ten-year forecast here. So your 3 percent escalator, 15 in addition to capturing the bump we talked about, 16 that 80 to 90 to 100 percent, it also covers any 17 future load growth in that entire period in your 18 view, correct? 19 Again, I don't understand why you think Α. 20 load growth is relevant. 21 Ο. You don't believe load growth drives up 22 the price of supply and demand? If there's a set of power plants that are 23 Α. 24 available for construction, they're essentially the 25 same power plant just at different sites. There will

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## 2810

2811 be small differences in their costs, and I've got 1 2 some real escalation to account for that. 3 Does your 3 percent real escalation Ο. 4 account for future unit retirements? 5 Α. That effect would be exactly the same as for load growth. 6 7 Does your 3 percent real escalation Ο. 8 account for the effects of wage growth over the next ten vears? 9 10 That -- I don't think real wages have Α. been growing faster than inflation, but that is 11 12 included in the -- that would be covered in the 13 5 percent. 14 Would that also include any tax increase Q. over the next decade? 15 16 Increased property taxes? Α. 17 Q. Any taxes. 18 MS. HENRY: Objection. Vague. If some --19 Α. 20 EXAMINER PARROT: Overruled. 21 Α. If there were some substantial change in 22 tax structure, that would change the bidding 23 behavior. I don't if anyone would want to put it in 24 the forecast one way or the another. It might go up, 25 might go down.

2812 You expect taxes to go down in the next 1 Q. 2 decade? 3 Seems possible that marginal corporate Α. 4 taxes go down as part of a tax reform. 5 Ο. Is that an assumption you made which you built into your 3 percent real escalation? 6 7 Α. No, I didn't. I picked the 5 percent 8 nominal escalator to allow for some upward pressure. 9 And does your 3 percent real escalator Q. 10 include any effects of PJM market reforms in the next 11 decade? 12 Α. PJM market? 13 Ο. Reforms. 14 MS. HENRY: Objection to vaque, to the extent we've already discussed a number of those 15 16 reforms. 17 We discussed a number of the features of Ο. 18 PJM, but, Mr. Chernick, let me ask you a different question. Do you agree that PJM comes up with 19 20 different rules every year? 21 Α. Yes. There are at least tweaks to the 22 rules just about every year. Now, your capacity projections in Table 23 Q. 24 17 never approach Net CONE, do they? 25 Α. Not the estimate that PJM uses. It is

based on the actual observed Net CONE. 1 2 And we talked about Net CONE a fair Ο. 3 amount. Can you give me your understanding of what 4 Net CONE is supposed to capture? 5 Α. In the PJM market-making concept, they hypothesize some plant -- or, actually, I think 6 7 plants in various parts of PJM and hypothesize the 8 cost and the construction period and the financing and come up with capital costs, make assumptions 9 10 about operating costs, annualize the capital costs, come up with a dollar per megawatt-year cost, which 11 12 would be converted to dollars per megawatt-day, and 13 then net out expected revenues from the energy or net 14 revenue profits from the energy ancillary markets. 15 Q. The concept is as supply is constrained 16 over time, the reserve margin goes down. Then the 17 Net CONE price and capacity auction would help incent 18 construction of new generation, correct? 19 Yes, and it has. Α. 20 Q. And does the fact that your capacity 21 prices never approach Net CONE suggest that energy 22 margins are going to sustain the needed level of investment? 23 24 At current energy prices, the current Α. 25 futures market developers are willing to build

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combined-cycle plants and I believe also some peaker, 1 2 but mostly combined cycle, at the kind of prices that 3 we've observed most recently in the 2018-19 auction, 4 the 167,577, and that's the actual Net CONE. The 5 actual net cost of new entry for the actual plants 6 that actually entered the market have been 7 consistently lower than the theoretical concept that 8 PJM uses. 9 And would you agree that's a function of Ο. the reserve margin being presently above target level 10 for PJM? 11 12 Α. No, no. The fact that PJM has a high 13 reserve margin doesn't mean that I, as a developer, 14 am willing to operate a plant for less than it cost 15 me to build and run it. I'd be crazy to do that. 16 Why would I do that? 17 No, it has nothing to do with that. Ιf 18 the zero margin were high enough that the clearing 19 price were very low, then it just wouldn't get built. 20 I wouldn't clear in the market, and I wouldn't be 21 building my plant, or I wouldn't have built it. 22 So reserve margin does affect the price, Q. 23 thus affect the development decision, correct? 24 Yes, it has. Α. 25 Q. Do your projected capacity prices

incorporate implementation of MATS and the Clean 1 2 Power Plan environmental requirements? 3 The actual prices that we see for Α. Yes. 4 2018-19, that covered plants, I believe would all 5 have been under the MATS requirement. How about the Clean Power Plan, when is 6 Ο. 7 that expected to go into effect? 8 That would go in in -- I believe the Α. 9 first effective year would be 2022, and that the 10 actual performance period is 2022 to '24, so the performance is based on an average in that period. 11 12 And there may be -- I believe there's options for 13 credits for early reductions. So depending on how 14 you count it, it's somewhere between 2000 -- or maybe something like 2018 through or 2024 sort of the range 15 16 of where you would say compliance starts or the 17 effects start. 18 Is the cost of Clean Power Plan Ο. 19 compliance significant, in your view? 20 Not in terms of the capital cost of new Α. 21 units being added, the ones that are setting the 22 clearing price. 23 So does that suggest that units that do Q. 24 need to spend money to comply will all retire? 25 Α. No. Some of them will retire, and some

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## 2815

1 of them will be marginal and will clear in the 2 auctions and continue in operation. Many of them, as 3 you see with the MATS compliance, many plants 4 complied and continued to operate and many are 5 shutting down. And can you tell me how your RII 6 Ο. 7 projection to capacity price in Table 17 reflects the 8 implementation of the Clean Power Plan in 2022? 9 Well, again, the new units don't have to Α. 10 add anything to the plant beyond what's required today under the Clean Power Plan. They have to be 11 12 efficient. 13 Q. These are the gas units you're talking about? 14 15 Α. Yes. 16 Those are the units that Sierra Club Ο. 17 opposes? 18 MS. HENRY: Objection. Mischaracterizes 19 his statement earlier. He already said he worked 20 with Sierra Club on supporting gas plants. I know 21 you really want us to oppose all gas plants, and that 22 hasn't been proven in the record. So, please, keep 23 to the facts. 24 MR. NOURSE: If Ms. Henry is going to 25 testify --

2817 1 EXAMINER PARROT: Everybody, enough. MS. HENRY: Objection. Assumes facts not 2 3 in evidence. 4 EXAMINER PARROT: Rephrase, Mr. Nourse. 5 Ο. (By Mr. Nourse) Mr. Chernick, gas units set all the prices in PJM? 6 7 Α. I believe that new gas units are 8 basically setting the capacity price. The energy prices are set by a combination of coal and gas and, 9 to some extent, other fuels. 10 And so can we agree that off-peak energy 11 Ο. 12 prices are driven in large part by coal units? 13 Α. Coal is marginal, more often off peak 14 than on peak. I'd have to check on whether I have 15 any data on exactly how much, but coal is certainly a 16 significant contributor to the marginal supply for 17 PJM. 18 Well, let's talk about your energy Q. 19 prices, Mr. Chernick. Your energy forecast is in 20 Table 8 in your testimony, right? 21 Α. Sounds right. 22 On page 29. Q. 23 Α. Yes. 24 And, first of all, I just want to make 0. 25 sure I understand. Your RII column in Table 8, the

2818 prices that began and end with \$35 in a ten-year 1 2 period, those were based on your calculations that 3 relate or that stem from Table 7; am I correct? 4 Α. Yes. 5 Ο. And, again, mechanically you took the forward values in the various hubs listed in Table 7. 6 You applied a ratio to the non-AEP zone numbers --7 8 Α. That is correct. 9 Ο. -- and came up with a weighted average 10 price, if you will, for each year based on that mechanical calculation, right? 11 12 Α. Yes. I used the AEP zone through 2018 as 13 far as I found traded values, and then I used the 14 nearby hubs' trading points, which, as I show in 15 figure 3, are very close to the bracket, the AEP 16 price. 17 So I think the first part of your answer, Q. 18 the forwards in Table 7, the AEP zone and AEP/Dayton 19 Hub, both did not have trading prices that went out 20 the full study period, correct? 21 Α. That is correct. 22 What does that mean to you? There's no Q. 23 trading in that year as far as part of the forward 24 market? 25 Α. There hasn't been enough interest of

2819 buyers and sellers in locking in prices out that far 1 2 for those specific points. There's apparently just 3 further out for other hubs. 4 So the AEP/Dayton Hub only goes out to Q. 5 2021 with any prices; is that correct? That is correct. 6 Α. 7 Ο. And the AEP zone only goes out to 2018, 8 correct? 9 That is correct. Α. 10 Q. And did you use realtime or day-ahead pricing for the forward data you relied on? 11 12 Α. I used day-ahead prices. Most of the 13 energy is traded in the day-ahead market. The 14 generators, I believe, are required to be into the 15 day-ahead market. 16 So the pricing you're trying to achieve Ο. 17 in the AEP zone didn't have any forward-pricing data 18 for the period you wanted priced; is that correct? 19 I didn't have forwards for the Α. Right. 20 AEP zone or the AEP Generation Hub, and beyond 2021, 21 I didn't have prices specifically for the AEP/Dayton 22 So those last three years I used the average of Hub. 23 the PJM Western Hub, which is to the east and higher 24 priced, and the MISO Indiana Hub, which is to the 25 west and lower priced, but, again, bracket the AEP

2820 1 prices quite closely. 2 You had to rely on those other hubs to Q. 3 even create a price that appear on Table 7, correct? 4 Α. Yes. 5 Ο. Would you agree that published forward 6 prices reflect bilateral contracts for future 7 delivery of the power at the agreed price? 8 Α. Yes. 9 And the agreed contract price is not Ο. 10 necessarily the market price that will happen in a future delivery period, right? 11 12 Α. They're actual prices today that you 13 could lock in today. 14 And the market price in that future Q. 15 delivery period may be quite different, correct? 16 Yes. In any particular month it probably Α. 17 will be different and different quarters. 18 And are published forward prices intended Ο. 19 as a forecast of future market prices? 20 Α. No. As I just said, they're actual 21 prices. It's like when you call up an airline and 22 ask them what it would cost to fly to Dallas in 23 December and they give you a price. That's in the 24 forecast of what the spot price will be if you walked 25 in on that day and said I'd like to buy a ticket.

2821 1 It's a price, an actual price, that guarantees you a 2 ticket at that cost. 3 But as we talked about earlier, you can't Q. 4 qo in and purchase 3,100 megawatts of capacity over a 5 30-year period from these forward markets, right? 6 Α. Nor would you want to. 7 Q. And so even though they're not intended as a future market price, that's the way you're using 8 9 them in your testimony, right? Well, one way of looking at it is that 10 Α. you can compare the cost of over the ten-year period 11 12 for which we do have forwards, which is the only 13 period that the company has analyzed actually. And 14 so we do have forwards for that period, and you can 15 say that's actually what you can get power for, if 16 you just wanted to go out and get it. And how much 17 extra are you paying for the power if you lock into 18 the PPA and the plants perform as the company 19 predicted? 20 Ο. But my question was, you agreed that 21 forward prices are not intended as future market 22 prices? 23 Α. They are future prices, but they're not a 24 forecast of a spot price. They're today's forward 25 price. They're a real price.

2822 They're not intended as forecast future 1 Ο. 2 market prices, but that's how you used them in your 3 testimony, correct? 4 MS. HENRY: I believe the question's been 5 asked, I think the fourth time. MR. NOURSE: Nope, he didn't answer it. 6 7 He went off on another explanation. 8 MS. HENRY: I believe he said it was better than a forecast. It's reality. 9 10 MR. NOURSE: Different question. 11 EXAMINER PARROT: Hang on. 12 MR. PRITCHARD: At this time I think I'm 13 going to join in the objection. I think we've asked 14 these questions about the future spot prices this 15 morning, this afternoon, multiple times, and I think 16 I've heard the same question asked four different 17 ways now with three similar answers. 18 MR. NOURSE: First time I asked that 19 question, your Honor. 20 EXAMINER PARROT: I think I'm going to 21 overrule the objections. 22 Let's give you one more shot, Mr. Nourse. 23 Can you answer the question, 24 Mr. Chernick, as it was put to you? 25 Α. Could I have it one more time?

2823 You agree that the forward prices are not 1 Ο. 2 forecast future market prices? 3 They're not intended to be forecasts. Α. 4 But that's exactly how you've used them Ο. 5 in your testimony, correct? And I answered, well, one way you can 6 Α. 7 view my calculation is how much extra are you paying 8 for the energy above what you could buy it for at today's forward prices. So in that sense, no, I'm 9 10 comparing it to actual prices. And then if you want to ask the secondary 11 12 question, well, since I put them into a model that 13 Dr. Pearce developed for the purpose of evaluating 14 the PPA against a forecast, perhaps I'm using them 15 like a forecast. If the market participants thought 16 the prices in the day-ahead, month-ahead, year-ahead 17 market out into the 2024 range were going to be very 18 different from the current futures, there would be a 19 lot of trading to bring those two closer to balance, 20 so they're as good a predicter we have of future 21 prices given all of the intelligence and analysis 22 behind all the market 23 Well, you mentioned the volume of trading Ο. 24 and your basis for Table 7. 25 MR. NOURSE: I'd like to approach, your

2824 Honor, and mark AEP Exhibit 25. 1 2 (EXHIBIT MARKED FOR IDENTIFICATION.) 3 Mr. Chernick, first of all, I want to ask Q. 4 you about your workpapers related to Table 7. 5 MS. HENRY: Sorry. What was the number on this one, AEP what? 6 7 MR. NOURSE: 25. 8 Before we get to the exhibit, Q. 9 Mr. Chernick, I'm going to ask you about the 10 workpapers for Table 7. To be clear, what I understand from your workpapers is that you pulled 11 12 these forward prices from the hubs that you list. I 13 presume you pulled monthly prices? 14 It's the form that they're available in, Α. 15 yes. 16 That's the raw data that you used? Q. 17 Α. Yes. 18 And there's day-ahead, and there's Q. 19 realtime, correct, available? 20 Α. Yes. 21 Ο. And there's peak and off peak available? 22 Α. Yes. 23 Ο. And so you took the raw data of the 24 forward prices, and you created an annual price, 25 potentially around-the-clock price, for each year

2825 1 involved with each of those hubs; is that accurate? 2 I believe what I did there was that I Α. 3 weighted on- and off-peak prices for each month by 4 the fraction of the PPA generation that Dr. Pearce 5 forecasted for each month on and off peak. So this 6 is not exactly a standard around-the-clock, which would be a constant, say, 50 megawatt-hours per hour 7 8 for every hour of the period, but a varied number 9 depending upon when Dr. Pearce expected the plant to 10 be operating. 11 Now, with that background, I've handed Ο. 12 you AEP Exhibit 25, which is AEP/Dayton Hub peak 13 data. Does this format look familiar to you? 14 Well, not exactly. I don't see these Α. 15 particular screens, but I download daily data that's 16 PDFs from the Intercontinental Exchange. 17 Q. And you see the logo up in the upper 18 right-hand corner? 19 Α. Yes. 20 Ο. This appears to be ICE or 21 Intercontinental Exchange data that you're familiar 22 with? 23 Α. Yes. 24 And the kind of data that you pulled to Ο. 25 incorporate into your workpapers as we just

2826 1 discussed? 2 Α. That is correct. 3 And I want to ask you about a couple Q. 4 columns in particular. So there's a column --5 MS. HENRY: Are you going to provide the entire -- I'm sorry. You're only providing the peak, 6 7 and I believe he's talking about he didn't just look 8 at peak. He looked at off peak. 9 MR. NOURSE: Well, your Honor, I'm not 10 trying to replicate all the data he put in his workpapers for all the hubs and for all the peak and 11 12 off peak. That's not the purpose of this. 13 MS. HENRY: If you're going to try to do 14 a comparison --EXAMINER PARROT: Let's see where it 15 16 goes. Proceed. 17 MR. NOURSE: Thank you. 18 (By Mr. Nourse) So, Mr. Chernick, the Q. 19 columns I wanted to ask you about, the settling 20 price, see that? 21 Α. Yes. Comes out as S-E-T-T-L on this. 22 Q. Right. And you recognize that, for 23 example, in the January 2016 strip, the price is 24 \$43.85. 25 Α. Yes, that's what's shown here.

2827 And that's for a megawatt-hour? 1 Q. 2 Α. That is correct. 3 MS. HENRY: Objection. Vague. He said 4 it was a peak hour. 5 EXAMINER PARROT: He's already answered the question. 6 7 MR. NOURSE: Yes, it's already indicated, 8 Ms. Henry. I am just trying to read these tables. 9 Ο. The next column is "OI." Do you know what that stands for? 10 Yes, that's open interest. 11 Α. 12 Q. And how would you define "open interest"? Α. That's the number of standard contracts 13 14 that are open that have been executed and haven't expired or otherwise been discharged by the parties 15 16 through this exchange. 17 So for that first line, January 2016, we Ο. 18 have an open interest number of 3030, which would be 19 3,000. I'm sorry. What number would you attribute to that in terms of megawatts? 20 21 Α. I believe these are 50-megawatt blocks, 22 but I'd have to check. I'd want to be certain about it. 23 24 Yeah, okay. Well, I believe they're 1 Ο. 25 megawatt. That's why this price is also stated in

2828 1 1 megawatt, as we already established, right? 2 MS. HENRY: Objection. He said he didn't 3 know. 4 MR. NOURSE: He said his belief was it 5 was something else, so I want to try to help him remember. 6 7 EXAMINER PARROT: All right. 8 I'm sorry, I would have to check with Α. what units the open interest is stated in. 9 10 Q. Well, accept, subject to check, for me that these are megawatt numbers. You deal with this 11 12 ICE data all the time, right? 13 Α. Not every day, but I've used it many times, several times. I've often used the NYMEX 14 15 data, which is a similar trading platform. 16 MR. NOURSE: Your Honor, I'd like to use 17 a document, ICE document, to help refresh 18 Mr. Chernick on the contract size, if I could 19 approach. 20 MS. HENRY: I mean, he said he uses 21 NYMEX. 22 MR. NOURSE: I'll show it to your counsel first. He used ICE in this case. 23 24 (By Mr. Nourse) I think you've already Ο. 25 stated you used ICE data in this case?

	2829
1	A. I did, yes.
2	Q. And if you could use the document I've
3	just handed you to refresh your recollection on what
4	the contract size is.
5	A. The contract size is stated in this
6	document as being 1 megawatt.
7	Q. And the number of open interest is the
8	number of contracts. You stated that earlier, right?
9	A. Yes.
10	Q. Thank you. So then on January 16th,
11	the first line you were discussing, you would agree
12	that the open interest column indicates that there
13	are 3,030 megawatts of energy under contract for that
14	period, correct?
15	A. Yes.
16	Q. As we move down the table and there
17	are multiple pages, I'm not going to go through each
18	line item but you see what you expect to see,
19	correct, that the volumes, that the open interest
20	specifically goes down further out in time you go in
21	the tables?
22	A. Yes.
23	Q. And the numbers go down on the fourth
24	page back. For example, this is January '20-'21
25	where zeros start. The zeros go from that point

2830 1 forward. 2 Α. Yes. 3 So I want you to hang on to this for a Q. 4 second. 5 MR. NOURSE: And I'm going to mark AEP 26, your Honor, if we can approach. 6 7 EXAMINER PARROT: You may. 8 (EXHIBIT MARKED FOR IDENTIFICATION.) 9 Ο. Mr. Chernick, you can take a moment if 10 you want to check the data exhibit I gave you, but this table represents an illustration of a few 11 12 different months. It lists the open interest and the 13 1 megawatt per contract. With me so far? 14 Α. Yes. 15 Ο. And then I should give you one other 16 document to work with here. I don't think we need to 17 mark this as an exhibit, but I'd like to approach and 18 hand out the document to discuss. 19 Mr. Chernick, the next column on AEP 26 20 was the "PJM Forecasted Load," so I wanted to give 21 you this document for reference, as a source. And do 22 you recognize this as the PJM load forecast report dated January 2015? 23 24 Α. Yes. 25 Q. If I could direct your attention to page

2831 52. Do you see the AEP/Dayton Hub listed there, 1 2 Table B2? 3 Well, there's the AEP zone and the Dayton Α. 4 zone. 5 Q. Right. There is no AEP/Dayton Hub in the PJM 6 Α. 7 forecasting. It's a different concept. 8 Is there a Dayton Hub that's separate Ο. from the AEP/Dayton Hub? 9 10 I believe that the AEP/Dayton Hub prices Α. reflect a calculation based on a number of points in 11 12 AEP and Dayton Power and Light's service territory, 13 so it's not the same as Dayton, the load in Dayton's transmission zone or in AEP's transmission zone. 14 15 Ο. Okay. 16 And one is the price measured at certain Α. 17 points, and the other one is load within an area. So 18 they're not -- they don't exactly match up. 19 Are you saying the AEP/Dayton Hub that Q. 20 you have in Table 7 is not the Dayton Hub that's in 21 PJM? 22 There is no Dayton Hub in the PJM Α. 23 forecast. It's the Dayton transmission zone. 24 You might want to look at the front page 0. 25 of this document.

A. And there you see that they have the Dayton service territory, Dayton Power and Light service territory, which would be -- and may include some municipal and co-op territory as well, but that's the area where the other transmission operates.

MR. PRITCHARD: Your Honor, at this time 7 8 I'd like to interject. We've been handed several 9 documents that we're asking questions about on the 10 record that aren't marked as exhibits, so when we go back for briefing, we're going to have questions. 11 12 We're asking about the front page of this document. There's no identification on the record of what this 13 14 document is, who created it, who stores it. It's not 15 marked as an exhibit, so at least for my purposes, 16 even if we don't admit it later, I'd have no way of 17 going back to these questions and figuring out what 18 we're even talking about at that point. So I request 19 that we at least mark this document as an exhibit, 20 and we can take up the admission issue later.

21 MR. NOURSE: I'm happy to mark it, but I 22 did ask him at the outset if he recognized the 23 document. I read the title, and he said he did, so I 24 don't think that's a valid objection at this point. 25 This is obviously an official PJM document, many of

2833 1 which we've used throughout this proceeding. 2 MR. PRITCHARD: I'd clarify, Steve. My 3 objection isn't so much foundation. It's we're asking questions about a document not to refresh his 4 5 recollection, because we haven't established that. He had it but then lost it, so I don't know how we're 6 introducing exhibits that aren't exhibits. That's 7 8 just for the questions. I'd prefer that we mark it. 9 MR. NOURSE: I'm happy to mark it, your Honor. Should I mark it as Exhibit 27? 10 (EXHIBIT MARKED FOR IDENTIFICATION.) 11 12 EXAMINER SEE: Just so we're clear, 13 that's the PJM load forecast report for January 2015. (By Mr. Nourse) So, Mr. Chernick, the 14 Q. 15 table you're referring to on page 52, these other 16 lines in the table, you recognize those as the load 17 zones? 18 Yes, those are load zones. Α. 19 And then so is it your expectation that Q. 20 PJM put this line in without referring to a load zone 21 and all the rest of them are load zones? 22 That they put in -- no, I think that's Α. 23 what I was telling you. These are load zones. These 24 are hubs. 25 Q. And so --

2834 I'm not trying to be difficult. 1 Α. This is 2 just getting confusing because these are not the same 3 things. They're in the same general area. 4 So that's why I went back to Table 7 and Q. 5 asked you what you have listed as the AEP/Dayton Hub is not a load zone. 6 7 Α. I believe that is correct. That's a set 8 of nodes within the AEP and Dayton service territory whose prices are averaged together to define the hub 9 price, and that's used for financial data. 10 Is your pricing data generation-hub data 11 Ο. 12 or load-zone data? 13 Α. The ones that say "hub" are generation 14 hubs, and the ones that have AEP zone is for a load 15 zone, as I understand it. 16 Wouldn't load zones be higher than Ο. 17 generation in all cases? 18 Yes. And by using the AEP zone rather Α. 19 than lower AEP hub, as I think I mentioned, I 20 probably overstated the market revenues for these 21 plants for the cost of replacing them. 22 And let me ask you this way. Looking at Ο. 23 AEP Ohio Exhibit 26 and looking at the open interest 24 examples here, would you expect that the open 25 interest expressed as a percentage of the load for

2835 that same time period would be a very low number? 1 2 Α. Would I expect that open interest as a 3 percentage of peak load? 4 Ο. Yeah. 5 Α. Yes, I would expect that a relatively small amount would be -- I'm sorry, did you specify a 6 7 particular time period? 8 I said for the same time period. Each of Ο. 9 the loads matching up with the time period in the --10 Α. Well, in the near term, they're higher. As you go out further, they're lower. I would expect 11 12 that for this January of prompt marketers probably 13 lists SSO marketers, and the SSO providers and the 14 CRES providers have probably locked in quite a bit of 15 energy. 16 Of course, if you're comparing peak load 17 to energy, the peak load is always going to be higher 18 than your average energy anyway. So they'd be different for that reason. But in the near term, it 19 20 would be a fairly high percentage and would drop off 21 over time because CRESs don't have an expectation, 22 generally, that customers will stay with them in the 23 longer term, and certainly there's no expectation 24 that the SSO that customers will stay, so locking in 25 power too long in advance has risk.

2836 So give me an idea, when you say near 1 Ο. 2 term could be a fairly high percentage, ballpark that 3 for me. 4 Α. Well, the near term would be going into 5 next year, 2016. I know. But the open interest expressed 6 Ο. 7 as a percentage of the load in the same time 8 period --9 Α. We're looking here at just the ICE platform, so I don't know how much would be dealt 10 with on ICE, and how much on NYMEX, and how much 11 12 through other brokers, and how much in bilaterals, 13 which would be their own price reference to these. Well, first of all, you only used ICE in 14 Q. 15 this case, right? 16 I used the ICE price. I compared ICE and Α. 17 NYMEX, and the prices are very similar. 18 Over what time period? Ο. 19 I don't recall exactly, but when I've Α. 20 done that various times, I tend to use the NYMEX 21 because we download the data everyday, and so I go 22 take a look at that, and then if I want a longer 23 term, I get the ICE data, and I haven't noticed any 24 times when the prices are dramatically different. 25 Q. Yeah. Okay. But you only used ICE data.

2837 And can you tell me your statement of being fairly 1 2 high in the short-term, in the near-term, what kind 3 of percentage are you talking about? 4 Α. I don't know what you'd see for ICE open 5 interest. That is what you used, ICE contract 6 Ο. 7 price? 8 I didn't use the open interest. Α. 9 Ο. Well, you would agree that as you go out 10 a year or two years, that the open interest expressed as a percentage of the load at that time would be a 11 12 very small percentage, right? 13 Α. It goes down, and I think you see that on 14 any of the exchanges. And the total of the interest 15 is the sum of all of these, plus whatever peak is 16 done in the bilateral market outside the exchange. 17 So at what point, when you go down Q. 18 further in percentages of open interest versus the 19 load for the time period, would you agree that it 20 would no longer be a statistically valid sample of 21 prices? 22 We're not talking about statistical Α. 23 validity here. The question is, is it representative 24 of the market. And it's my understanding that NYMEX 25 and ICE and other trading platforms do their best to

2838 keep the data up to date using data from brokers and 1 2 bilaterals where they don't have any trades directly 3 through their market. 4 Working through a broker, you can work 5 out your own contract terms, payments, and how much 6 margin needs to be put into escrow and so on. You're 7 stuck with standard terms if you're dealing with the 8 standard platform. 9 So look at page 4, Exhibit 25, where the Ο. zeros start in January 2021. Do you see that? 10 Yes, I have that. 11 Α. 12 Q. So how is there still prices in the 13 period beyond which the open interest contracts exist? 14 15 Α. Well, I answered that in my previous 16 answer. They supplement the trades on their platform 17 with data from brokers on transactions, on bilateral 18 transactions, or some of them may be transactions on 19 other platforms. 20 Ο. So they make up an administrative price; 21 is that what you're saying? 22 They're reporting. It's not an Α. 23 administrative price like PJM prices. Those are real 24 but set by formula. These are prices that are real 25 as best the various exchanges can determine from

2839 their work with the participants and the brokers. 1 2 Okay. But they're making up prices based Q. 3 on data they might look at or talk to people they 4 might talk to. It's still a made-up price, isn't it? 5 MS. HENRY: Objection. You're assuming facts not in evidence. He said it's not a made-up 6 price. It's reflective of a bilateral contract. I 7 don't see how you can structure that as being made 8 9 up, sir. 10 EXAMINER PARROT: Let's rephrase it, Mr. Nourse. 11 12 Ο. (By Mr. Nourse) Mr. Chernick, these 13 prices with zero open interest, it's a black box, 14 right? You don't have any idea what they've looked 15 at to determine price, and we don't have any way of 16 transparently reviewing what it's based on, do we? 17 You don't know how ICE got that number. Α. 18 You compare it to what other exchanges are reporting, 19 and you can go ask brokers, and you can run an RFP. 20 Ο. You believe the forward prices you use, 21 the peak and the off peak, respectively, reflect gas 22 pricing on the on peak and coal pricing on the off 23 peak? 24 Well, it's more complicated than that. Α. But certainly coal has a bigger role off peak than it 25

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does on peak, and gas has a bigger role on peak than 1 2 this does off peak, and other fuels and excess 3 generation conditions and other factors kick in for 4 various periods. 5 Ο. And is it your belief that the 6 forward-pricing data that you used -- I asked you earlier about capacity prices, so for those trying to 7 8 follow along, we're talking about energy prices now. Do you believe your energy prices based on forward 9 10 data reflect Clean Power Plan obligations starting in 11 2020?MS. HENRY: Objection, your Honor. Clean 12 13 Power Plan does not begin until 2022. 14 MR. NOURSE: I misspoke and intended to 15 say 2022. 16 MS. HENRY: And I also note, are you 17 going to talk about the compliance deadline? 18 MR. NOURSE: Your Honor, I'm not having a 19 conversation here. I did hear an objection. I'll 20 ask the --21 EXAMINER PARROT: Let's answer the 22 question. 23 Α. The market participants are aware Yes. 24 of the Clean Power Plan and aware of the effects of 25 the Clean Power Plan on market prices, and that

1 affects their prices that they're willing to pay or 2 accept.

3

4

5

Q. So looking at Table 7 and/or Table 8, can you point to any change in the pricing on or around 2022 that would confirm what you just said?

A. Well, for all three of the hubs for which pricing is available out that far, the price falls from 2020 to 2021 but then rises in 2022. So that may be a reflection of the expectation that the other trends that were driving prices down are going to be counteracted and overwhelmed by the effect of the Clean Power Plan.

Q. So you're saying that the less than 14 1 percent price change that you referred to, that 15 captures Clean Power Plan compliance costs?

A. That's what the change is, and if the market participants are not taking that into account and power's available at those prices, and AEP Ohio wants a hedge, it would be foolish not to go out and buy up some of this power.

Q. So your numbers in Table 8, the RII
Energy Forecast, these, like the capacity table we
talked about earlier, are nominal dollars, correct?
A. These are nominal dollars, yes.
Q. So given that your beginning and ending

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2842 price are almost identical, you would agree that over 1 2 the ten-year period captured in your study that 3 you're actually proposing a decrease in real dollars 4 in energy price over the decade? 5 Α. I'm reporting it, yes. I'd ask you to turn to page 23, Table 6. 6 Ο. 7 Now, you've listed what you're referring to as "AEP 8 Energy Price Forecast, (Nominal Dollars)" here. 9 Α. Yes. 10 Ο. And is it fair to say these are actually realized revenue prices that are -- they're not the 11 12 around-the-clock prices that Dr. Pearce used? 13 Α. Yes. I believe I took this from their -from his calculations. 14 Did Dr. Pearce --15 Ο. 16 Α. Excuse me. I'm trying to remember now 17 whether this is -- I believe I originally derived 18 this from a calculation, a calculation of revenues. 19 So it would be the realized energy prices, so we're 20 talking about weighted by generation rather than 21 around the clock. 22 Q. Okay. And realized energy prices are 23 higher than around-the-clock prices? 24 Yes, by a little bit. Α. 25 Q. This is the same approach that you took

2843 in your supplemental testimony in Table S-1, page 2, 1 2 correct? 3 Yes, I believe so. Α. 4 So in Figure 2 on page 24 of your direct, Ο. 5 and Figure S-1 on page 2 of your supplemental, the Xaxis label of "Around-the-Clock Price" is not 6 7 actually correct, is it? 8 No. You're right. That was a poor Α. 9 choice of label, and the same problem occurs on 10 Figure 3. They're not flat around the clock. 11 They're average annual revenues. 12 Ο. Mr. Chernick, I'd like to shift gears and 13 talk about your capacity factors that you calculate, 14 and this is on page 29, to begin with in your direct. And in discussing this topic, I think we can avoid 15 16 mentioning the actual confidential values and refer 17 to some documents that are confidential without 18 having to go into confidential session, okay? 19 Α. Okay. 20 Q. And same request as before, if you think 21 you need to say something confidential, we'll just 22 defer it till later, okay? 23 Α. Okay. 24 MR. NOURSE: Bear with me one second. Ι 25 have to find my documents.

2844 1 Your Honor, can we take like a 2 five-minute break? I can't seem to locate this 3 readily. 4 EXAMINER PARROT: We'll take a short 5 break. (Recess taken.) 6 7 EXAMINER PARROT: On the record. 8 (By Mr. Nourse) Mr. Chernick, I'd like Q. 9 to talk about your capacity factor calculations. 10 Α. Yes. MR. NOURSE: So if I could approach, your 11 12 Honor. 13 EXAMINER PARROT: You may. 14 MR. NOURSE: We're going to mark as AEP Ohio Exhibit 28 Confidential -- I believe I can use 15 16 this confidential exhibit without the need to go into 17 confidential session yet. 18 (EXHIBIT MARKED FOR IDENTIFICATION.) 19 Mr. Chernick, I actually want to start on Q. 20 page 2 for this. Page 2 of this exhibit is from your 21 workpapers' file. The file name is listed at the 22 bottom there. Do you recognize those? T do. 23 Α. 24 And, again, I'm sorry to be repetitive, Ο. 25 but I'll just caution you to not mention numbers in

2845 the record. I think we can cover this without doing 1 2 that, okay? 3 So do the numbers at the bottom right 4 part of page 2 in that table, those three capacity 5 factor calculations, match up with the bottom half of page 29, the three numbers that you've listed for the 6 7 base low and high case? 8 Α. Yes. 9 Ο. And I'll ask you to turn to page 3 of the 10 exhibit to look at the formulas that relate to that table. It's actually pages 3 and 4. I blew it up so 11 12 we could actually read it, at least, so I can read 13 it. 14 And can you tell from those formulas that 15 you used 2,600 megawatts as part of your calculation? 16 Yes. It looks like in our updating for Α. 17 the inclusion of the OVEC plants, we did not include 18 the OVEC capacity in this calculation. My apologies. 19 Oh, that's okay. So the first page I Q. 20 just want to run through, see if you agree. So the 21 bottom half is the calculations we just discussed as 22 supported by the workpapers on pages 2 through 4 of 23 this exhibit, and they had numbers you list on page 24 29. And in the top half, the same calculation used, 25 using the same data, except the maximum capacity was

2846 1 increased to 3,113 megawatts. Do you see that? 2 Α. Yes. 3 And the capacity factors are listed to Q. 4 the right there. Do you agree that those are correct calculations based on 3,113 megawatts as it relates 5 to the updated PPA? 6 7 Α. They look about right. 8 And then just to be clear, in addition to Ο. the numbers on page 29, you have a figure 5 in your 9 10 testimony, direct testimony, page 30? 11 Α. Yes. 12 Ο. It would also need to be corrected to 13 reflect the original calculation, correct? That is correct. 14 Α. Just before we go into confidential 15 Ο. 16 session, I just have a couple questions about your 17 supplemental testimony. Do you have that with you up 18 there on the stand? 19 Yes, I do. Α. 20 Q. Can you look at Table S-2 on page 3? Are 21 you there? 22 Α. I have that. And this is where you calculate these 23 Ο. 24 ratios that you use to extrapolate the net cost as a 25 result of Tables S-4 and S-5, right?

	2847
1	A. Yes.
2	Q. And if you look at the column 2013 Base
3	to 2013 Low in Table S-2 do you see that?
4	A. Yes.
5	Q. That number in that column ends up being
6	the numerator that calculates your ratio, right?
7	A. Yes.
8	Q. And then the denominators are the next
9	two columns?
10	A. Yes.
11	Q. And in that column titled 2013 Base to
12	2015, that should say "Base," right? It should say
13	"2013 Base to 2015 Base"?
14	A. Well, there is as I recall, we got
15	only a single forecast for 2015 from fundamentals,
16	the updated fundamental forecast.
17	Q. Okay, that's fine. Just trying to make
18	sure that we had the math right.
19	A. I assume that's comparable, in AEP's
20	mind, to the 2013 base.
21	Q. So, again, just to be clear, let's look
22	at 2016 as an example. You used the negative 7
23	number divided by the negative 33 to get 4.6?
24	A. Well, dividing into the negative 33 to
25	get 4.6, yes. It's 33 divided by 7 is 4.6.

2848 1 Ο. I'm sorry, I said it wrong. So same 2 thing, 28 divided by 7 is 4, but you have 3.9? 3 I used the actual calculations from Α. Yes. 4 the values in Table 1, S-1, rather than the 5 rounded-off values I present here. Now, does a drop in energy price always 6 Ο. 7 correspond directly and proportionally to a drop in 8 margin? 9 Not quite. There is a drop in energy Α. 10 revenue -- in energy prices, say, from the 2013 base to 2013 low, two things happen: One is that 11 12 sometimes the plants operate the same way, but they just make less money; and the other is that they --13 14 there are other times they may not start up at all 15 for one cycle, or they may shut down over the 16 weekend, or they may ramp down to a lower level, 17 something like that. So there's a difference in the 18 generation as well as the difference in prices. 19 So I think you're agreeing, but I want to Q. 20 make sure. So a drop in energy price may have a 21 nonproportional impact on margin, correct? 22 That a 10 percent drop in the energy Α. price, can it have an effect on the energy margin of 23 24 more or less than 10 percent? Yes. 25 Q. So let's use a hypothetical to be clear.

2849 1 Let's assume that the producer's cost is \$35 a 2 megawatt-hour and the market price is \$50, okay? 3 Okay. What was the first number again? Α. 4 Ο. The producer's cost is \$35. 5 Α. 35 and 50, okay. The market price is 50. That's a margin 6 Ο. 7 of 15 under this simple example. 8 Α. Yep. 9 And if the market price goes down Ο. 10 10 percent or \$5, the margin actually goes down by 33 percent from 15 to 10, correct? 11 12 Α. Yes. 13 Ο. So a small change in price can have a big 14 impact on margins, right? 15 Α. In percentage terms, yes. 16 If you go to Figure S-2, page 4, just Ο. 17 wanted to clarify this dotted line, which is your 18 forecast. So why is that last part of the blue line not dotted? 19 20 Because that's the actual AEP zone Α. 21 forwards. 22 Ο. And during that same period, why are the forwards all higher than AEP's projected price there? 23 24 I don't know. I was surprised that AEP Α. 25 had dropped its price so much in the first -- well,

2850 from our -- it's two years, 2016-17. 1 2 And turn to page 5, Table S-3. This is Ο. 3 an update in your forward-pricing data. It's not 4 related to the 2015 fundamental forecast, is it? 5 Α. That is correct. And I don't believe I 6 used any other calculations here. 7 And on page 8 down near the bottom of the Q. 8 page you talk about an expected -- I guess an 9 expected coal price reduction around \$5. Do you see that? 10 Yes. This is the change between the 2013 11 Α. 12 and 2015 forecasts, which I estimated came out to 13 about a \$5 per megawatt-hour increase. 14 So you, I think, are making what you call Q. an offset to the values that are in Table S-5 15 16 relating to this coal price reduction, right? 17 Yes. I'm recognizing that more than just Α. 18 energy prices had changed in AEP's forecast between 19 2013 and 2015. The other thing that seemed relevant 20 was the change in the coal prices. 21 Ο. And so does the \$1.8 billion figure in 22 line 23 represent your finding of the net cost for 23 the PPA? 24 Well, I'm not trying to narrow it down Α. 25 that much. I mean, we're talking about a huge

2851 number, and for purposes of my recommendation, I 1 2 don't think there's much difference between a 3 billion-dollar loss and a \$3 billion loss over this 4 time period. In any case, I would recommend the 5 Commission reject the PPA. Okay. But are you saying that the 6 Ο. numbers in your tables don't really reflect your 7 8 views? I mean, are you boiling it down to a number, or are these all ballpark numbers? 9 10 First of all, these don't reflect my Α. views because they're based on AEP's own forecasts 11 12 for 2015, which is clearly far too high in the out 13 vears. And it's also based on AEP's other 14 assumptions, specifically the capacity price, which is too high, so --15 16 Mr. Chernick --Ο. 17 Α. So these are not my -- the important 18 thing here, none of these are my projections. These 19 are my results from doing a simple extrapolation of 20 the company's change in their forecast. 21 Ο. Well, I agree its a simple extrapolation, 22 but this Table S-4 and S-5 does not represent AEP's 23 view in any way. This is a result of your view of 24 what the costs are based primarily on your 25 forward-price estimates, right?

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A. Wrong. This is from the AEP base forecast or load forecast using the 2013 document called the fundamentals forecast and extrapolating from there to the effect with the 2015 AEP forecast. The forwards that I quote don't affect this calculation.

Okay. Well, your number that you're 7 Ο. 8 mentioning on the bottom of page 8 is a result of the 9 two-step ratio process, right, extrapolation? First 10 you extrapolate a reduction in prices, so essentially reduction in margin, and then you're taking a second 11 12 step. You're offsetting that on the back end with 13 another extrapolation, another ratio, based on the coal-price reduction. Is that -- do I have that 14 right mechanically? 15

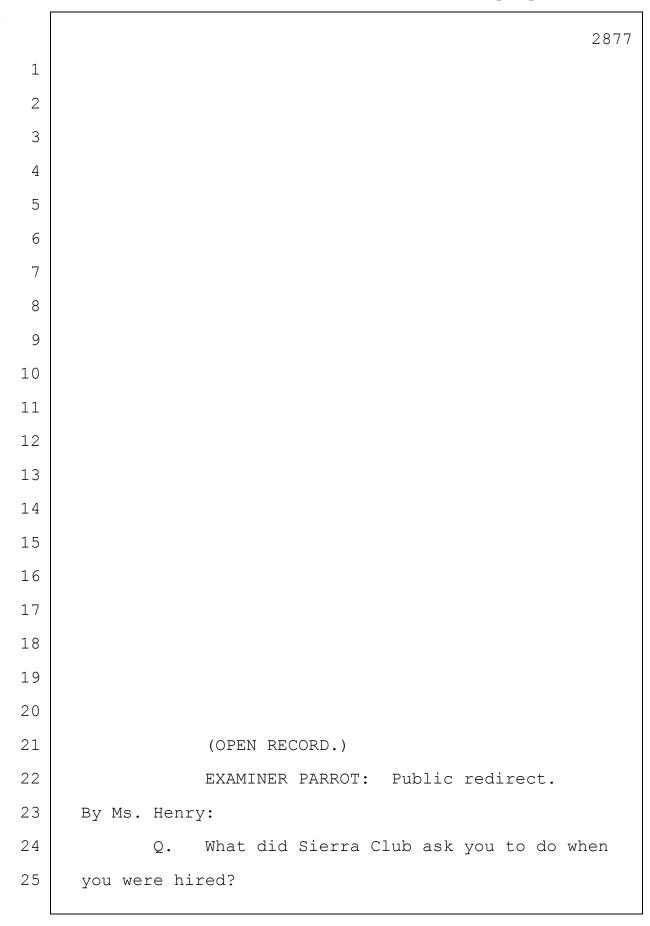
16 The first step mechanically is to take Α. the change from the base to the low forecast from 17 18 2017, which involves both of the factors we were 19 talking about before. Presumably, in the low case, 20 there were hours where the plants ran the same way 21 but earned less revenue than in the base case. And 22 there would be other hours where they generated less 23 energy and earned less revenue.

And I took that change and ratioed it upward to reflect the difference between either the

2853 2013 base and the 2015 AEP forecast, or the 2013 low 1 2 AEP forecast to the 2015 AEP forecast. 3 And none of your analysis, either in your Q. 4 direct or supplemental testimony, is a result of 5 dispatch modeling based on updated information, is it? 6 7 I did not do any dispatch modeling. Α. 8 And you reduced revenue without reducing Ο. 9 cost and reached a larger negative number for the net 10 cost, right? 11 Α. Wrong. I reduced cost in two ways. 12 First of all, the change -- as I just explained to 13 you, the change from the base to the low 2013 14 forecast in Dr. Pearce's analysis would have involved 15 a change in both prices, revenues and costs, because 16 some of the plants would have run less. 17 I extrapolated that trend to the still 18 lower 2015 forecast, so that would also have both 19 lower revenues per megawatt-hour and lower 20 megawatt-hours and less coal use and, therefore, 21 lower costs. 22 Q. Okay. 23 In a second step, which you pointed out, Α. 24 I made a separate adjustment for the lower coal 25 prices, and said ignoring any reduction in the amount

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2854
      of coal you use, even if you use the same -- use the
 1
 2
      same amount of coal, then your costs would have gone
 3
      down by about roughly a billion dollars, and that
 4
      cuts away about 40 percent of the loss going from
      2013 to 2015.
 5
 6
             Ο.
                  Okay.
 7
             Α.
                  But it doesn't offset all of it.
 8
                  And I should be clear. I was trying to
             Ο.
 9
      create a transition back to your direct testimony,
      which I wanted to go into confidential session and
10
      talk about. So with your direct testimony, setting
11
12
      aside the ratioing in your supplemental, that's where
13
      you used capacity forecast, reduced the revenue, left
14
      the cost in place, correct?
                  That is correct. I did not -- again, the
15
             Α.
16
      effects were so large that the small offset for
17
      reduced generation probably wouldn't have been very
18
      important, and, in particular, it would be very
19
      surprising if you could somehow find a way to turn
20
      coal plants into cost-effective peaking units.
21
      Running them less is not leading to
22
      cost-effectiveness.
23
                  MR. NOURSE: Your Honor, I'd like to take
24
      a short break and go into confidential session.
25
                  EXAMINER PARROT: Before we do that,
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2855
      Mr. Margard, did you have any questions for the
 1
 2
      public part of this?
 3
                  MR. MARGARD: Thank you, your Honor. I
 4
      do not.
 5
                  EXAMINER PARROT: Let's take a short
 6
      break.
 7
                   (Recess taken.)
                  EXAMINER PARROT: Let's go back on the
 8
 9
      record.
10
                  At this point we are entering the
11
      confidential portion of the transcript.
12
                   (CONFIDENTIAL PORTION EXCERPTED.)
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2878 I was told the outline of the company's 1 Α. 2 proposal, which I had already read about in the trade 3 press, and I was asked to look at the economics of 4 the PPA and the policy implications, as to whether 5 this was a good way to procure a hedge. And did Sierra Club direct you to 6 Ο. 7 consider the goals of the Sierra Club in conducting 8 your analysis? 9 Α. No. 10 Ο. Did Sierra Club's Beyond Natural Gas or Dirty Fuels Campaign influence your analysis of the 11 12 PPA in this proceeding in any way? And I don't think I heard about 13 Α. No. 14 Sierra Club's Dirty Fuels Campaign until today. Would your analysis of the reasonableness 15 Ο. 16 of the PPA rider have been the same regardless of 17 your client? 18 Well, yes. A different client may have Α. 19 said, we'd really like you to look at this aspect of 20 the structure of the PPA or the details of the 21 rider's implementation or compliance with individual 22 aspects of the Commission's order, so I might have looked at a different -- or distributed my efforts 23 24 differently, but the gist of my analysis was going to 25 be the same.

1 If the Commission staff had hired you as Ο. 2 an expert, would your analysis and conclusions have 3 been any different? 4 Again, only to the extent that they asked Α. 5 me to look at specific issues in greater detail than I did in my testimony, if there were things that I 6 7 dealt with in a paragraph in this testimony that I 8 could have spent several pages on had the client said 9 that is something we really want to have you look at 10 in more detail. So, again, the emphasis on different 11 12 parts of the case could be different, but, no, not 13 the conclusions. 14 Mr. Nourse asked you about your Q. 15 understanding regarding whether Sierra Club supports 16 natural gas generation, and you indicated you had 17 some experience from proceedings that Sierra Club had 18 supported it, correct? 19 Yes. And these are just cases that I Α. 20 happened to be involved in, since I don't -- I mean, 21 other than, again, monitoring in the trade press, I 22 don't follow the Sierra Club's activities in the 23 regulatory arena particularly. 24 In a Kentucky proceeding I supported the 25 purchase of a peaker, a gas-fired peaker plant by the

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1	utilities, and urged the Commission to defer the
2	consideration of the gas combined cycle that the
3	company wanted to build for a more complete analysis
4	of energy efficiency and renewable options, but
5	acknowledged that the combined cycle might be needed
6	but just that more a better analysis should be
7	undertaken first of whether there were resources that
8	would reduce the need for it, push it back in time.
9	In Oklahoma with respect to the
10	compliance for various air quality issues, I
11	supported the purchase of existing gas resources and
12	greater utilization of those resources to replace
13	coal plants that should be retired as part of a
14	compliance plan.
15	In Nevada, again, in the discussion of
16	retirement of a coal plant, I discussed with the
17	Commission whether it would be appropriate to replace
18	some of that capacity with a combined cycle. That
19	was my initial proposal to them, that that might be
20	the best bet. The Commission thought that perhaps a
21	combustion turbine would be more effective in
22	following the loads of the renewable, the generation
23	from the renewables, and providing backup. Sierra
24	Club supported that approach.
25	Just a second.

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1	MR. NOURSE: Your Honor, I'm sorry, it
2	looks like he's reading from a computer.
3	THE WITNESS: Just to clarify, I'm
4	looking at my list of Sierra Club cases just to
5	remind me of which ones I haven't talked about yet.
6	I'm just looking at the directory of my hard drive,
7	actually.
8	MR. NOURSE: Your Honor, are we able to
9	agree that what he's reading can he show us or can
10	he just close the computer?
11	MS. HENRY: I'm happy without the
12	computer.
13	EXAMINER PARROT: I think we have a
14	flavor for it. Were you finished?
15	THE WITNESS: There were a couple more
16	but
17	Q. (By Ms. Henry) Besides consideration of
18	future environmental compliance costs, did the PPA
19	units' potential impact on the environment influence
20	your testimony in this case in any way?
21	A. No. My analysis has to do with the
22	economics and the effects on ratepayers and on risk.
23	Q. Did you enter a capped price not to
24	exceed contract with Sierra Club for your testimony
25	in this proceeding?

2882 Yes, the contract has a maximum price. 1 Α. 2 Q. Do you ever enter into capped-price 3 contracts not to exceed a certain cost with other 4 clients? 5 Α. That's guite common with a variety of governmental and nonprofit organizations. 6 7 And what happens when your time spent in Q. 8 the matter exceeds the amount allowed under the 9 fixed-price contract? 10 Well, sometimes my clients manage to find Α. a little extra money for me and sometimes they don't, 11 12 and often I have to write some off. 13 Q. Do you remember Mr. Kurtz discussed with 14 you a number of potential changes to the PPA? Do you recall that? 15 16 Α. Yes. 17 And those included a return on equity Q. 18 flex-down proposal, a 15-year term, and then 19 Mr. Taylor's three-year earlier or later retirement 20 proposal. Do you remember that? 21 Α. Yes. 22 If those changes were made, would the PPA Q. 23 and PPA rider be just and reasonable arrangement for 24 ratepayers? 25 Α. Well, as I understand it, the first

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1 adjustment would be that the PPA rider would either 2 always have to -- would always have to be either a 3 credit or zero and never be a charge, or I guess it 4 could be a charge after the company's return on 5 equity fell to zero. It's difficult for me to determine the 6 7 magnitude of the protection for ratepayers that that 8 would produce, so I couldn't say at this point that 9 that would be an acceptable package of mitigation. 10 It would certainly be an improvement over what's been proposed, but I don't know whether it would be 11 12 enough. 13 Ο. Mr. Nourse asked whether you were 14 familiar with other liquidated damages or exit-fee 15 clauses in other contracts. Do you remember that 16 discussion? 17 Α. Yes. 18 And he asked you whether you called them Ο. 19 poison pills, and you said not necessarily, right? 20 Α. Yes. 21 Ο. What's the difference between the typical 22 liquidated damage or exit-fee clause and what you called the poison pill in this case? 23 24 Well, there would usually be a provision Α. 25 that says if you violate the contract, then you have

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to make us whole over the term of the contract. 1 Ιf 2 you stop paying in the middle, then you still owe us 3 the money, and even if you're not taking the power, 4 then you have to pay for the difference in cost 5 between what we can get for it and what you had promised us. That would be one kind of liquidated 6 7 damages. 8 In some cases its just a flat charge, and 9 if at some point you want to get out, you can buy 10 your way out, and that cost is known in advance. So they vary considerably in terms of how predictable 11 12 they are and the situations in which they can be 13 applied. 14 Mr. Nourse asked you is it a fair summary Q. of your direct testimony that you changed costs but 15 16 not revenues associated with the PPA. 17 Α. Yes. 18 Let me ask you, why did you reduce the Ο. 19 revenues in your direct testimony? 20 Because the revenues that AEP had assumed Α. 21 were based on forecasts of energy prices and capacity 22 prices that are just unrealistic. 23 And why did you not reduce costs in your Q. 24 direct testimonv? 25 Α. Well, in contrast to the supplemental, I

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1	didn't have a change in the company's fuel price
2	forecast to reflect the coal price forecast. So I
3	didn't have a new number to put in there, and I
4	didn't see that their forecasts were necessarily
5	unrealistic, given the other information available to
6	me, so that seemed to be all right, and I left it as
7	was.
8	And I looked at the possibility of
9	reducing generation to reflect the lower market
10	prices and tried an extrapolation from the low case
11	down to the company's low case to the lower forward
12	prices, and, again, as I think I mentioned before,
13	found the zero capacity factor of being the result of
14	that extrapolation.
15	In other words, with those low fuel
16	prices excuse me, the low market prices, the cost
17	of the plants just make them uneconomic.
18	Q. Mr. Nourse asked you a series of
19	questions, directional questions, where holding all
20	else equal, and he would talk about one a series
21	of different factors. Do you remember that
22	discussion, sir?
23	A. Yes.
24	Q. Now, you told Mr. Nourse that keeping all
25	else equal, if you decreased energy prices, you'll

2886 1 make the PPA less favorable, correct? 2 Α. If you decrease energy prices, yes. 3 How much, relatively? Q. 4 Well, energy prices are something like Α. 5 83 percent of the revenues in the company's base case, so it has a very large effect on the net 6 7 benefits. 8 Would you say it has the most impact? Ο. 9 Α. Yes. It's a larger effect than any other 10 single factor. 11 And, now, you told Mr. Nourse that Ο. 12 keeping all else equal, if you increase capacity 13 prices, you'll make the PPA more favorable. Do you remember that? 14 15 Α. Yes. 16 How much relatively? Ο. 17 Well, it's much smaller because the Α. 18 capacity revenues the company projects in its base 19 case are most of the remaining revenues, so they're 20 something like 17 percent of the total. So a 21 50 percent reduction in energy use would require 22 tripling or more the capacity prices in order to make up that difference. 23 24 You told Mr. Nourse that keeping all else Ο. 25 equal, if fuel price decreased, it would make the PPA

2887 more favorable. How much, relatively? 1 2 Well, fuel costs, I did an escalation of Α. 3 that some place. Hold on a second. 4 MR. NOURSE: Your Honor, he's reading 5 from the computer again. I'd like to ask to look at 6 what he's looking at. 7 MS. HENRY: I would just note that he has 8 been referring to his testimony --9 MR. NOURSE: He's reading and 10 manipulating the computer. He's obviously looking for something on his computer. 11 THE WITNESS: Yes. I'm looking for where 12 13 I calculated the total fuel cost for the PPA plants. 14 MR. NOURSE: Well, your Honor --15 EXAMINER PARROT: Looking at workpapers? 16 Mr. Chernick, what are you looking at? 17 THE WITNESS: I'm trying to figure out 18 which version of Pearce's workpapers I did that 19 calculation in, because I remember having done it, 20 and I think I have it in my computer. It's just a 21 matter of finding the right one. 22 MS. HENRY: If you want, we can talk 23 about it in generalities. 24 EXAMINER PARROT: Or else notify us what 25 you're referring to, please, specifically.

2888 1 THE WITNESS: This would be Pearce's 2 workpaper 1C, Competitively Sensitive Confidential, 3 Weather Normalized Forecast Model. And this would be 4 a version in which I did some calculations 5 calculating sums and present values. (By Ms. Henry) But relatively speaking, 6 Ο. 7 when you're talking about a fuel cost change, I mean, 8 comparing to the other factors, relatively speaking, 9 how would you link a change in that one? 10 Α. Roughly speaking, the plant's fuel costs are, I believe, less than half of the energy 11 12 revenues. So if you cut the energy revenues in half, 13 you'd have to double -- you'd have to -- well, if you 14 cut the energy price in half, you'd have to bring the 15 coal price down to zero to have the same energy 16 margin. 17 Now, you talked to Mr. Nourse that Q. 18 keeping all else equal, if we decrease capital and 19 O&M cost, that it will make the PPA more favorable. 20 Α. Yes. 21 Ο. How much, relatively? 22 Well, total capital and O&M costs, the Α. 23 capacity costs are -- again, may I look at my 24 workpapers? 25 MR. NOURSE: She's asking you relatively

2889 which. 1 2 They're smaller than the energy revenues Α. 3 by, I believe, a factor of roughly 2. So it's 4 cutting down the capacity costs, it's very difficult 5 to make up much in terms of the loss of energy 6 revenues. 7 Now, you told Mr. Nourse that, keeping Ο. 8 all else equal, if we increase capacity performance payments, that you'll make the PPA more favorable, 9 correct? 10 11 Α. Yes. 12 Q. And how much relatively? 13 Α. Well, capacity performance is a small 14 part of the total capacity revenue, so it would have 15 to be a very large percentage increase. I said you'd 16 have to roughly triple the capacity price in order to 17 make up for a 50 percent drop in the energy price, so 18 for the capacity performance portion, it would be an 19 even larger percentage. 20 What's the biggest single driver of Ο. 21 whether this PPA is economically favorable or 22 unfavorable? Well, the largest single driver would be 23 Α. 24 the energy revenues, followed by the capacity 25 revenues.

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1	Q. Now, Mr. Nourse asked you if it was
2	worth I'm sorry, I'm going to switch to a new
3	topic.
4	And Mr. Nourse asked you if it was worth
5	paying more to reduce risk, and you said having a
6	hedge against risk, meaning stability, would be worth
7	something. Do you remember that?
8	A. Yes.
9	Q. And then you also said, "But the PPA does
10	not do that very well." Do you recall that?
11	A. Yes.
12	Q. And why does the PPA not hedge risk very
13	well?
14	A. Well, first of all, in the short-term it
15	doesn't hedge it at all, and as I mentioned before,
16	the standard service providers or the CRES providers
17	would have to still include the same risk premium
18	whether the PPA was in place or not, so it wouldn't
19	help with hedging the costs of that volatility.
20	In the longer term, it's not a guaranteed
21	amount of power, of energy, and it's not a guaranteed
22	price. So it's a very sloppy hedge that could wind
23	up being much more expensive than the company's
24	projecting and provide less price protection.
25	Q. Are there any types of PPAs that you

2891 think -- or other type of hedge projects that would 1 2 provide a better hedge risk? 3 Well, a fixed amount of energy at a fixed Α. 4 price probably under a contract for differences would 5 provide a known and predictable hedge against changes in the future's prices that drive pricing for CRESs 6 7 and standard service offer. 8 So Mr. Nourse also asked you would an Ο. 9 economic analysis be flawed if it assumed units were 10 incurring costs to operate, even if market energy costs were below the dispatch costs. Do you remember 11 12 that? 13 Α. Yes. 14 And you said that was a simplification, Q. 15 correct? 16 Α. Yes. 17 Why is it a simplification? Q. 18 Well, because in the real world if you're Α. 19 losing money operating in some period of time, if you 20 have the choice, you will stop operating. So plants, 21 including the PPA plants, will shut down at times 22 rather than run and increase their losses for the 23 year. 24 And you also said that a model assuming Ο. 25 the units would run at such times could slightly

2892 overstate the negative revenue; is that correct? A. Well, the negative net energy revenues, yes, you could cut your losses by running less. Q. Could you cut your losses and make it -and salvage it into becoming an economic situation? And I guess I'm referring to the PPA proposal in this case. A. I don't see how that would be possible. These are coal plants that are fairly expensive to

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10 keep in operation, and reducing their operation dramatically to operate them is something more like 11 12 peaker. It's very unlikely to improve their 13 economics very much. If they were a plant that had 14 very low operating costs, fixed operating costs, and could be run a small amount of the time when it was 15 16 worth running them, then that might be possible. But 17 you can't usually do that with coal plants.

Q. So under the PPA proposal in this case, would AEP Ohio incur costs per unit even when the units were not running?

A. Yes. Even if the plant were shut down, a unit were shut down for an entire year because it was uneconomic to run it or because it had a malfunction, AEP Ohio would still be charged for the fixed costs of the plant, the O&M staffing the plant, the capital

2893 expenditures, and the sunk costs. So it would 1 2 continue to cost ratepayers money even though it was 3 producing nothing. So even when it was producing nothing, 4 Ο. 5 they were being costs that had to be incurred? There would be costs. There would be --6 Α. 7 some costs that had already been incurred would be 8 passed on to ratepayers, and other costs would 9 continue to be incurred and be passed on to 10 ratepayers. 11 Does your analysis understate the value Ο. 12 of the PPA because you did not do dispatch modeling? 13 Α. It may slightly understate the value, but 14 the economics of the PPA are so deeply in the hole 15 and so negative, that throwing out some hours when 16 the plants are not economic to operate would not 17 bring them out of the that hole. Might make the hole 18 shallower. 19 If you had done dispatch modeling, in Q. 20 your opinion would that change the outcome of your 21 analysis regarding whether the proposed PPA is 22 economic? It would change in specific numbers, 23 Α. No. 24 but it's a real stretch to suppose that a realistic

25 energy and capacity forecast would show this PPA to

2894 1 be cost-effective no matter how you modeled it. 2 So Mr. Nourse asked you about updating Q. 3 energy forwards but not capacity auction results in 4 your supplemental testimony. Do you remember that? 5 Α. Yes. Why did you -- what did you update in 6 Ο. 7 your supplemental? 8 I updated the energy prices and estimated Α. the -- well, what I updated was I updated the 9 10 company's view from what they filed based on the 2013 forecasts to an estimate of what the 2015 forecast 11 12 would look like, so that was the bulk of my 13 supplemental. 14 And why did you make that -- why did you Q. update that? Why was that important to update? 15 16 Well, because, as I said before, energy Α. 17 revenues are the bulk of the revenues for the PPA, 18 and they're the most critical factor of energy 19 prices, and, hence, energy revenues are the most 20 critical factor in determining whether the PPA is 21 economic. 22 And what did you not update? Q. 23 Α. I did not update capacity prices. I used 24 the unrealistically high capacity price forecast that 25 Mr. -- Dr. Pearce filed in May. And I did not update

2895 1 that. I did not update any of the other parameters, 2 except that I did a side calculation of the effect of 3 changing the coal price, which had gone down in AEP's 4 forecast, not as much as the market energy price has 5 gone down, but it had gone down some. And so I looked at that impact. Because it was a smaller 6 7 change and on a smaller base, it had a much smaller 8 effect, and I discuss that in my supplement. 9 MR. NOURSE: Your Honor, can I clarify to 10 save recross that that answer related exclusively to 11 his supplemental testimony and not in his direct 12 testimony. 13 MS. HENRY: I think I did --14 THE WITNESS: That's what I was answering about. 15 16 MR. NOURSE: Thank you. 17 (By Ms. Henry) Based on your analysis and Q. 18 experience, do you believe updating the capacity 19 auction results would have a meaningful impact on 20 your conclusions? 21 Α. No. If I had gotten the revised results 22 for the capacity performance for 2016-17 and '17-'18, it would have made a small difference in my 23 24 projections but would not have changed the magnitude 25 to which the PPA was uneconomic. It still would be

2896 1 in a very deep hole. It would be a little bit 2 higher. 3 And that's because the energy forecast is Ο. 4 the main driver of this PPA's --5 Α. Yes. And the change in the price for 6 those two years was not large enough to be very 7 significant in any case. It's a small part of the 8 capacity price, only in two years. 9 Do you recall Mr. Nourse asking you some Ο. 10 questions about competitive bidding? 11 Α. Yes. 12 Q. And do you recall Mr. Nourse's questions 13 regarding a 30-year contract for a 3,100 megawatt 14 pole? Do you remember that? 15 Α. Yes. 16 Or 3,100 megawatts of power. Q. 17 Α. Of energy, yes. 18 Do you think that the scope of AEP's Ο. 19 proposed PPA in both megawatts and duration is 20 supported by the record? 21 Α. No. I think these were units that AEP 22 Generation wanted to get some support for and ask for a lifetime PPA for them. I don't believe that 23 24 there's any demonstration that 3,100 megawatts is 25 better than 2,000 megawatts or 5,000 megawatts, and

1 it's hard to see why such a long-term hedge would 2 make sense in a world in which everything changes, 3 including legislation.

Q. Are there other types of long-term PPAs that would provide a good hedge for AEP Ohio ratepayers?

A. Yes. A better long-term contract would
be something in -- if you're talking about long term
in the -- 10- or 15-year range, a contract with a
generator or set of generators for fixed prices, for
prices, that are indexed only for things like
inflation in their labor costs would be a much more
effective hedge.

Q. So Mr. Nourse asked you about the basis of your testimony that a competitive bid process could lead to a better outcome. Do you remember that?

A. Yes.

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19 Q. Has AEP offered any evidence that a 20 better bid process would not lead to a better 21 outcome? 22 A. I haven't seen any.

Q. Can you think of a worse outcome than the Commission approving this PPA?

A. Well, one can always imagine disasters.

1	But the experience with competitor procurements is
2	that if you ask for it, you'll find that people are
3	willing to provide the service, and since the
4	Commission has a wide range of options for providing
5	a long-term hedge, it's not clear that there's a real
6	need for a long-term hedge, but it might be nice.
7	The option of doing nothing and just
8	staying with the current system would be better than
9	the PPA, and the Commission might find, through a
10	competitive procurement, there was actually an
11	alternative that it preferred that would give a
12	small provide a small amount of hedging that would
13	help customers without distorting the market
14	excessively.
15	Q. And in your professional opinion, based
16	on your experience, is it likely that a proposed
17	PPA that the proposed PPA units would somehow all
18	be retired or otherwise become unavailable in the
19	time frame it would take to conduct a competitive
20	bidding process?
21	A. That seems pretty farfetched.
22	Q. So in your opinion of Mr. Nourse's "use
23	it or lose it" theme for the PPA and its associated
24	rider in the questioning today, what's your opinion?
25	A. Well, certainly possible that AEP would

sell the plants to another party that would not be 1 2 interested in the long-term contract, that was happy 3 playing the market, and that these specific plants 4 would not be bid into a future RFP. 5 But, again, I don't know that that's 6 particularly a problem since the other owners of some 7 of the same plants may very well bid in, and there 8 are other parties that could bid in. And as I've said, there's no real showing that ratepayers need 9 10 this kind of hedge, although it might be nice to have 11 one. 12 Let's switch gears and talk about, do you Q. 13 remember when Mr. Nourse asked you some questions 14 about the mathematical principle that the magnitude 15 of energy market spikes can be greater than energy 16 mark dips? 17 Do I remember that? Α. Yes. 18 Did you discuss that same mathematical Ο. 19 principle in your direct testimony? 20 Α. Yes. I think it came up in my dismissing

21 Dr. Pearce's reliance on the average of a high and 22 low case, that you would expect the high case to be 23 further from the expected values on the high side 24 than the low case was below them, and so, therefore, 25 the average of the low and the high would almost

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1	always be higher than your expectation, so it's an
2	unrealistically high value.
3	And that if you were going to take high
4	and low expectations into account, you'd have to have
5	a probability of distribution, recognize that most of
6	the probability lies in the middle, giving high
7	weight to say your base case and a smaller weight to
8	the high and low cases.
9	And I have seen that approach used in the
10	past, and that can make some sense. But this idea
11	that you just assume there's 50/50 chance that you'll
12	be at some undefined high price and some undefined
13	low price doesn't is not a very rigorous approach.
14	Let's put it that way.
15	Q. Is it mathematically flawed?
16	A. Well, it's bias. Using the average of
17	the high and the low, biases your results compared to
18	the expected value for any reasonable distribution.
19	Q. And given the new 2015 fundamental
20	forecast, where do you think the Commission should
21	put it? Do you think that Mr. Pearce's
22	recommendation to put the emphasis on the AVIT of the
23	high/low is correct?
24	A. No, I don't. I think that your best
25	estimate should be your guidance, and you can look at

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2901 1 high and low cases to get a sense of risk and 2 discouragement and various other things. 3 But if you're going use a value from the 4 company, I would use their 2015 energy price 5 forecast, which is enough to sink the PPA by itself, although it's still too high overall. 6 7 Now do you recall Mr. Nourse asking you Ο. 8 about AEP Generation Resources and where they might be giving up in regard to profit by entering the PPA? 9 10 Α. Yes. Now, let me ask you, if the rider creates 11 Ο. 12 a lost for ratepayers, would AEP Generation still 13 receive a profit under the proposed rider? 14 That's my understanding, yes. Α. And why is that? 15 Q. 16 Because all of AEP Generation's costs for Α. 17 these units would be passed through to AEP Ohio and 18 then to the ratepayers. 19 And return on equity is one of those Q. 20 costs that would flow through? 21 Α. Yes. 22 And do you think that what AEP has Q. 23 proposed to give up by entering the PPA is 24 significant? 25 Α. No, I don't think that there's much

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1	chance that these plants would earn more in the
2	competitive market than they would under the PPA.
3	The PPA would be a God-send for them, and the company
4	seems to acknowledge that by saying, well, we don't
5	know that these plants are worth operating, even just
6	with their going-forward costs if we don't have a
7	PPA.
8	Q. Do you recall when Mr. Nourse was asking
9	you some questions about the financial need of the
10	PPA units?
11	A. Yes, at least conceptually about how
12	relevant need was.
13	Q. Yes. And I believe you talked about
14	other factors that were from the ESP III order, too;
15	is that correct?
16	A. Yes.
17	Q. In your opinion, has AEP demonstrated
18	that the Commission ESP III's factor regarding
19	financial need has been met?
20	A. No. The company hasn't done a case
21	and I tried to do an approximation of one hasn't
22	done a case for the operation of the plant in the
23	competitive market plants in the competitive
24	market, so we don't know what AEP would say today
25	about the cost-effectiveness of operating the plants

with their going-forward costs compared to their 1 2 revenues that would be expected from them. 3 And I believe that -- so you believe that Ο. 4 for financial need, there is something between all of 5 your costs and what you need; is that what you're saying, sir? 6 7 Α. Yes. And I discuss that in my direct, 8 that you might need to -- in order to keep operating, you might need some financial assistance to cover 9 10 your going-forward costs, fuel, O&M, capital additions going forward, but you wouldn't need to 11 12 cover your historical costs, your embedded costs 13 recovery of what you already booked for that plant or 14 the costs of retiring the plants because you're going 15 to be paying those whether or not you're -- either 16 you have paid it or you're going to be paying it 17 whether or not you keep running the plant. 18 And do you recall Mr. Nourse asking you Ο. 19 about reliability as one of the other ESP III 20 factors? 21 Α. Yes. 22 In your opinion, has AEP Ohio Q. 23 demonstrated the necessity of a proposed PPA in light 24 the reliability concerns? 25 Α. No, they haven't shown there would be

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reliability problems, nor the magnitude of those 1 2 problems if any one or any set of these units were 3 retired. They looked at a much larger set of 4 retirements. 5 Ο. And do you think that because they looked at a larger set of retirements, the Commission 6 7 doesn't have enough information about reliability to 8 adequately consider this approach to the PPA? 9 Α. Yes. 10 Q. And why is that? Well, because if other plants retire, 11 Α. 12 transmission upgrades may be needed regardless 13 whether the PPA exists or not. And if just these 14 units, some transmission may be required, but we don't know what transmission because we don't know 15 16 what part of the total costs identified by the 17 company are related to the retirement of these units, 18 certainly not to an individual unit versus the larger 19 universe of plants that they assume would be retired 20 in 2019. 21 Ο. Do you recall Mr. Nourse asking you 22 questions regarding the analysis of economic 23 development impacts on the closure of the proposed 24 PPA units? 25 Α. Yes.

And in your opinion has AEP Ohio 1 Ο. 2 adequately addressed the Commission's order in the 3 ESP III regarding economic development impacts? 4 Α. No. As I read it, the economic 5 development requirement specifically talked about price effects, rate affects, and I don't believe that 6 7 AEP has looked at the effect of the PPA costs and how 8 that would discourage -- reduce consumption of other goods, and, hence, economic activity in its service 9 10 territory and how it would affect the viability of the industrial generators in its service territory, 11 12 the industrial consumers in its service territory. 13 Ο. Do you remember Mr. Nourse was asking you 14 questions regarding AEP's forecasted PPA rider 15 impact, and this was based on -- and then he referred 16 to the low case and he referred to Dr. Pearce's low 17 case, and then you said, subject to check, you would 18 see if that was what, an economic benefit or an economic loss. 19 20 Α. No, I knew it was an economic loss 21 overall. The question was whether it was in every 22 year, and the answer is yes, that's Mr. Pearce's 23 conclusion, and it would be, of course, even worse 24 under the 2015 energy prices and yet worse under 25 forecasted energy prices based on today's forwards.

2906 And so what does that tell you about 1 Ο. 2 whether you need to do dispatch modeling? 3 Well, as I said before, the PPA is deeply Α. 4 in the hole, way out of the money. Its a very bad 5 deal at even the -- well, even the low 2013 forecast price, even more so as the 2015 forecast, and again, 6 7 much more so with realistic forecast prices. So 8 given how bad a deal it is, the details of dispatch do not seem like they would be -- it's inconceivable 9 that they would affect the Commission's conclusion. 10 11 MS. HENRY: No further questions. 12 EXAMINER PARROT: Ms. Petrucci? 13 MS. PETRUCCI: No questions. 14 EXAMINER PARROT: Ms. Bojko? 15 MS. BOJKO: No questions. 16 EXAMINER PARROT: Ms. Bair? 17 MS. BAIR: No questions. 18 EXAMINER PARROT: Mr. Pritchard? 19 MR. PRITCHARD: Yes, your Honor. 20 21 RECROSS-EXAMINATION 22 By Mr. Pritchard: In redirect you were asked and gave some 23 Ο. 24 answers about other possible hedges that could be 25 better. Do you recall those questions?

	2907
1	A. Yes.
2	Q. You're not offering any legal opinion
3	about the Commission's authority to authorize other
4	types of hedging proposals, are you?
5	A. I try to avoid legal opinions in general.
6	MR. PRITCHARD: That's all the questions
7	I have, your Honor.
8	EXAMINER PARROT: Mr. Yurick?
9	MR. YURICK: Nothing.
10	EXAMINER PARROT: Mr. Kurtz?
11	MR. KURTZ: No questions.
12	EXAMINER PARROT: Mr. Nourse?
13	MR. NOURSE: Its temping, but no thank
14	you.
15	EXAMINER PARROT: Mr. Margard?
16	MR. MARGARD: No, thank you, your Honor.
17	EXAMINER PARROT: Exhibits, Ms. Henry?
18	MS. HENRY: Yes. I already moved my
19	exhibits into the record I believe in the beginning,
20	and they were, I think, 37, 38, 39, 40.
21	EXAMINER PARROT: Any objections to the
22	admission of Sierra Club Exhibits 37 through 40?
23	MR. NOURSE: No, your Honor.
24	(EXHIBITS ADMITTED INTO EVIDENCE.)
25	MR. NOURSE: Are you ready for my

2908 exhibits, your Honor? 1 2 EXAMINER PARROT: Wait a minute. 3 Mr. Nourse? 4 MR. NOURSE: Your Honor, AEP Ohio would 5 move for the admission of Exhibits 20 through 25, withdrawing 26 and 27, and withdrawing 29 6 7 Confidential, so I'd also move for Confidential 8 Exhibit 28. 9 MS. HENRY: Wait. Wait. Can you restate 10 the ones you're withdrawing? MR. NOURSE: I'm withdrawing 26, 27, 29. 11 12 So I'm moving for admission 20 through 25 and 13 confidential Exhibits 28, 30, 31, 32, 33. 14 EXAMINER PARROT: Any objections to the 15 admission of company Exhibits 20, 21, 22, 23, 24, 25, 16 28, and 30 through 33. 17 MS. HENRY: Yes, your Honor, although I 18 did just make a mess. So for Exhibit 22 I object on 19 the grounds of hearsay. It was an article pulled off 20 a website that Mr. Chernick has never seen before. 21 MR. NOURSE: Well, your Honor, I think 22 this was a recorded prior statement of the party, the Sierra Club witness or Sierra Club official, which 23 24 ties in with the other information that's on the 25 Sierra Club's own website. And we were discussing it

in the context of how Mr. Chernick did or did not 1 2 know about Sierra Club's position or incorporate them 3 into his testimony. 4 MS. HENRY: And, again, its hearsay. Ι 5 mean, if I want to, I wouldn't object to the Sierra 6 Club's website. If you want to have something from 7 the Sierra Club's website, that would be fine. This 8 is a news article, and I don't know the veracity or the authenticity of anything that's included in this 9 10 document, and its hearsay. The witness has never 11 seen it. There was not a proper foundation laid. 12 EXAMINER PARROT: I agree with what you 13 said there at the end, Ms. Henry. I don't think that 14 the witness -- I don't even think we had any 15 foundational questions really, with respect to 16 Company Exhibit 22, so I'm going to deny the request 17 to have that admitted it into the record. 18 Did you have any other objections? 19 MS. HENRY: I just wanted to take a 20 second to look at the withdrawn ones, and I don't 21 think so. I have no other further. 22 EXAMINER PARROT: Anybody else? 23 MR. PRITCHARD: With all of Exhibit 27, 24 are we moving to strike the guestions and in the record about this document? Because the questions 25

that were asked about this document are in the 1 2 record. I'm sort of troubled with whether certain 3 parts of this are going to be evidence, or I haven't 4 looked through this entire document. 5 MR. NOURSE: Well, Mr. Pritchard, the only part I discussed was page -- first of all, he 6 7 did authenticate that document, and the only page I 8 discussed was page 52, and that had to do with the 9 low data that we had a discussion of low zones, and I 10 don't see any reason to strike that exchange. We withdrew the exhibit, so I'm sure what's in the 11 12 record wouldn't be harmful on that. 13 EXAMINER PARROT: Moving to strike or 14 not, Mr. Pritchard? 15 MR. PRITCHARD: No. I'll withdraw my 16 comments. 17 EXAMINER PARROT: Anything else from 18 anybody? All right. With that we are going to admit Company Exhibits 20, 21, 23, 24, 25, 28, and 30 19 20 through 33. 21 (EXHIBITS ADMITTED INTO EVIDENCE.) 22 EXAMINER PARROT: Thank you very much, Mr. Chernick. 23 24 THE WITNESS: Thank you. 25 (Recess taken.)

2911 1 EXAMINER SEE: Let's go on the record. 2 Mr. Kurtz, your witness. 3 MR. KURTZ: Yes, call Stephen J. Baron. 4 5 STEPHEN J. BARON being first duly sworn, as prescribed by law, was 6 7 examined and testified as follows: 8 DIRECT EXAMINATION 9 By Mr. Kurtz: 10 Ο. Mr. Baron, do you have in front of you a 11 document called the Direct Testimony of Stephen J. 12 Baron? 13 Α. Yes, I do. 14 Was it prepared by you or under your Ο. 15 direct supervision? 16 Yes, it was. Α. 17 Q. If I were to ask you the same questions 18 as those contained within, would your answers be the 19 same? 20 Α. Yes. 21 Ο. Any corrections or additions? 22 Α. Not that I'm aware. 23 MR. KURTZ: Your Honor, if we could have 24 this marked as OEG, I think, Exhibit 1, and the witness is available for cross. 25

2912 EXAMINER SEE: Exhibit so marked. 1 2 (EXHIBIT MARKED FOR IDENTIFICATION.) 3 MS. PETRUCCI: Your Honor, I have a brief 4 motion to strike, if now is a good time. 5 EXAMINER SEE: Yes, it is the appropriate time. 6 7 MS. PETRUCCI: The motion to strike is 8 with respect to page 2, line 8, and it's the words 9 "as a financial limitation on shopping that will stabilize rates." So the beginning of the sentence 10 would remain, just that clause. 11 12 And the grounds are because in this 13 sentence Mr. Baron is making a legal conclusion as to 14 what the Commission ruled, and those are not the terms that the Commission used in its decision. 15 16 EXAMINER SEE: What was that last part? 17 MS. PETRUCCI: It wasn't the grounds that 18 the Commission stated in its decision, page 2, line 8. 19 20 EXAMINER SEE: Is that the only portion, 21 Ms. Petrucci? 22 MS. PETRUCCI: Yes. 23 EXAMINER SEE: Mr. Kurtz? 24 MR. KURTZ: He is summarizing the 25 Commission's order in the original TPA case, and this

2913 is precisely what the Commission held. So he's not 1 2 testifying as a lawyer. He's just merely reciting 3 the Commission's precedent. 4 EXAMINER SEE: And the motion to strike 5 is denied. Cross-examination, Mr. Bzdok? 6 7 MR. BZDOK: Thank you. 8 9 CROSS-EXAMINATION By Mr. Bzdok: 10 Good evening, Mr. Baron. 11 Ο. 12 Α. Good evening. 13 Ο. Let's talk first about the preparation of 14 your testimony in this case. We took your deposition last Friday, October the 9th; is that correct? 15 16 Α. Yes. 17 As of last Friday you had not personally Q. 18 reviewed the proposed power agreement between AEP 19 Ohio and AEPGR whose costs and revenues would pass 20 through to customers via its PPA rider; is that 21 correct? 22 That is correct. Α. Since last Friday have you reviewed that 23 Ο. 24 proposed PPA? 25 Α. No.

2914 1 Q. Why not? 2 Α. Mr. Kollen, OEG Witness Kollen, really 3 addresses those issues, and so that was not the basis 4 for my testimony, and so I didn't review it. 5 Ο. Can you take a look at page 3 of your direct testimony? 6 7 Α. I'm on page 3. 8 Your first recommendation now is that the Ο. 9 PPA terms should be fixed for 15 years; is that 10 correct? 11 Α. Yes. 12 Ο. That's a recommendation concerning the 13 proposed PPA between AEP Ohio and AEPGR, is it not? 14 Α. Yes, it would be. 15 Q. Take a look at your second recommendation 16 on page 3, that the Commission should prohibit AEP 17 Ohio from agreeing to any PPA changes without 18 Commission approval. That subject of that 19 recommendation is also the proposed PPA between AEP 20 Ohio and AEPGR, is it not? 21 Α. Well, it would be the PPA proposed as 22 modified by the Commission in this case in terms of 23 its order indicating -- assuming that the Commission 24 were to approve the PPA rider subject to conditions, 25 it would be whatever PPA -- assuming AEP accepted

that, it would be whatever modifications AEP made to 1 2 that rider. 3 To the proposed PPA that would be between Ο. 4 AEP Ohio and AEPGR, right? 5 Α. Right. My only concern on your question was it's not the proposed PPA. OEG is recommending a 6 7 whole host of modifications. 8 Are you offering any other Ο. 9 recommendations in this case, expert recommendations 10 about documents you've not read? 11 Α. Not that I'm aware of. I quess my 12 recommendation -- I'm not aware of any as I sit here 13 now. Not that you're -- sitting here, not that 14 Q. you can think of right now? 15 16 As I said, Mr. Kollen addressed the PPA Α. 17 provision. He made a number of proposed recommended 18 changes. Mr. Taylor did as well. My changes were related to in terms of the PPA itself to limit the 19 20 term to 15 years. That has to do with the economics 21 and other aspects of the terms of risks that parties 22 would bear and so forth, meaning parties like the 23 ratepayers. 24 As of last Friday you had also not Ο. 25 personally reviewed the Ohio Valley Electric

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2916
      Corporation agreement, whose costs and revenues would
 1
 2
      also pass through to AEP Ohio customers via the
 3
      proposed PPA rider; is that correct?
 4
             Α.
                  That is correct.
 5
             Ο.
                  Have you reviewed that document since
      last Friday?
 6
 7
             Α.
                       There was no reason to.
                  No.
 8
                  As of last Friday, you had also not
             Ο.
 9
      reviewed in any substantive way the workpaper for
10
      Exhibit KDP-2, which provides the specifics of how
      the costs and revenues would be calculated and what
11
12
      the company projects the costs and revenues that
13
      would flow to customers under the PPA rider would be.
                  I indicated --
14
             Α.
15
             Q.
                  Correct?
16
                  I indicated to you that I had looked at
             Α.
17
      those confidential workpapers. I hadn't reviewed
18
      them in detail. I think that was my recollection of
19
      my answer. That is what happened.
20
                  MR. BZDOK: May I approach the witness,
21
      your Honors?
22
                  EXAMINER SEE: Yes.
23
             Ο.
                  Mr. Baron, I would ask you to turn in
24
      your deposition to page 20. Specifically I'm looking
      at your answer that starts at line 2.
25
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2917 "I have seen the attachment to 1 Answer: 2 Dr. Pearce's testimony, which is page 1 of 1, KDP-2 I 3 have seen that. I do recall at some point I may have 4 looked at the Excel spreadsheet that supports it, but 5 I didn't go through it in any substantive way. I may have looked at it." 6 7 Does that refresh your memory as to 8 whether you have looked at the workpaper for KDP-2 in any substantive way, as I just asked you? 9 That's exactly what I just said in answer 10 Α. to your prior question, to the best of my knowledge. 11 12 We can have the court reporter read it back, if you'd 13 like. 14 No. It will be on the transcript. Ο. 15 Α. All right. 16 And you've not reviewed that workpaper in Ο. 17 any substantive way since last Friday, have you? 18 I haven't reviewed it any further since Α. 19 last Friday than I had as of Friday. 20 As of last Friday out of 11 AEP witnesses Ο. 21 in this case, you could only identify four whose 22 testimony you actually reviewed; is that correct? 23 Α. I accept that. 24 Have you reviewed the testimony of any Ο. 25 more AEP witnesses since then?

2918 I've reviewed testimony since then, and I 1 Α. 2 think I answered your question in the deposition. My 3 intent was in this the week, prior during which I --4 prior to my appearance here, I intended to review 5 again some of the testimony that I had seen. I don't think I reviewed any testimony 6 7 this past week since Friday that I had not reviewed 8 before with respect to AEP witnesses. It's possible. I just don't remember. I think my answer to you 9 10 during the deposition was I was somewhat vague. I recited some of the witnesses that I had reviewed. 11 12 Ο. So am I understanding your testimony 13 correctly that you don't remember what witnesses' 14 testimony you've reviewed since last Friday? No. I know which witnesses I've reviewed 15 Α. 16 since last Friday. Who? 17 Ο. 18 Well, I can grab a stack if you don't Α. 19 I've reviewed again Mr. Allen's testimony, mind. 20 Mr. Vegas' testimony, and to some extent, I looked 21 briefly at Mr. Fetter's testimony, and I reviewed a 22 little bit Mr. Pearce's testimony again, not 23 completely. Probably that would be true for all of 24 them. I just perused them. 25 Q. So, still, four out of 11 AEP witnesses,

those are all you can remember that you reviewed? 1 2 Α. I'll accept that. 3 Have you reviewed the testimony of any Ο. 4 other -- let me try that again. 5 As of last Friday, you had not reviewed the testimony or exhibits of any witness for any 6 7 other party in this case besides AEP, and OEG, your 8 own client; is that correct? 9 That is correct. Α. 10 Ο. You said you had meant to do so, but you hadn't gotten to it; is that correct? 11 12 Α. No. I don't think that's what I said. 13 It's possible I said that. I think what I said I 14 anticipated this current calendar week to do that 15 prior to my appearance. I'd already submitted my 16 testimony before those witnesses submitted theirs, so 17 there was nothing I could do in terms of my direct 18 testimony. 19 And in terms of preparing for my 20 appearance today, I intended to look over some of the 21 testimony of witnesses other than the company, and 22 I've done that. 23 And you have done that? Ο. 24 I told you I was going to do that. Α. Yes. 25 Q. I'm glad to hear you're catching up with

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2920 1 us. 2 What was that question? I'm not sure. Α. 3 My question is what other witnesses since Ο. 4 then, since last Friday, have you reviewed. 5 Α. I reviewed -- I looked at Mr. Chernick's 6 testimonv. I looked -- and this I should preface my 7 answer by saying that in reviewing these witnesses' 8 testimony, I may not -- I most likely didn't read all 9 the testimony. I read parts of their testimony. I 10 looked at the testimony of Mr. Lesser. I looked at the staff witnesses' testimony. And I think I may 11 12 have looked at the testimony of Mr. Haugen, 13 H-a-u-g-e-n. 14 Are you done? Q. 15 Α. Yes. 16 As of last Friday, you indicated that if Ο. you had reviewed any discovery responses in this 17 18 case, you didn't know what those responses might have 19 been or what they might have been about; is that 20 correct? 21 Α. That was -- at the time you asked me, I 22 believe that was my answer, and that is so, that is 23 my recollection of what I told you. 24 Since last Friday has your memory Ο. 25 improved as to the point you can remember anything

2921 1 about any discovery responses you might have reviewed 2 from this case? 3 I do recall reading, and I thought I had Α. 4 references, but I definitely had reviewed a 5 confidential response to IEU, Interrogatory 6-1, 6 Supplemental Attachment 1. 7 Ο. Are you saying you reviewed that since 8 Friday, or you reviewed that before Friday and you're now remembering that you did so? 9 10 I had reviewed it before Friday. Α. 11 Ο. And what was that response about? 12 Α. That was the response that provided the 13 amount of capacity that cleared in the capacity performance BRA in the 2018-19, the amount of the 14 megawatts for each of the units at issue in this case 15 16 under the PPA rider that cleared in the 2018-19 BRA 17 capacity performance resources. 18 Other than that discovery response, since Ο. 19 Friday have you been able to remember any other 20 discovery responses that you may have reviewed? 21 Α. I haven't, and I haven't attempted to go 22 through other responses. As you understand the PPA rider from the 23 Ο. 24 review that you have done, it does not have any 25 impact on the amount of customer shopping that will

2922 occur within AEP Ohio; is that correct? 1 2 Α. Yes. 3 You're saying, yes, you agree with me? Q. 4 Yes, that's correct. Α. 5 Ο. And it doesn't have any impact on the 6 amount, all else being equal, of energy that a 7 customer who shops would obtain from a CRES provider; 8 is that correct? 9 That is correct. Α. 10 Q. It's simply an adjustment to the customer's bill; is that correct? 11 12 Α. Correct. 13 Ο. Let's talk about the PPA rider bottom 14 line. You would not support the PPA rider if it had 15 a negative net present value; is that correct? 16 That is correct. And I should add that Α. OEG has provided the testimony of myself and 17 18 Mr. Allen Taylor and Mr. Lane Kollen recommending modifications to the entire -- to the economic basis 19 20 for the PPA rider in terms of some of the issues that 21 we -- I mean, that really ultimately would have to be 22 modifications to the PPA itself, but basically a 23 number of changes which we believe are necessary in 24 order to make the PPA rider a potential benefit to 25 customers.

1	MR. BZDOK: Move to strike everything
2	that starts with "and I should add." The witness
3	gave his answer to a "yes" or "no" question, and I
4	should add, and gave an answer that's multiple,
5	multiple times longer covering other topics. I
6	believe that's appropriate for striking.
7	MR. KURTZ: Your Honor, the answer was
8	responsive to the question. Based upon the precedent
9	that's been established here, I've been in the
10	FirstEnergy a lot, Mr. Chernick was asking very
11	broadly and was allowed to do it. I think
12	Mr. Baron's comments certainly add to the record, add
13	to the Commission's understanding of this issue, and
14	counsel may not like the answer, but it's very
15	appropriate.
16	EXAMINER SEE: And the answer that the
17	witness gave adds context to what he believes would
18	be of benefit to the rider, so its going to stay.
19	MR. BZDOK: You also believe that net
20	present value is the appropriate economic basis to
21	evaluate a proposal like the PPA rider, correct?
22	A. From certainly from an economic
23	standpoint the net present value is appropriate
24	method to compare economic alternatives.
25	Q. And you believe that market prices being

2924 lower than forecast presents a potential risk to 1 2 customers of the PPA rider; is that correct? 3 Yes, I think that was in my testimony. Α. 4 And you are aware of the existence of a Ο. 5 2015 fundamental forecast by AEP that projects lower energy market prices, and the 2013 fundamental 6 7 forecast upon which the company's filed testimony and exhibits were based; is that correct? 8 9 I'm aware of that. Α. 10 Ο. By as of the time as of last Friday, you had not reviewed that 2015 fundamental forecast for 11 12 lower economic market prices; is that correct? 13 Α. That is correct. 14 Have you reviewed it since then? Q. 15 Α. No. I'm aware of it directionally. 16 Directionally it increases that risks Ο. 17 does it not? 18 All else being equal, I would assume that Α. it would lower the economic benefits. Whenever the 19 20 market price is lower and market revenues are lower, 21 assuming all else being equal. I don't know what all 22 else is equal, but assuming that, it would be true. 23 Ο. Let's talk about the PJM capacity market. 24 I refer you to page 8 of your direct testimony. You have a question and answer that starts on line 11. 25

2925 Question: "Does PJM recognize that its 1 2 administrative construct for determining market 3 capacity prices is not currently functioning 4 properly?" 5 Answer: "Yes." And then you go on to provide an explanation that carries over on to page 6 7 9; is that correct? 8 Α. Yes. 9 You're not offering any opinion in this Ο. 10 case that the PJM capacity market is not functioning properly, are you? 11 12 Α. No. 13 Ο. You're not offering any opinion in this 14 case that PJM is taking the position that its capacity market is not functioning properly, correct? 15 16 That is correct. What I'm talking about Α. 17 in this portion of my testimony is my understanding of the reasons that -- or at least one of the reasons 18 19 why PJM elected to propose the modifications that 20 included the capacity performance modifications. 21 Ο. And you agree that the approval of the 22 capacity performance resource product by FERC will improve reliability; is that correct? 23 24 That would be my understanding and it's Α. 25 my belief.

2926 1 And that the results of the PJM capacity Ο. 2 auction this past August reinforced the view that 3 reliability of PJM capacity -- that the reliability 4 benefit of the PJM capacity market is improving; is 5 that correct? I think that's a fair statement. 6 Α. 7 Certainly in the transitional auctions, for 8 example --9 (Interruption.) 10 (Record read.) For example, the prices, the capacity 11 Α. 12 prices, increased associated with capacity 13 performance resources relative to where they had been 14 for the say the 2016-17 delivery year. 15 Ο. If I said to you that to the extent 16 anyone might argue that the PPA rider is justified in 17 whole or in part as necessary to preserve the PPA unit capacity resources, the PJM capacity performance 18 19 improvements appear to have at least weakened that 20 argument. You don't have a principled basis to 21 disagree with that, do you? 22 You're going to have to repeat that Α. 23 question again. I'm not sure I followed all the 24 elements. 25 MR. BZDOK: Can you read that back?

2927 1 (Record read.) 2 And there was an "as" missing, to Q. 3 preserve the PPA units as capacity resources. 4 Α. In other words, the argument that you're 5 asking me to comment on one way or the other is that the PPA rider would preserve the benefits of the 6 7 units as capacity performance resources? 8 MR. BZDOK: Can you read back his 9 question to me? 10 (Record read.) Should I be sworn? Go ahead. 11 Ο. No. 12 Α. No, no, go ahead. 13 Ο. The question is if the reliability 14 benefit -- let me just try it a different way. Ιf 15 the reliability benefit of the PJM capacity market is 16 improving based upon what we've been discussing, and 17 anyone was hypothetically arguing that the PPA rider 18 was necessary to preserve these resources for 19 reliability purposes, that argument is at least 20 weaker based on recent events than it was before 21 recent events, wouldn't you agree? 22 I would say, all else being equal, the Α. 23 capacity performance modifications to the PJM tariff 24 increase the reliability of PJM. I don't know -based on the data response that I referred to 25

2928 earlier, the resources -- the PPA resources and OVEC 1 2 qualified as capacity performance resources. 3 I don't have any basis to equate that 4 result to whether or not the PPA rider is approved or 5 not because it seems to me that that would require an assumption that absent the PPA rider, the units would 6 7 not be there. I don't have an opinion on that. 8 Take a look at page 18 of your direct Ο. Talk a little bit about the Clean Power 9 testimony. 10 Plan. Was there a line reference? 11 Α. 12 Q. Sure. Let's look at line 16. Let's look 13 at page 16, line 16. 14 Α. Page 16? 15 Ο. Yeah. 16 Α. Okay. 17 There's a question there about the Clean Q. 18 Power Plan, and then you have an answer that starts 19 on line 16 where you say, "First, there is 20 considerable uncertainty as to whether EPA has 21 exceeded its legal authority under the new rule." 22 Do you see that? 23 Α. Yes. 24 The only basis for your belief there's Ο. 25 considerable uncertainty in that regard is that

2929 someone has made a statement that there will lawsuits 1 2 regarding that rule; is that correct? 3 That's correct. Α. 4 How long have you been doing this work? Ο. Since about 1974. 5 Α. Can you think of a federal air pollution 6 Ο. 7 rule governing fossil fuel electric generating units 8 that was not the subject of lawsuits? 9 Α. I don't know. 10 Q. Page 17 of your direct testimony you provide some estimates starting at line 4 concerning 11 12 percentages of the nation's energy supply that will 13 be coming from coal generation under some different scenarios; is that correct? 14 15 Α. Yes. 16 Under a rate-based approach you say, Ο. 17 "EPA's estimate is 27.4 percent of the nation's supply will come from coal." Correct? 18 19 Α. Yes. 20 Q. Under a mass based approach, the 21 percentage is 27.8 percent, right? 22 Α. Yes. And in a base case with no Clean Power 23 Ο. 24 Plan, the percentage is 32.8 percent; is that 25 correct?

	2930
1	A. Correct.
2	Q. As of last Friday, you did not know the
3	proportion of energy that currently comes from coal
4	in Ohio, correct?
5	A. I couldn't value it, that is correct.
6	Q. Have you done any research subsequently?
7	A. Yes, I have.
8	Q. Where do you know sitting here today?
9	A. I think the question was in Ohio?
10	Q. Yep.
11	A. In Ohio I think it was about 60 percent
12	or so. And I think it was a 2012 number, but I
13	think give me a moment. I wrote it down
14	somewhere. Here it is. Actually, in 2012 the
15	research that I did was it was about 76 percent, and
16	then based on the EPA analysis I think it was going
17	to go to 65 percent in 2016 and 61 percent in 2030,
18	the same database that I used to develop the other
19	factors for the U.S. as a whole.
20	Q. Did you get did you do research on the
21	percentage in PJM as well?
22	A. I did not, no.
23	Q. Let's talk about cost allocation for a
24	minute. One of the recommendations you make in your
25	expert testimony is that the net revenue costs of the

2931 PPA rider be allocated 100 percent based upon the 1 contribution of each customer class to peak demand; 2 3 is that correct? 4 Α. In the 4CP for a month. 5 Ο. Just so the record's clear, by "4CP" you 6 mean four coincident peaks? 7 Α. Yes four coincident peaks. 8 So its each customer class' peak demands Ο. 9 over the average of the those four coincident peaks? 10 Α. Yes. 11 The your clients in OEG are, by and Ο. 12 large, energy-intensive industrial customers of 13 electricity; is that correct? 14 That's correct. Α. 15 By and large, they tend to have higher Ο. 16 load factors than other customers, correct? 17 Α. Yes. 18 Speaking in generalities, without Ο. 19 necessarily any specifics by any one particular 20 customer, higher load factor customers like in OEG, 21 their proportion of total energy use relative to the proportion by other customer classes is lower than 22 23 their -- let me try that a different way. 24 Speaking generally, in allocation for 25 higher load factor customers, an allocation based an

	2932
1	100 percent on peak demand results in a lower portion
2	of costs allocated to the high-load factor customers
3	than and allocation that includes a component
4	allocated based on energy use; is that correct?
5	A. Yes. With respect to cost allocation,
6	if I'll say under an traditional cost-of-service
7	analysis, there was a cost of a million dollars, and
8	it was allocated on coincident peak or,
9	alternatively, energy, I would agree with what you
10	said.
11	In the case of a credit, it would work
12	the opposite way, so I think your questions, it
13	seemed like they were related to the PPA rider issue
14	that we were talking about, so I wanted its
15	important to recognize that to the extent that the
16	PPA rider produces a credit in a year, it has the
17	opposite effect.
18	Q. Sure. So let's just illustrate that a
19	little bit. So I think what you so for OEG
20	customers with their high-load factors, in the
21	situation of a cost of the PPA rider, their cost
22	would be less dear 4CP 100 allocation than under
23	allocation that included an energy components.
24	High-load factor rate classes, all else
25	being equal, I would agree that the energy allocator

1 would allocate more to that class than a 4CP 2 allocator. So if it was an -- if the rider produced 3 a net charge, it would have the effect, I think, that 4 you were asking me about. 5 Ο. And if the rider were producing a net credit and we were allocating 4CP 100, that would 6 7 result in OEG members receiving less of the credit 8 than they would receive under an allocation that 9 included an energy component. Is that what you're 10 saying? 11 Yes, that's right. Α. 12 Q. So, hypothetically, if one were 13 advocating in the interest of OEG members and one 14 were supporting a PPA rider proposal but concerned it 15 was more likely to have a cost than a credit, 16 recommending a 4CP 100 demand allocation would help 17 hedge that risk for the OEG members, would it not? 18 Α. If one believed that there was a 19 likelihood that there were going to be charges. I 20 think we agreed that the arithmetic would show that 21 4CP produces a lower allocation than energy for 22 high-load factor classes. That's not the basis for 23 my recommendation. 24 But it is a bet that this is going to be Ο. 25 a cost, not a credit, right?

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2934 It's not a bet. It's based on cost 1 Α. 2 I think it was -- you had asked me about causation. 3 that or one of the parties had asked me about that in 4 my deposition, and I explained why I believe that a 5 cost allocation -- allocation of net PPA rider cost or credit was more appropriately demand based. 6 7 MR. BZDOK: That concludes MY questions 8 for this witness. 9 EXAMINER SEE: Ms. Bojko? MS. BOJKO: May we go off the record for 10 11 just a moment. 12 EXAMINER SEE: Sure. 13 (Off the record.) 14 EXAMINER SEE: Let's go back on the record. 15 16 THE WITNESS: If I could, just before you 17 start, if you could talk loud because my hearing is 18 not great. We don't have microphones. 19 MR. MARGARD: Usually not a problem for 20 Ms. Bojko. 21 THE WITNESS: I give you permission to 22 talk as loud as you like. MS. BOJKO: I take that as a 23 24 compliment.Pearce 25

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1	CROSS-EXAMINATION
2	By Ms. Bojko:
3	Q. Good evening, Mr. Baron. It's great to
4	see you again.
5	A. Likewise.
6	Q. Sir, it's your understanding that Ohio is
7	in a deregulated state; is that correct?
8	A. It's a deregulated state subject to the
9	statutory provisions of SB3, SB221 that have many
10	different features. So its a deregulated its a
11	retail access state, but it's not based on my
12	understanding, its not the same statutory provisions
13	as some other retail access states, like
14	Pennsylvania, for example.
15	Q. It is your understanding that the
16	distribution utilities have either divested or are in
17	the process of divesting their generation functions,
18	and they will no longer own generation; is that
19	correct?
20	A. Yes.
21	Q. And it's your understanding that
22	currently AEP Ohio does not own generation.
23	A. That is correct.
24	Q. And it's AEP Generation or AEPGR, an
25	unregulated affiliate of AEP Ohio, that owns the

1 plants that are subject to the purchase power 2 agreement rider; is that your understanding? 3 They're unregulated by the Public Α. Utilities Commission of Ohio. I think if that's what 4 5 you meant, then I agree. And your clarification only means that 6 Ο. 7 you believe that they would have some form of 8 regulation under the Federal Energy Regulatory Commission. 9 10 That would be my understanding. Α. 11 And if we could turn to page 2 of your Ο. 12 testimony, lines 7 and 8, here you state that "the Commission has ruled" and you were referencing the 13 AEP ESP III order; is that correct? 14 15 Α. Correct. 16 And you were a witness in that Ο. 17 proceeding; is that correct? 18 Α. Yes. 19 And you are not an attorney, sir? Ο. 20 That's correct. Α. And you're not offering legal opinions 21 Ο. here today, correct? 22 That is correct. 23 Α. 24 You would also agree with me that rate Ο. 25 stability is important for all customers.

		2937
1	Α.	I would agree with that.
2	Q.	Looking at line 10 on page 2 of your
3	testimony, y	you refer to a long-term bilateral cost of
4	service base	ed contract. Do you see that?
5	Α.	Yes.
6	Q.	And here you're referencing the purchase
7	power agreer	nent; is that correct?
8	Α.	Yes.
9	Q.	And that purchase power agreement is
10	between AEP	Ohio and AEPGR, an affiliate of AEP; is
11	that correct	5?
12	Α.	That's my understanding.
13	Q.	And, sir, you understand that if I say
14	AEP that I'r	n referring to AEP Ohio here tonight?
15	Α.	I can accept that, yes.
16	Q.	Thank you.
17		And is it your understanding that AEP
18	Ohio has pro	pposed that the term of the PPA will be
19	for the life	e of the unit?
20	Α.	Yes, that's my understanding.
21	Q.	And the later projected retirement of one
22	of those un:	its is 2051; is that correct?
23	Α.	That is my understanding.
24	Q.	So as proposed by AEP, the long-term
25	contract you	're referring to could be for 35 years.

	2938
1	A. Yes.
2	Q. And AEP is proposing to include in the
3	PPA AEPGR's ownership share of nine units; is that
4	correct?
5	A. Yes.
6	Q. And then AEP is proposing to include in
7	the PPA AEP Ohio's ownership share of 11 units that
8	OVEC units; is that correct?
9	A. Yes.
10	Q. And that's a total of 20 units?
11	A. Yes. I would accept that. I've looked
12	at it more on terms of plants and capacity, but I can
13	accept that.
14	Q. And do you know that whether those 20
15	units or all of the plants are actually coal plants?
16	A. I do.
17	Q. So that they are coal plants; is that
18	correct?
19	A. That's my understanding. Though I'm
20	actually looking at the list. There's one and I
21	haven't studied this, but there's one yeah, that's
22	my recollection, that they are coal plants, but I'm
23	not a hundred percent certain whether there may be
24	some diesel or small amount. I don't know, but
25	predominantly almost entirely coal.

2939 1 Ο. And, sir, you are aware that six of the 2 20 units are located outside of Ohio; is that 3 correct? 4 Again, I know that some of the OVEC Α. 5 capacity is located outside of Ohio, if that's what you're referring to. 6 7 Ο. It is. There are six units in Clifty 8 creek -- six units of Clifty Creek that are located in Indiana; is that correct? 9 10 Α. That would be my understanding, yes. And isn't it true that AEP Generation 11 Ο. 12 operates or jointly operates only three of the PPA-affiliated units? 13 I'm aware that a number of the units are 14 Α. 15 jointly owned, so in case of OVEC, all of them are 16 jointly owned AEP has a share of those, and on some 17 of the other units there is some joint ownership. I 18 don't recall the specifics so I leave it in my answer, if I could. 19 20 Ο. And as far as who operates the plants, 21 AEP Generation only operates three of the 22 PPA-affiliated units which are Conesville units; is 23 that correct? 24 I don't know that. I recall reading some Α. 25 information about that. I don't know specifically.

2940 Is it your understanding, sir, that the 1 Ο. 2 purchase power agreement between AEP Ohio and AEP 3 Generation requires the corresponding energy capacity 4 and ancillary services from those coals units to be sold into PJM? 5 That would be any understanding. 6 Α. 7 Ο. And the proportionate output from the 20 8 units will not be directly sold or provided to customers in Ohio; is that correct? 9 10 That is correct. Α. And rider PPA will include the difference 11 Ο. 12 between the revenues collected from the sale of the 13 energy capacity and ancillaries by AEP Ohio into the 14 PJM market as compared to the costs associated with 15 the proposed purchase power transaction; is that 16 correct? 17 Α. That would be my understanding, yes. 18 And its your understanding that the Ο. 19 difference could either be a charge or credit to 20 customers? 21 Α. That's correct. 22 Q. And, sir, many commercial and industrial 23 customers have entered into some sort of fixed-price 24 contract in order to have known available rates; is 25 that correct?

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A. Yes, I'm aware of that. I don't know any specifics of those contracts, but I am generally aware that there are contracts of that nature. I don't know the terms.

Q. And if a customer enters into a long-term contract with a supplier, the PPA rider will be either a charge or credit on top or additional to the customers' fixed rate established by the contract; is that correct?

A. Well, what I can answer is that all else being equal, since the PPA rider would be a nonbypassable charge, the charge or credit for the PPA rider would be an addition or a subtraction from what the customer's otherwise applicable bill would be, whether they're an SSO customer or shopping customer.

17 And SSO, you're referring to the standard Ο. 18 service offer, and its your understanding that some 19 customers take service pursuant to the standard 20 service offer from AEP Ohio? 21 Α. Yes. 22 And that offer is competitively bid? Q. 23 Α. Yes. 24 So my question about it would be an Ο. 25 addition to whatever SSO -- my question regarding if

2942 a customer is on an SSO rate, the PPA rider could be 1 2 a charge or credit on top of that SSO rate. 3 Well, it would be if it was approved by Α. 4 the Commission. 5 Ο. And you would agree with me, sir, that 6 customers taking service pursuant to the standard 7 service offer also have known and stable rates 8 through the SSO? 9 To the extent that the SSO rates reflect Α. 10 competitively bid prices, fixed -- some fixed 11 duration, and I understand that there are overlapping 12 auctions, so to the extent that those prices are 13 fixed, they may change during the ESP, but for some 14 period of time there will be -- they tend to be 15 fixed. They won't vary within the market prices, for 16 example. 17 That's what I was asking. They wouldn't Ο. 18 experience volatility of the forward market; is that 19 correct? 20 Α. Not on the short-term daily or monthly basis. 21 22 And as you understand AEP's proposal, Q. 23 rider PPA will be adjusted annually with applicable 24 charge or credit in effect from June 1 through May 31 25 of each year?

Yes. And I have read that there was some 1 Α. 2 discussions of a quarterly true-up, but the 3 projection, my understanding is the projection for 4 the rider would be an annual projection. 5 Ο. And it's your understanding, then, with that if it wasn't adjusted annually, that if a severe 6 7 weather or high-price event occurred in July, the PPA 8 rider would not be adjusted to reflect any results of the event until the following June; is that correct? 9 10 Α. Well, unless there was a quarterly true-up, in which case it would be adjusted in, say, 11 12 a three-month period. 13 Ο. But if it was an annual adjustment as 14 proposed, then it wouldn't be reflected until the following year? 15 16 If it was an annual adjustment, it would Α. 17 be adjusted annually. 18 And it's your understanding that AEP has Ο. 19 projected that rider PPA will be a cost to customers 20 in the near-term; is that correct? 21 Α. Based on AEP's projections without the 22 modifications that OEG is proposing. 23 Ο. That's a yes? 24 Based on -- yes, based on AEP's Α. 25 projections and its proposed rider and PPA

1 arrangement.

2 Turn to page 11 of your testimony. Q. On 3 lines 9 through 11 you state that AEP will either 4 dedicate units to Ohio consumers or sell the units. 5 Do you see that? Yes, that's my understanding of what the 6 Α. 7 company has said. 8 And here you use the term "AEP," but just Ο. so we're clear, AEP Generation owns the units that 9 10 you're talking about that could be dedicated to Ohio customers? 11 12 Α. Yes, it would be AEPGR. 13 Ο. And that dedication --14 Excuse me. I just don't know whether I Α. can't recall some of this. I can't recall whether 15 16 the statement was an AEP document, but it certainly concerns the AEP Generation ownership and the 17 18 resources. 19 And the dedication that you're talking Q. 20 about is with regard to the purchase power agreement? 21 Α. Yes, between AEPGR and AEP Ohio. 22 Q. You're not suggesting that the output of 23 the generating unit would be used directly to serve 24 Ohio customers in this statement, are you? 25 Α. No. Just to financial adjustments, not

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2945 1 to the customer's bill. 2 And you believe if the PPA is not Q. 3 approved, AEP will sell the plants and not retire 4 them? 5 Α. I don't necessarily believe it. It's my understanding that AEP has indicated that that 6 7 would -- that was their intent. I don't have any --8 I haven't done any analysis, nor do I know what they will or will not do. 9 10 But the intent, referring to line 11, is Ο. to sell the units; is that correct? 11 12 Α. That's what I understand. 13 Ο. Turn to page 13, please, lines -- page 14 12, lines 5 and 6. Here you state that the 15 cost-based generation plants fully participate in 16 PJM. Do you see that? 17 Α. Yes. 18 And in your testimony you also mention Ο. FRR entities. FRR entities are cost-based 19 20 generators, are they not? 21 Α. I'm aware -- I don't know the entirety of 22 the universe of FRR utilities, but the examples that 23 I know of, which were AEP companies in Kentucky and 24 West Virginia that are FRR companies, those are 25 traditional rate-of-return, regulated service

1 stations.

2	Q. And isn't it true that cost-based FRR
3	entities' participation level is capped in the PJM
4	market capacity auction?
5	A. Yes, but that is true, there's a limited
6	amount of capacity. But maybe I better ask a
7	clarification to your question. Are you talking
8	are you asking whether the unit in my reference on
9	line 5, do these units really participate, are you
10	asking me to assume that all of those units are FRR
11	units?
12	Q. No.
13	A. Or related to FRR companies? Because
14	that's not my testimony.
15	Q. No. Right, you answered my question.
16	Thank you.
17	A. All right.
18	Q. You understand that the FRR, as you just
19	stated, is limited to FRR entities' participation in
20	the capacity auction, is limited to a small amount of
21	megawatts?
22	A. Yes. There are restrictions in the FRR
23	provisions of the PJM tariff that limit the amount of
24	megawatts of excess capacity above their FRR that can
25	be bid into BRA or the incremental auction.

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2947 1 Do you know what that limitation level Q. 2 is? 3 My recollections it's around Α. 4 1,350 megawatts, but there are some other restrictions, too. 5 Let's go back to page 3 of your 6 Ο. 7 testimony, lines 7 to 10. You recognize that AEP's 8 proposal will result in AEP's retail generation 9 pricing being partially market based and partially 10 cost based; is that correct? 11 Yes. Excuse me, could you give me the Α. 12 reference again, the page and line? 13 Ο. Page 3, the sentence right at the end of line 7 over to 10. 14 15 Okay. I thought the reference -- okay. Α. 16 Here you're recognizing that AEP's Ο. 17 proposal will result in AEP's retail generation 18 pricing being partially market based and partially cost based; is that correct? 19 20 That was I think at line 9 here in my Α. 21 copy. That's where I got confused. 22 Sorry, I was just referring the whole Q. 23 sentence. 24 And the cost and revenues of the plants 25 could be higher or lower than what's projected; is

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1 that correct?

2	A. Yes, that would be true. I believe that
3	would be true irrespective of whether the OEG
4	adjustments are made or not. Though with the OEG
5	adjustments, it's in my opinion it's not it's much
6	less likely that there will be a charge than a
7	credit. But, obviously, depending on market prices,
8	there could be charges or credits.
9	Q. And depending on the costs of the
10	generating units and the operation of those
11	generating units, the costs could be higher as well?
12	A. Yes. And that is the reason OEG has made
13	a number of modifications, which we believe will
14	reduce the likelihood, may reduce completely the
15	chance that there would be a charge, but anything can
16	happen.
17	Q. My question was about costs. You do
18	agree with me that costs to operate the plants could
19	be higher than what's currently projected, correct?
20	A. All else being equal, the costs could be
21	higher, yes.
22	Q. And you did not personally develop your
23	own forecast of revenues or costs of the plants in
24	this case; is that correct?
25	A. That is correct.

And you would agree with me that current 1 Ο. 2 energy market pricing is low, correct? 3 Well, I think it's certainly market Α. 4 revenues, market prices are lower than they had been 5 at other times historically. Well, and as far as the AEP Generation 6 Ο. 7 goes, they're lower than the cost to run the plants; 8 is that correct? 9 Are you saying for each of the units that Α. 10 are at issue in this case that the market revenues -are you asking me if the market revenues are lower 11 12 than the cost? 13 Ο. Not each, but generally speaking, that's 14 the forecast of the company; is that correct? 15 Α. The forecast of the company is that in 16 the first, I guess, couple of years, that in the 17 aggregate the revenues would be lower than the cost 18 based on the proposal that the company is making, 19 assuming no modifications to that proposal. 20 And that's a benefit -- on page 9 you 0. 21 explain that low market prices is a benefit to 22 customers; is that correct? All else being equal, low market prices 23 Α. 24 are generally a benefit to customers, and certainly 25 in a retail access environment.

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1	Q. And I think counsel for Sierra Club asked
2	you a question about whether you independently ran
3	your own forecasts but I want to know is if you
4	independently reviewed the forecast, actually
5	verified and reviewed the forecast that was conducted
6	by AEP in this case?
7	A. I did not review it.
8	Q. And let's turn to the bottom of page 5
9	and it goes over to page 6. You mention the market
10	development period. Do you see that?
11	A. Yes.
12	Q. It's your understanding that the Ohio
13	utilities were awarded stranded costs or transition
14	costs during the market development period to
15	transition to this deregulated market under Senate
16	Bill 3; isn't that correct?
17	A. That's my recollection.
18	Q. And back to page 3, lines 10 through 12,
19	you state that rider RS will not have an adverse
20	impact on shopping of CRES providers. Do you see
21	that?
22	A. Yes, in the sense that the customers will
23	still be able to shop for 100 percent of their
24	physical requirements.
25	Q. And it's true that some CRES providers

own they're own generation, right? 1 2 Α. I understand that that may occur. 3 And isn't it true that AEP's proposal Ο. 4 will favor one generator over another generator by 5 providing a guarantee of an affiliate generator's cost plus a return? 6 7 Α. Well, I don't know whether I'd 8 characterize it as a "favor." Certainly under AEP's proposal what it does is it provides a fixed rate of 9 10 return, whatever that rate of return ultimately turns 11 out to be, but it also has the cap. So to the extent 12 that market prices became much higher in any given 13 year and that would otherwise have produced a rate of return for AEPGR of, let's say, 19 percent, the cap 14 15 on the proposal would limit them compared to another 16 generation owner in Ohio. 17 So it has effect both ways. It does 18 provide, in effect, a floor, but it also provides a 19 cap, and that's AEP's proposal with OEG 20 modifications. It's an entirely different picture in 21 my view. 22 And it's a guaranteed return, Ο. 23 understanding that you believe the proposal has a 24 cap, but that's a guaranteed return that that 25 generator will earn that another generator will not

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be able to necessarily earn in the market; isn't that correct?

A. It would be. Whatever the rate of return that's built into the rate in the agreement, it would provide for that rate of recovery, that rate of return if AEP's proposal as filed were accepted. Now, that's not my testimony, but that's if you're asking me about AEP's proposal, that's their proposal.

Q. Isn't it true that you haven't done an analysis as to the impact on the competitive market of favoring one generator over another?

A. I haven't done any analysis. I don't -it's not my view that it has adverse effect, and
certainly under the OEG recommendations in this case,
I don't think one could conclude that AEP Generation
would be favored if the OEG recommendations were
approved and agreed to by AEPGR. I don't know
whether they've ever agreed to them or not.

20 Q. But AEP Generation, under your proposal, 21 under the OEG proposal, AEP generation will get a 22 guaranteed cost recovery and return for the term of 23 15 years; isn't that true?

A. No, that's not true.

24

25

Q. Under your proposal to shorten it to 15

2953 years, they will still get a guaranteed cost recovery 1 2 that will be passed on to ratepayers, true? 3 The 15-year term is only one element of Α. 4 OEG's recommendation. It reflects a down ROE as a 5 significant factor, that to the extent that there 6 were charges that were produced by the rider, they 7 would be -- the rate of return could be reduced down 8 to zero, which would be approximately about \$137 million off of the charge. 9 10 So that's -- there's no guarantee under 11 the OEG proposal that AEP Generation would get any 12 rate of return, depending on the environment, the 13 market cost, the cost of operating the unit, the revenues and so forth. 14 15 Ο. But there's a guarantee that they're 16 going to get cost recovery because they can get that 17 recovery from customers. They don't have to go to 18 the market to get cost recovery for operating their plants. 19 20 Α. When you say "cost recovery," certainly 21 the way AEP defined it as cost recovery under a 22 traditional cost-of-service type revenue requirement 23 model, which would include return on equity. Under 24 the OEG proposal, that return on equity may be zero; 25 and, furthermore, if it gets below that in terms if

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there's still a charge after that, then the company would have to absorb 20 percent of the costs. So I don't know that that's not a guaranteed rate of return.

Q. Well, I didn't say guaranteed rate of return. I'm saying that they -- that under the PPA construct, that customers are paying for the costs to operate the plants regardless of whether the revenues in the market will sustain that level of cost incurred to operate the plant.

A. And I'm saying that under the OEG, I think you asked me about if even under the OEG recommendations that would be true, and I'm saying no, that wouldn't be true.

15

Q. Okay.

16 Α. The other element that Mr. Taylor 17 addresses, that if a particular unit is not -- is 18 showing losses for three consecutive years and 19 projected to show losses for the next three, that 20 unit would be removed from the PPA. So I think under 21 the OEG recommendations in this case, it's an 22 entirely different set of risk factors that AEPGR would face. 23

24 Q. And under AEP's proposal, the plant's 25 customers could be responsible for retirement costs;

2955 1 isn't that true? 2 Α. Yes, that's my understanding. And, 3 again, Mr. Kollen addresses that, and we're 4 recommending that that not be permitted. 5 Ο. And isn't it true that --6 Α. Except to the extent on a pro-rata basis, 7 based on the number of years that customers use the 8 unit. Certainly not if a unit was -- I think someone 9 gave an example if a unit was retired the day after 10 the PPA agreements were all approved, there would be no retirement costs assigned to customers under the 11 12 OEG proposal. 13 Ο. So even under the OEG proposal customers 14 could be exposed to some pro-rata share of the retirement costs, correct? 15 16 If the units were being used for three Α. 17 years and then it was retired, then it would be 18 effective under the OEG. And Mr. Kollen really would 19 be better at explaining this, but it's my 20 understanding that there would be a pro-rata 21 allocation salvage cost, the dismantling cost for 22 those three years, based not a hundred percent, which 23 is what I understand the AEP proposal is. 24 But I'm not sure you answered my Ο. 25 question. So it's correct though that those

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retirement costs, whatever the calculation ends up 1 2 being, will be passed on to customers; is that 3 correct? 4 Yes. Some pro-rata portion of that, yes. Α. 5 Ο. And it's true that the independent market 6 monitor for PJM opposes the concept of subsidizing 7 one generator over another, stating that it's 8 inconsistent with the competitive market construct, correct? 9 10 I did not read Mr. Bowring's testimony in Α. this case. I think I did read it in the FirstEnergy 11 12 case, and assuming it's similar, I recall that was 13 his position. And isn't it also true that staff filed 14 Ο. 15 testimony in this case recommending that rider RS be 16 denied as currently proposed? 17 Α. As proposed, and the impression -- my 18 interpretation of the staff's testimony, of course 19 they will explain it better than me, is that if there 20 were modifications, then the rider could be 21 acceptable. And in that sense, it's similar to what 22 OEG is recommending. And that's your opinion of the staff's 23 Ο. 24 testimony; is that correct? 25 Α. Yes. They could speak for themselves.

2957 1 EXAMINER SEE: Ms. Bojko, a couple of times you've made a reference to "rider RS" in your 2 3 questions. 4 MS. BOJKO: I'm sorry, rider PPA. 5 Ο. I think Mr. Baron understood and can 6 appreciate jumping from one hearing to the other, 7 that when I said "rider RS," you understood me to 8 refer to rider PPA? 9 Α. Yes, I did. I'm sorry. 10 Q. Thank you. No. My apologies. 11 MS. BOJKO: Thank you, your Honor. 12 Q. Sir, so after reading your testimony, 13 listening to you today, as I understand it, you do 14 not believe that AEP's PPA should be approved as 15 currently proposed; is that correct? 16 That is correct, that OEG believes that Α. 17 the modifications that we have proposed need to be 18 made to conform the PPA rider to something that would be reasonable for customers. 19 20 Q. And as a general matter, you would not 21 support a proposal that, based on expectations, is 22 going to harm customers; is that correct? 23 Α. That is correct. 24 MS. BOJKO: Thank you, your Honor. Ι 25 have no further questions.

2958 1 EXAMINER SEE: Ms. Bair? 2 MS. BAIR: I have no questions. 3 EXAMINER SEE: Ms. Petrucci? 4 MS. PETRUCCI: Yes. 5 CROSS-EXAMINATION 6 7 By Ms. Petrucci: 8 Ο. Good evening. 9 Α. Good evening. 10 Q. Would you agree with me that approximately 25 percent of AEP Ohio's sales are 11 12 attributable to the industrial load? 13 Α. That's my recollection. 14 And your recommendation in your testimony Q. is that the Commission should reject the company's 15 16 PPA proposal if all of OEG's proposed modifications 17 are not accepted by the Commission; isn't that 18 correct? 19 I believe that generally that's true. Α. 20 Let me -- perhaps I can -- if you give me a moment, I 21 can try to clarify the position that we do not agree 22 with the PPA rider as filed. We, OEG, have made a 23 number of recommendation -- recommended changes, 24 which we believe are necessary to modify the PPA 25 rider to make it reasonable for customers.

2959 Your question was if the Commission were 1 2 to accept all but one of the adjustments, would 3 that -- as I interpreted your question, does that mean that OEG would oppose it? That would -- I'd 4 5 have to look, and certainly I wouldn't make that call, anyway. But if you're asking me, I would 6 7 certainly have to look at what the sum total of what 8 the proposal was and try to understand the 9 materiality of a particular adjustment that OEG is 10 proposing and the significance of that and maybe make that evaluation. 11 12 Ο. Your initial recommendation is that the 13 PPA proposal that's been put forth by the company, is 14 that it be rejected? I'm going to object as a 15 MR. KURTZ: 16 mischaracterization. I'm sorry, Ms. Petrucci. At 17 the very beginning of his testimony he indicates that 18 OEG is not taking a position whether the PPA should 19 be approved, just recommending suggestions for 20 improvements if it is approved. 21 But I apologize for interrupting your 22 cross-examination. I just weigh in with that. MS. PETRUCCI: I don't actually know if 23 24 it's an objection or not. MR. KURTZ: I apologize a second time. 25

2960 You're right. 1 2 EXAMINER SEE: Go on with your questions, 3 Ms. Petrucci. 4 MS. PETRUCCI: Can we have reread what I 5 had asked him? (Record read.) 6 7 And as I said -- I guess looking at page Α. 8 3 of my testimony. What I'm saying is that the PPA 9 rider can be an effective mechanism to provide 10 benefits to customers if it is modified, and OEG has proposed a number of modifications. I don't think 11 12 I've used the word "rejected" one way or the other. 13 Q. Well, let's look at page 2 of your 14 testimony, lines 16 to 19. 15 Α. Yes. 16 And there you're referencing that OEG is Ο. 17 presenting modifications, and then you also say or a 18 recommendation for an outright rejection of the 19 proposal. 20 Α. Yes. And I understand that other parties 21 are -- I think all the other parties or many of the 22 other parties are proposing rejection of the proposal 23 as opposed to modifications that could make the PPA 24 rider acceptable. 25 Now, the staff, I think I interpret the

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      staff's testimony basically similarly to what the OEG
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      testimony is, except I think staff said "rejected as
 3
      filed," and OEG is saying it should be, if the
 4
      Commission accepts it, the rider, it should be
 5
      modified in the following manner.
                  OEG is not supporting the proposed PPA
 6
             Ο.
 7
      proposal as presented by AEP Ohio, correct?
 8
             Α.
                  That's correct. OEG is making
 9
      recommendations to modify that proposal if the
10
      Commission chooses to adopt our PPA rider.
                  And Ohio Power hasn't provided a forecast
11
             Ο.
12
      of the PPA rider charges or credits for a 15-year
13
      term, has it?
14
                  They have not.
             Α.
15
             Q.
                  And your testimony does not include a
16
      projection of the PPA rider charges or credits for a
17
      15-year term, correct?
18
                  That is correct, though as I indicated, I
             Α.
19
      think, in an earlier response, eliminating the return
20
      on equity down to zero, which is sort of an -- it's
21
      not even the worst-case scenario under the OEG
22
      proposal in terms of the mitigated impact would
23
      provide up to $130 million of benefits, and
24
     Mr. Kollen has proposed adjustments to the absolute
25
      revenue requirement calculation, which is in the 22
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1 or so million dollar adjustment. So those adjustments, plus the other provisions, provide in 2 3 our view a much more reasonable risk/reward of the 4 proposal. 5 MS. PETRUCCI: Your Honor, I'll move to 6 strike the second portion of his answer after he 7 initially agreed that he had not provided a 8 projection of the rider charges or credits over the 9 15-year term, which was what my question related to. 10 He went on to add a variety of additional 11 information, which is beyond my question. 12 MR. KURTZ: I would simply say he's 13 giving his answer context to help the Commission for 14 the record. 15 MS. PETRUCCI: And I would -- no, he was 16 giving an answer. It is not at all with respect to 17 whether or not he presented a projection, and that's 18 why I'm making my motion to strike. 19 EXAMINER SEE: I'm going to deny the 20 motion to strike and the testimony stands. 21 Ο. I'm sorry, OEG did not recommend a 22 15-year PPA when we last looked at AEP Ohio's PPA 23 proposal last year, did it? 24 I don't recall that. I didn't address Α. 25 that issue, but I don't believe that was the case.

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2963 But I honestly don't recall. There's another OEG 1 2 witness who addressed those issues. 3 And do you recall that one of those Q. 4 witnesses was Mr. Taylor? 5 Α. Yes. And do you recall with respect to his 6 Ο. 7 testimony that he indicated going too far into the 8 future may expose AEP Ohio's customers to unknown risks? 9 10 I'm not familiar with that. Α. MS. PETRUCCI: May I approach, your 11 12 Honor? 13 EXAMINER SEE: Yes. 14 MS. PETRUCCI: I am not planning on 15 marking it. If we can turn to page 16. And just for 16 the record, let me reflect that what I've handed to 17 Mr. Baron is a copy of the direct testimony, the 18 public version of Mr. Taylor's testimony in AEP 19 Ohio's ESP III proceeding, Case No. 13-2385-EL-SSO, 20 et al. 21 Ο. And if you could look at line 21. And in 22 answering the question regarding the time period for 23 the rider PPA, isn't it correct that Mr. Taylor 24 stated that going too far into the future may expose 25 AEP Ohio's customers to unknown risks?

1	MR. SATTERWHITE: Your Honor, I'll object
2	to this point. Mr. Taylor's going to be a witness in
3	this proceeding. This can obviously be asked of
4	Mr. Taylor. He can provide context to why he stated
5	that. This witness is saying he's not sure what he
6	said. Refreshing his recollection is really just a
7	waste of the hearing time tonight when the witness
8	will be on the stand.
9	MS. PETRUCCI: Your Honor, if I may
10	respond. Mr. Baron is the witness that is
11	recommending a 15-year term for the PPA. The
12	timeframe associated with PPA is his issue, and OEG
13	did opine upon it in a prior proceeding. He was
14	aware of Mr. Taylor having testified in the prior
15	proceeding. I think it's not a waste of time, as
16	Mr. Satterwhite stated.
17	MR. KURTZ: Your Honor, I agree with
18	Ms. Petrucci. I think it's a fine question.
19	MR. SATTERWHITE: Again, your Honors,
20	I'll just reiterate I appreciate that they agree
21	with it but Mr. Taylor will be here, and this will
22	just expand on what Mr. Taylor meant with that. I
23	think we should use our hearing time properly.
24	EXAMINER SEE: I'm sorry, was somebody
25	else chiming in?

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1	MS. BOJKO: Sorry, your Honor, I would
2	just add that it's an admission by a party-opponent,
3	and if the party with the testimony that it's
4	applicable to, if there's contradictory inconsistent
5	testimony out there of the party, regardless of who
6	gives it, then it is an admission by party-opponents.
7	MR. SATTERWHITE: To that point, your
8	Honor, this is not the same case as was before.
9	There's other things involved in this case that are
10	not the same circumstances.
11	EXAMINER SEE: I'm going to allow
12	Ms. Petrucci to go ahead with the question.
13	Mr. Baron, you can answer the question.
14	Do you need it read back?
15	A. I think I was asked if it was being read
16	properly, and the words say "possible" the
17	question is, "Would extending the time period for the
18	PPA stability rider beyond 2024 yield potentially
19	greater benefits?" And the answer that Mr. Taylor
20	gave was, "Possibly, but going too far into the
21	future may expose AEP Ohio's customers to unknown
22	risks." And there's a parenthetical, "such as higher
23	than expected CO2 costs should federal or state
24	legislation be enacted in this area." That is what
25	he said.

2966 1 Are you aware of any term in the PPA term Ο. 2 sheet that would prohibit AEP Ohio from selling the 3 output from the PPA units to a third party under a bilateral contract? 4 5 Α. I'm not aware one way or the other. 6 Ο. CRES providers can procure energy and 7 capacity under bilateral contracts, correct? 8 Α. Yes. 9 Ο. And CRES providers can bid into the SSO 10 auctions, correct? 11 Α. T assume so. 12 Q. And you're aware that at least one 13 affiliate of AEP Ohio bids into the SSO auction; isn't that correct? 14 That's my recollection. I don't recall 15 Α. 16 the specifics but I have a general recollection. 17 And you're not aware that the PPA Q. 18 proposal presented by AEP Ohio would -- let me start 19 again. I'm sorry. 20 It's possible under the PPA proposal 21 presented by AEP Ohio that it could sell some or all 22 of the unit output to its CRES affiliate; isn't that 23 correct? 24 I understood, as a general matter, that Α. 25 there was a commitment to selling the capacity energy

and ancillary services into the PJM market. That's 1 2 my understanding. The basis for the PPA rider is 3 that there would be revenues to that effect, but as I 4 indicated in my prior answer, I don't know whether 5 there's some legal provision in the rider -- in the PPA itself that would permit something one way or the 6 7 other. 8 A little earlier you talked about the SSO Ο. 9 auction. Would you agree with me that the SSO 10 auctions are -- the offers that are put into those auctions are considered to be market offers? 11 12 Α. Well, to the extent that the participants 13 all operate in a competitive market, I would characterize them as market offers under the terms of 14 15 the RFP, or request for bid, I guess. 16 And customers who are taking service from Ο. 17 CRES providers are receiving market pricing, isn't 18 that correct, for their generation service? 19 Yes, I think that's a fair Α. 20 characterization. And to distinguish -- just to 21 clarify, it doesn't mean that the CRES provider is 22 going to be providing PJM day-ahead pricing or 23 locational reliability charge demand charges. Ιt 24 may, but it doesn't require it. But I would 25 characterize those as market based.

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1	Q. And, therefore, today Ohio Power's
2	customers, whether they're taking CRES service
3	from or, service from a CRES provider or SSO
4	service are receiving service based on market-priced
5	offers; isn't that correct?
6	A. Yes. And that's exactly I think I
7	said that. You asked me about that, that the whole
8	idea of the PPA rider is to provide a cost-of-service
9	component to the overall payments that customers make
10	as opposed to a hundred percent market.
11	Q. And under this proposed PPA Ohio Power
12	customers will continue to receive that CRES service
13	or that SSO service, correct?
14	A. They'll continue to receive it in its
15	entirety, but the bill that the customer pays will
16	have an implicit cost of service and market component
17	based on the workings of the PPA rider, if it were to
18	be approved.
19	Q. Okay. And the PPA rider is going to be a
20	new rider that's added onto either the customer's
21	generation selection through a CRES service or their
22	decision to be an SSO customer, correct?
23	A. Yes. It would either be a charge or a
24	credit to the bill, but it would be something in
25	addition to what is being charged today.

2969 1 Ο. And you don't know whether that charge or 2 credit under the PPA rider will represent 44 percent 3 of the customer's generation bill, correct? 4 Α. That is correct. In terms of the bill 5 itself, that would be correct. In terms of the 6 energy provided that is subject to the PPA rider, in 7 essence, it's generated by the PPA resources plus 8 OVEC that would be approximately 44 percent of the 9 kilowatt-hours or megawatt-hours. 10 MS. PETRUCCI: Can I have the answer reread, please? 11 12 (Record read.) 13 Q. By your answer are you stating that 14 44 percent of the energy provided is going to be from the PPA unit? 15 16 What I'm saying is that your Α. No. 17 question was, I think, referring to cost. If the 18 market -- if the total load of AEP Ohio shopping and 19 nonshopping was a thousand megawatt-hours, and you 20 can look and say that the PPA resources plus OVEC 21 produce 440 megawatt-hours, the presumption is that 22 the other 560 is related to market pricing. 23 So on a megawatt-hour basis, the 24 44 percent it has, the PPA rider has the effect on 25 bills that 44 percent of the megawatt-hours are

2970 subject to the -- or being affected by the rider and 1 2 56 percent by the market. However, I think your 3 original question was what is the percentage of the 4 bill that will be affected if the market went up by 5 300 percent. Then that would be a different mix. In other words, the effect of the PPA 6 7 rider by the total bill would be different than if 8 the market stayed where it is, or something of that 9 That's really what I'm trying to convey, nature. 10 that the 44/56 percent is based on megawatt-hours. It's the --11 12 Q. It's not based on pricing? 13 Α. Correct. Because the market will be what 14 it is and the PPA rider does change based on market 15 revenues and cost. I think it would be roughly the 16 measurement of the effect, but it's certainly not an 17 exact calculation because it's based on 18 megawatt-hours. 19 So when -- if you could turn to page 10 Q. 20 of your testimony, lines 15 through 17. 21 Α. Yes. 22 Q. And that's where you refer to the 56 and 44 percentages? 23 24 Yes. I explain it beginning of line 13 Α. 25 and 14, I think it's just what I just said, it's the

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1	affect of results based on megawatt-hours.
2	Q. But you're not claiming that AEP's
3	proposal will result in the rider amounting to
4	44 percent of the customer's bill, generation bill?
5	A. No, I'm not.
6	Q. In your testimony you have not presented
7	any opinion as to whether the PPA rider will be a
8	credit or a charge over the life of the PPA, correct?
9	A. That is correct.
10	Q. And you have not provided an opinion as
11	to whether the rider will be a credit or a charge
12	over your recommended 15-year term, correct?
13	A. I have not done a quantitative analysis.
14	I have an opinion, but I have not done a quantitative
15	analysis.
16	Q. And with respect to the industrial
17	customers on whose behalf you're being presented, the
18	PPA rider will have a significant impact on their
19	bills; isn't that correct?
20	A. Well, depending on
21	Q. Whichever direction it goes?
22	A. It will have an impact, and depending on
23	the magnitude of the rider charge or credit, it could
24	be significant or not, depending on the balance
25	between costs and revenues.

Q. Earlier you stated that the OEG members are energy-intensive electric customers. So this type of rider is going to have a directional effect either positive or negative, that will be significant for these large industrial customers, correct?

6 Α. Yes. What I was -- when I answered your 7 question about -- tried your question -- the prior 8 question was significant. If the rider tended to be 9 close to zero because revenues and costs were about 10 equal, then it wouldn't have any affect on anybody. It could have an effect, depending on which way 11 12 directionally the rider goes, so that's what I was 13 really trying to explain.

Q. You're not suggesting, however, that you think it's likely that the projections, the cost projections and the revenue projections, are going to be very close to actual costs and actual revenues over any particular year of the proposed PPA?

A. No. I haven't done an analysis, though, as I indicated with the OEG modifications, there's reason to expect that it will produce a credit to customer bills. And certainly under AEP's projections that would be true.

In order AEP's forecasts and the OEG modifications, and even with the lower revenue

1	forecast, market revenue forecast, with the OEG
2	modifications there's a significant potential
3	reduction in any detrimental impacts, so it would
4	tend to make the rider a benefit to customers in all
5	the years. But I'm not I haven't done a
6	calculation to that. It's just my expectation.
7	Q. And it's accurate to say that one of the
8	reasons that OEG and you in particular are
9	recommending modification to the PPA rider is to
10	lessen the negative impact that it possibly could
11	have on the large industrial customers, correct?
12	A. Yes. Well, the 15-year term does that.
13	Mr. Kollen's proposals do that, and in particular
14	Mr. Taylor's recommendations for an ROE flex-down and
15	the elimination of losing plants from the PPA in the
16	80/20 sharing, all of those are designed to improve
17	the likelihood that the rider would provide benefits
18	to customers, all customers.
19	Q. And at the same time lessen any negative
20	impact that the rider PPA could have on the large
21	industrial customers?
22	A. Yes.
23	Q. Thank you.
24	A. That's the idea.
25	Q. And today large industrial customers can

2974 hedge their generation costs by entering into 1 2 long-term CRES contracts; isn't that correct? 3 Yes. But I don't know the -- I'm not Α. 4 aware that they can enter into 15-year contracts with 5 CRES providers. My understanding, though I don't know specifics of any contract, is that they tend to 6 7 be much shorter, a year, two years maybe, perhaps 8 longer. But I don't know. 9 Ο. You're aware that there are -- well, 10 you're aware there are a multi-year CRES contracts available to customers --11 12 Α. Yes. 13 Ο. -- is that accurate? 14 But it's my understanding that nothing of Α. the extent a 15-year contract. 15 16 And industrial customers can also hedge Ο. 17 their generation costs by entering into financial 18 hedges; isn't that correct? Yes. And I should say, just to clarify, 19 Α. 20 with respect to the -- again, I can't speak to any 21 particular contract with a CRES provider, but just 22 from my general knowledge and understanding of how the market works, I would expect that the contracts 23 24 would be tied to some expectation by at least the 25 supplier, the CRES supplier, of what that supplier

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1	believes market prices to be over some term.
2	It's not it's obviously a projection,
3	and there's premiums and other adjustments.
4	Obviously, everyone has their own analyses, but it
5	would tend to still be tied to market, in contrast to
6	the PPA rider, which the revenues are tied to market
7	but the cost side is primarily the fixed costs of a
8	coal unit.
9	So there are really different
10	characteristics of the PPA rider than what a
11	competitor supplier might be willing to enter.
12	Q. For industrial customers who wouldn't
13	want to take the risk associated with the PPA rider,
14	particularly it being a charge, would another form of
15	hedge be the ability for that industrial customer to
16	opt out of the PPA rider?
17	A. What was the beginning of your question?
18	I got the last part, but could you I'm not sure.
19	(Record read.)
20	A. That's not my recommendation because in
21	order I think in order for this to be a workable
22	construct, I think it has to be nonbypassable.
23	Q. And the company itself hasn't proposed
24	that it be bypassable, correct?
25	A. That is correct. I think the idea of it

2976 being nonbypassable is a necessary condition to 1 2 prevent gaming as between shopping and nonshopping. 3 And by being nonbypassable, then all Ο. 4 customers, including the industrial customers, would 5 be subject to the risks, various risks associated 6 with the PPA rider, correct? 7 Α. To the extent that there are risks and 8 benefits, they would be subject to those risks and benefits. 9 10 MS. PETRUCCI: Just one moment, your 11 Honor. 12 Α. Just like all other customers. 13 Ο. I think I'm all done. Thank you very 14 much, Mr. Baron. 15 Α. Thank you. 16 EXAMINER SEE: Mr. Pritchard? 17 MR. PRITCHARD: Thank you, your Honor. 18 19 CROSS-EXAMINATION 20 By Mr. Pritchard: 21 Good evening, Mr. Baron. My name is 0. 22 Matt's Pritchard. I represent the Industrial Energy 23 Users of Ohio. 24 Questions from counsel for OMA Energy 25 Group, earlier you were asked about the amount of

2977 units in the proposal, and the questions and answers 1 2 were around the PPA unit, the affiliated PPA units 3 and OVEC units. There was 20 units. Do you recall 4 those questions and answers? 5 Α. I recall that, and I myself accepted that I look at the plants better than the units. Some of 6 7 the units I've looked at it, but I've accepted it. 8 And you're aware that AEP Generation Ο. 9 Resources owns other generating units that are not proposed to be included in the PPA rider, correct? 10 Α. 11 Yes. 12 (Interruption.) 13 Q. At the beginning of your testimony you reference Senate Bill 3, correct? 14 Α. 15 Yes. 16 And you're familiar with Senate Bill 3, Ο. 17 correct? 18 Yes, generally. Α. 19 And you participated in cases at the Q. 20 Public Utilities Commission of Ohio involving Senate 21 Bill 3, correct? 22 Α. I recall that, yes. 23 Ο. And you submitted testimony involving an 24 electric transition plan proceeding with this 25 Commission, correct?

2978 Again, I have a recollection of that. 1 Α. Ι know I was in a number of cases. 2 3 If we turn to your exhibit to your direct Q. 4 testimony, there's a list of cases you testified and 5 if you turn to the year 1999, it's actually the first case of the year 2000, it's on page 14 of 25. 6 7 Α. Yes. 8 Ο. And reading that entry at the bottom, the 9 last entry on page 14 of 25 of this exhibit, is it your recollection that you submitted testimony in 10 Case No. 99-1658-EL-ETP? 11 12 Α. Yes. 13 Ο. And in that proceeding you would have 14 offered an opinion that had to do with Cincinnati Gas & Electric Company's electric transition plan case, 15 16 correct? 17 That's my recollection. I haven't read Α. 18 that testimony though in 15 years. 19 And that testimony would have addressed Q. 20 Cincinnati Gas & Electric's request for transition 21 revenue, correct? 22 Again, that sounds reasonable. Α. 23 Ο. And transition cost is a comparison 24 between what a utility would recover under 25 traditional regulation compared to what they would

recover under market-based rates following 1 2 restructuring, correct? 3 Yes. And I think if you look over on Α. 4 that Subject column for that entry, I think I refer 5 to it as stranded cost recovery. So stranded cost recovery and transition 6 Ο. 7 costs are synonymous terms, right? 8 MR. SATTERWHITE: Your Honor, I'll object 9 on relevance. It sounds like we're getting into an 10 issue that was raised by IEU in prior proceedings that the Commission dealt with and moved past the 11 12 stranded cost. We're trying to rebootstrap that onto 13 these cases when the Commission already dealt with this issue. 14 15 MR. PRITCHARD: Establishing a bit of 16 foundation, and I will hopefully soon get to the 17 impeaching questions here in a minute. But I'm just 18 establishing foundation that he's previously 19 testified on this matter and this is his testimony 20 and we'll get to his recommendations in this case contrasted to his prior testimony, if I might ask the 21 22 next few questions. EXAMINER SEE: Objection is overruled. 23 24 Get on with it. MR. PRITCHARD: Well, then to speed 25

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2980 things up I'd like to mark an exhibit, your Honor. 1 I'd like to mark a document as IEU Ohio Exhibit 15. 2 3 May I approach, your Honor? 4 EXAMINER SEE: Yes. 5 (EXHIBIT MARKED FOR IDENTIFICATION.) 6 Ο. Mr. Baron, does this document that I've 7 handed you appear to be testimony that you filed in 8 this case 99-1658? 9 Α. Yes. 10 Q. And if we look at the top left, case 11 caption on the first page, it indicates that this is 12 the electric transition plan proceeding for 13 Cincinnati Gas & Electric, correct? 14 Α. Yes. And in a stranded cost calculation or a 15 Ο. 16 transition cost calculation the primary driver of the 17 transition cost is you look at the net book value of 18 a plant, correct? 19 MR. SATTERWHITE: Objection, your Honor. 20 Now we're talking about stranded cost, which is 21 exactly where I predicted we would be going. That is 22 a relic of Senate Bill 3 and how it applies to AEP Ohio in that case. 23 24 MR. PRITCHARD: However, AEP-Ohio has had 25 stranded cost recovery in past cases, I'm not sure

1 what context that would or what preconclusion that 2 would have in this proceeding given that the statutes 3 speak for themselves.

4 I don't want to get into a debate here 5 about where the statutes continue to prohibit the 6 cost recovery but I have a few background questions 7 on what his testimony sets forth and the conclusions 8 which are impeaching. If I need to skip the 9 foundational questions and go to the impeachment and 10 then come back to the foundation, I'd be happy to do 11 that.

12 MR. SATTERWHITE: I believe my objection 13 was on relevance. He's trying to impeach on 14 something that was under a different statutory framework Senate Bill 3, it's not impeaching if we're 15 16 under a different regulatory construct under Senate 17 Bill 221. So why he might think he's impeaching with 18 terms from a different statute, that's not applicable 19 and not relevant.

20 MR. BZDOK: May I be heard? 21 EXAMINER SEE: Just a minute. 22 MR. BZDOK: I believe that's an 23 anticipatory objection about questions that have not 24 been asked yet so I would support IEU on this matter 25 that he can lay some background so he can ask his

1 questions.

T	quescions.
2	MR. PRITCHARD: That was my next
3	question. He's objected on the relevance of my
4	future questions about whether I'm impeaching him.
5	MR. SATTERWHITE: And, your Honor, my
6	argument was bringing up what we heard a million
7	times over tonight, use the term "stranded cost"
8	trying to reiterate that term from a specific time in
9	the history of the Commission they've dealt with
10	since then. Trying to bring it up in this proceeding
11	is not relevant.
12	EXAMINER SEE: Mr. Kurtz.
13	MR. KURTZ: I have no objection to
14	Mr. Pritchard's questions. In fact he can skip the
15	foundation, go right to the impeachment.
16	EXAMINER SEE: The objection is
17	overruled.
18	Go ahead, Mr. Pritchard.
19	Q. (By Mr. Pritchard) Just rephrase the
20	question so we don't have go back 20 spots and 20
21	lines and reread it.
22	The primary source of transition costs
23	for an electric utility is the difference between the
24	market value, the company's generation assets and its
25	book value, correct?

2983 1 Yes. And the transition costs I'm Α. interpreting as stranded costs which is the 2 3 traditional definition. 4 Ο. And if the market value is less than the 5 book value, you would have a stranded cost, correct? Α. 6 Yes. 7 Ο. And if the market value exceeded the net 8 book value, you would have a stranded benefit, 9 correct? 10 Α. Yes. 11 And in this testimony that you previously Ο. 12 submitted do you remember opposing Cincinnati Gas & Electric's proposed methodology for calculating 13 14 stranded costs because they only included the stranded cost of several generating units but did not 15 16 include the offsetting stranded benefits of the other 17 generating units? 18 Α. I honestly don't remember. It's been a 19 long time. 20 Q. Sure. If you turn to page 12, let me 21 know if I'm reading this correctly. I'm starting on 22 line 4. You at page 12, line 4? 23 Α. Yes. 24 Let me know if I'm reading this Ο. 25 correctly. "By failing to net all the stranded costs

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1	and benefits associated with each of the generating
2	units, i.e., its production facilities, CG&E
3	selectively has chosen to charge ratepayers for the
4	assets in which it believes it will face a loss as a
5	result of competition but not provide ratepayers with
6	any benefits for the assets that CG&E anticipates
7	will provide it net benefits as a result of retail
8	competition." Did I read that correctly?
9	A. Yes.
10	Q. And does that refresh your recollection
11	of whether you had an issue with CG&E only including
12	stranded costs of some units but not offsetting
13	stranded benefits of other units?
14	A. It only refreshes my memory to the extent
15	that in reading these sentences I can surmise that
16	that was an issue.
17	Q. And if you turn to page 13, let me know
18	if I'm reading this correctly. "However, it is not
19	fair for an electric utility to use the transition to
20	retail competition as an opportunity to secure a
21	windfall from its ratepayers. This is the result of
22	CG&E's failure to properly net the stranded cost and
23	stranded benefits associated with all of its
24	generating units in developing its other transition
25	costs in GTC."

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1	A. That's what it says, yes.
2	Q. And do you recall in this testimony
3	addressing Cincinnati Gas & Electric's provision of a
4	stipulation that would have allowed Cincinnati Gas $\&$
5	Electric to defer purchased power expense cost and
6	recover that through a nonbypassable regulatory
7	transmission charge?
8	A. I don't have any reaction of that.
9	Q. Will you turn to page 71 and briefly or
10	thoroughly read the question that begins on line 9
11	and goes through till the next page.
12	A. Okay, I've read it.
13	Q. And here you were addressing a provision
14	of a proposed stipulation where Cincinnati Gas &
15	Electric would have been permitted to defer purchased
16	power cost associated with providing power to
17	customers who remain CG&E customers during the market
18	development period and how if they deferred those
19	costs they would have been collected through a
20	regulatory transmission charge and that charge would
21	have been collected through all customers including
22	those who shop. Is that your recollection?
23	A. That's what it says. I don't have a
24	recollection. I don't remember the stipulation. I
25	really don't even know what this issue is about.

2986 Other than reading the words that are written here I 1 2 don't have a foundation for knowing what the 3 underlying substance that I was addressing in this 4 testimony from May 2000 which is 15 years ago. I 5 just, I'm sorry, but I just don't know. And if you turn to page 72, line 10, let 6 Ο. 7 me know if I read this correctly. 8 MR. KURTZ: Your Honor, given -- I won't make an objection. Given the witness' statements we 9 10 don't have any objections stipulating the admission of the document but continuing to ask the witness 11 12 questions about testimony he has no recollection of 13 is not productive. 14 MR. PRITCHARD: If you stipulate to the 15 admission of it, I wouldn't ask any further questions 16 about this document. 17 MR. SATTERWHITE: I believe he's using 18 this for impeachment so I don't think it's a proper 19 document. He doesn't have any idea what the 20 settlement clause was or terms were, I'd be afraid 21 this is prejudice. 22 MR. KURTZ: If this testimony has any 23 affect on the Commission's decision in case, I think 24 we would all be shocked. I mean, this is 2000 25 testimony from a CG&E ETP case.

2987 1 MR. SATTERWHITE: I'm happy to raise my 2 relevance objections because I agree it doesn't apply 3 at all to this case. 4 MR. PRITCHARD: Beyond the debate of 5 whether this transition cost argument is still relevant today, which I disagree with AEP counsel on 6 7 their interpretation, however, there's other 8 statements in Mr. Baron's prior testimony which 9 conflict with the OEG recommendations in this case. Regardless of whether there's transition cost 10 recovery issues, I'm exploring those. 11 12 MR. KURTZ: We will stipulate to its 13 admission. 14 MR. PRITCHARD: Happy to stipulate to its admission. 15 16 EXAMINER SEE: You're willing to 17 stipulate to the admission of Mr. Baron's testimony. 18 MR. KURTZ: From 2000 in the CG&E 19 transition case, yes. Yes, your Honor. 20 EXAMINER SEE: And, Mr. Satterwhite, are 21 you going to make an issue? 22 MR. SATTERWHITE: I think it's completely 23 irrelevant. If it moves things along, if the Bench 24 is willing to point out that the relevance can be 25 waived by the Commission for something that deals

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1	with Senate Bill 3, I'm happy to move forward as
2	well, but.
3	MS. HENRY: You can finish.
4	MR. SATTERWHITE: This is irrelevant.
5	EXAMINER SEE: Talk to me. Talk to the
6	Bench.
7	MR. SATTERWHITE: I'm trying, your Honor,
8	but if the Bench is willing to give that instruction
9	and talk about the weight of this, then I guess we
10	can stipulate to it. It's just tough because this is
11	completely irrelevant to
12	MR. PRITCHARD: I would be opposed to a
13	limiting instruction that this document is
14	irrelevant. That would defeat its purpose.
15	MR. SATTERWHITE: He's using it for
16	impeachment which I objected earlier to relevance, he
17	said I'd like to use it for impeachment. He tried to
18	use it for one thing, he's made the statements he
19	wanted to, now he's trying to use it for impeachment
20	on something the witness said. I have no idea what
21	the settlement involved, I have no idea what it was
22	about. So I don't know why we are going forward with
23	it.
24	MR. PRITCHARD: My response to that if
25	the witness doesn't have a current recollection, I

1 can use the entire document to establish what exactly 2 the facts were to impeach him. I'd rather not have 3 to ask him 70 pages of Q and As to establish exactly 4 what was here.

5 I'm pointing out the relevant sections of 6 Mr. Baron's prior testimony to what I plan to use on 7 brief which I believe without getting into all the 8 legal arguments contradicts or undermines part of 9 OEG's testimony and trying to streamline my process, 10 but I'd be happy, if Mr. Satterwhite requests, to fully go through this document and establish what all 11 12 the facts are in here.

13 MR. SATTERWHITE: And I'm not asking him 14 to fully go through further irrelevant points, your 15 Honor, I think that's my point. So maybe if he moves 16 it along if we can take notice of the entry on 17 rehearing, the actual opinion in here in this case, 18 then we can move forward so that the Commission could 19 actually get the context of what happened in the case 20 and put it in its framework of where it stood in the 21 evolution of cases here in Ohio. 22 EXAMINER SEE: Mr. Bzdok.

23 MR. BZDOK: Just going to note I believe 24 on general principles just because he denies 25 remembering that he said it does not mean that it

does not have weight in impeaching in a prior 1 2 contrary statement. 3 MR. PRITCHARD: I will accept 4 Mr. Satterwhite's last offer that this document be 5 admitted and we take notice of the Commission's entries and orders in that case. 6 7 EXAMINER SEE: The opinion and order in 8 this case? 9 MR. PRITCHARD: You can take 10 administrative notice of all the orders in this case. I don't think that they have any bearing on the 11 12 points I'm trying to make. 13 MR. SATTERWHITE: I think the Bench can 14 just reflect that and say because it's a Commission 15 order so you don't need to take notice of it. But if 16 the Commission can give an instruction that it be 17 admitted with the reflection that their opinion and 18 orders dealing with what the outcome of this case is, 19 then that will give us what we need. 20 EXAMINER SEE: We can accept the document 21 and recognize that there are orders in the case and 22 the reentry on hearing. 23 (By Mr. Pritchard) Mr. Baron, you would Q. 24 define the subsidy to include a payment that is not 25 supported by market revenues that the sale would

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1 otherwise receive, correct?

A. Well, a subsidy can be broad but in the context of a seller who would otherwise have the option of only receiving market revenues, then the subsidy could be defined as payment that the market revenues -- in excess of market revenues. O. To the extent that the PPA rider is a

8 charge, that would represent the amount of revenue 9 that AEP Ohio could not obtain in the market to cover 10 the cost that it had to pay AEP Generation Resources 11 under the proposed PPA, correct?

12 A. In that in a particular period say13 12-month period that would be true, yes.

14 Q. Well, it would be true under -- let me 15 strike that.

A. Well, as I understand the rider operates
on annual basis so in a particular year if it was a
charge, then the statement would be true for that
year.
MR. PRITCHARD: Thank you, Mr. Baron.
Your Honor, I have no further questions.

EXAMINER SEE: Mr. Satterwhite? MR. SATTERWHITE: Thank you, your Honor.

24 Just a couple. I think I'll be quick.

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1	CROSS-EXAMINATION
2	By Mr. Satterwhite:
3	Q. You heard some questions earlier that
4	Mr. Bzdok raised with you when you were talking about
5	net present value being the appropriate method of
6	being an appropriate method to compare economics
7	alternatives?
8	A. Yes.
9	Q. And you agree that it may be more
10	appropriate to use the nominal value based on what
11	Dr. Pearce used in this case as well, correct?
12	MR. BZDOK: Objection, friendly cross.
13	MR. SATTERWHITE: Not at all, Your
14	Honors. He's saying it's appropriate to use a value
15	that's not used by the AEP witness and I'm trying to
16	determine whether it's appropriate to use that value
17	or not, that valuation basis.
18	MR. BZDOK: He's asking this witness to
19	agree with his witness.
20	MR. SATTERWHITE: Perception, your Honor,
21	that was created by Mr. Bzdok is this witness agrees
22	with AEP witness, direct conflict.
23	EXAMINER SEE: I'll allow the question.
24	Go ahead.
25	Q. Do you need the question reread? If it

helps I was about to say if you look at page 26 of your deposition, we talked about this before, if it helps to refresh your recollection.

4 Α. I've read the -- what I've said and I 5 think in answer to your question in the deposition I think what I was referring to was since Dr. Pearce's 6 7 analysis was for -- first of all, let's put it in 8 context of the AEP proposal which I think we talked earlier was could go out as far as 35 years for the 9 10 last plant before it retires, and I think what I said was, well, that since Dr. Pearce did a ten-year 11 12 analysis, the net present value is over that ten-year 13 period, the nominal information that he presented 14 over that ten-year period is what it is.

Generally I agree and believe that a net present value analysis is the appropriate method to evaluate an economic alternative and even if you were to do a shorter term, you can approximate your remaining term of the alternative, in this case the PPA rider using some type of end affects adjustment.

21 With that said, in answer to your 22 specific question today, nominal information is 23 valuable in terms of examining the year-by-year 24 affects of the rider and showing what the expected 25 charges or credits would be in any given year. That

2994 1 has to be a nominal number. And so on page 26 of your testimony you 2 Q. 3 start to discuss this, and correct me if I'm wrong, 4 starting on line 6 you say: "Let me just continue. 5 For Dr. Pearce's exhibit, it may be more appropriate 6 to present the -- to show the values on a nominal 7 basis since it doesn't really cover the full term of 8 the proposal." Correct? 9 MR. KURTZ: This is an improper use of a 10 deposition. You ask him a question and his 11 deposition is inconsistent. You can impeach him but 12 this is not his testimony. 13 MR. SATTERWHITE: Your Honor, this is 14 exactly on point. 15 EXAMINER SEE: What were you referring 16 to? 17 MR. SATTERWHITE: Page 26 of the 18 deposition starting on line 6. I apologize. And my 19 initial question. 20 MR. KURTZ: I'll withdraw the objection. 21 I have no objection. He can just go ahead. 22 Is that a correct reading of what's on Q. 23 2.6?24 Yes. And I agree with it today, I agreed Α. 25 with it last Friday.

2995 1 So you're not saying Mr. Pearce's Ο. 2 analysis is inappropriate, correct? 3 It's not inappropriate in the sense of Α. 4 that it is for a ten-year period and it provides 5 year-by-year estimation of the company's belief as to the riders produced for a charge or benefit. 6 7 Ο. Thank you. 8 Α. Notwithstanding that it's not an NPV over the term. 9 10 Let's talk about some of the Ο. modifications you talk about in your testimony. 11 Like 12 to talk about retention jurisdiction first. 13 Α. Yes. You understand that the PUCO has 14 Ο. jurisdiction over the PPA rider, correct? 15 16 Α. Yes. 17 And you understand that the PUCO will be Q. 18 able to review the decisions made by AEP Ohio as 19 outlined in the PPA agreement, correct? 20 In its deliberations in this case as to Α. approving the PPA rider, yes, the Commission is 21 22 reviewing that. I'm really talking about going forward 23 Ο. 24 with if this were to be approved the Commission as 25 part of populating the PPA rider can review the

decisions made by AEP Ohio, correct? 1 2 Α. I would expect that the Commission has 3 reviewed in its approval of any PPA rider charges would have to -- would review the cost inputs. And 4 5 as to the extent that those cost inputs and revenue 6 inputs are affected by the PPA agreement, then the 7 Commission would effectively be reviewing the 8 consequences of whatever the PPA agreement says. 9 Ο. So that's your guess or do you understand 10 that the request in this case is that AEP Ohio has stated the Commission will be able to review AEP 11 12 Ohio's decisions as part of the PPA rider? 13 Α. I understand the rider, those decisions 14 can be reviewed. I don't know -- well, that's my 15 answer. 16 Now let's talk about the subject to Ο. 17 refund modification that you make. You're already 18 aware that in Ohio there's a direct appeal of cases 19 from the Commission to the Ohio Supreme Court, 20 correct? 21 Α. Yes. 22 Q. And in other jurisdictions you work in 23 there could be multiple layers of appeals where it 24 goes through a trial court, Common Pleas Court, and Supreme Court, correct? 25

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1	A. Yes.
2	Q. And you've read the Keco decision but you
3	do not know if the refund provision you seek is
4	normal for PUCO decisions, correct?
5	MS. BOJKO: Objection. This clearly
6	calls for a legal opinion. He's asking his opinion
7	on Keco and we all know what Keco is.
8	MS. HENRY: Not all of us.
9	MS. BOJKO: Ohio practicing attorneys on
10	a regular basis, and I think it is inappropriate to
11	ask this witness what Keco means or doesn't mean.
12	MR. SATTERWHITE: You can look at the
13	question I've asked, all I said is he's read the Keco
14	decision but I asked about his opinion about whether
15	this is normal course for a Commission decision, I
16	didn't ask him to do a synopsis of Keco, what Keco
17	was about. I just said he's read that but he doesn't
18	know if the recommendation he's making is normal for
19	PUCO decisions.
20	MS. BOJKO: My objection stands, it's
21	still calling for a legal opinion.
22	EXAMINER SEE: Would you like to
23	rephrase, Mr. Satterwhite.
24	MR. SATTERWHITE: If your Honor would
25	likes me to, I'd be happy to.

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1	EXAMINER SEE: Thank you.
2	Q. (By Mr. Satterwhite) Mr. Baron, you would
3	not know if the refund you seek in this case is
4	normal course for PUCO decisions, correct?
5	A. I don't know.
6	Q. And if there was a refund or credit that
7	the Commission were to adopt your modification and
8	approve PPA in this case and there was a refund or
9	credit that later that had to be subject to refund or
10	credit, you with me so far?
11	A. I think so.
12	Q. So if we have to activate that
13	modification that you've made, it's your
14	understanding that the amount that would either be
15	refunded or credited back to the company would just
16	be the difference of what is flowing through the
17	rider between the difference of cost and the
18	revenues, correct?
19	A. Yes. If I understand your question, the
20	amounts that are subject to the refund either
21	positive or negative would be the rider amounts.
22	Q. Let me ask you about our favorite topic,
23	stranded costs that you were talking about with Mr.
24	Pritchard. It's your understanding that the market
25	value for the stranded cost versus benefit test that

2999 you were talking about with him under Senate Bill 3 1 2 is based on the life of the unit, correct? 3 That as a general -- I don't remember all Α. 4 of -- any of the calculations that were done in that 5 Cincinnati Gas & Electric case but as a general I've been involved in a number of stranded cost 6 7 proceedings over the years though they all took place 8 around the same time, but generally it would be over the remaining life of the asset. 9 10 Ο. Now let's talk about your other modification suggestion, which is limiting the length 11 12 of the PPA to 15 years, okay? 13 Α. Yes. You're aware that the other utilities in 14 Ο. 15 other jurisdictions already secure hedges for 16 generation that provide a financial benefit or can 17 result in a charge to customers to secure the hedge, 18 correct? 19 Yes, for things like natural gas that's a Α. 20 very common type of hedge referring to a natural gas 21 utility, regulating natural gas utility industry. 22 And in Indiana even for generation it Ο. 23 flows to the fuel adjustment classes hedging the 24 company might make, correct? 25 Α. I'm not familiar with the Indiana

3000 1 situation, so I don't know. 2 And these are approved even though Q. 3 ultimately there could be a cost to customers to 4 secure the hedge, correct? 5 Α. Yes, in general a hedge like that as, 6 say, a typical gas utility would enter or an electric 7 utility if we're trying to hedge a particular cost, 8 there would be a premium paid for a hedge itself. 9 But the value is to have the hedge, it's Ο. 10 not necessarily unreasonable if it ends up with a cost to customers, correct? 11 12 Α. That is correct. Typically a natural gas 13 hedge is not designed, for a gas utility is not 14 designed to speculate and try to obtain benefits from 15 guessing correctly on the hedge strike price but 16 rather it's designed to provide stability. 17 And so those others jurisdictions that Ο. 18 allow those hedges, they don't prescribe a time limit 19 that a utility can use to enter into a hedge, 20 correct? In other words, the term of the hedge? 21 Α. 22 Q. Correct. 23 Α. I don't know. It depends, I would expect 24 it depends on the jurisdiction whether there are or 25 are not restrictions on the terms of hedges that

3001 might be allowed for ratemaking purposes. I don't 1 2 know. 3 So you can't say that there are Q. 4 limitations on the amount of time the company can 5 enter into a hedge, correct? I don't know. That is correct. 6 Α. 7 MR. SATTERWHITE: Thank you, your Honor. 8 That's all I have. 9 EXAMINER SEE: Mr. Margard? 10 MR. MARGARD: No questions. Thank you. 11 MR. KURTZ: Your Honor, I just have one 12 redirect. One small line of redirect. 13 EXAMINER SEE: Go ahead. 14 REDIRECT EXAMINATION 15 16 By Mr. Kurtz: 17 Mr. Baron, you remember questions about Q. 18 the 44 percent cost of service plan --19 (Interruption.) 20 Α. Yes. 21 Ο. Let me begin again. Do you remember 22 questions about the 44 percent cost of service, 56 percent market end result of the PPA issue here? 23 24 Α. Yes, I do. 25 Q. Let me just ask you to turn to page 10 of

3002 1 your testimony, line 13. I think there was some 2 confusion as to how you calculated that. 3 Okay, I'm on page 10. Α. 4 Line 13, let me see if this is the way Ο. this works. If the AEP Ohio native load is 5 6 44 million megawatt hours approximately, of course it 7 changes with weather and load growth and so forth, 8 but if it's 44 million megawatt hours a year, then 44 9 percent of that would be the expected output of the 10 PPA units from the weather normalized standard production run. 11 12 Α. Yes, that's correct. 13 Ο. Okay, so the PPA units are expected to 14 produce about 44 percent of the AEP Ohio native load 15 and so financially 44 percent of the pricing would be 16 a cost and 56 percent would be a --17 Yes, that's correct. That's exactly how Α. 18 it works. 19 And the units would dispatch more than Q. 20 that, might dispatch less, but that's a fair 21 approximation. 22 Α. I think the confusion arose because the 23 question was on the customer's bill which is a 24 different issue. 25 Ο. It's not dollars, it's megawatt hours.

3003 1 Α. Correct. 2 MR. KURTZ: Thank you, your Honor. Those 3 are all the questions. 4 EXAMINER SEE: Recross, Mr. Bzdok? 5 MR. BZDOK: No, thank you. EXAMINER SEE: Ms. Bojko? 6 7 MS. BOJKO: No, thank you. 8 EXAMINER SEE: Ms. Bair? 9 MS. BAIR: No, thanks. 10 EXAMINER SEE: Ms. Petrucci? 11 MS. PETRUCCI: Can I have the last 12 question and answer reread. 13 (Record read.) 14 MS. PETRUCCI: I just need a moment. 15 Sorry, yes, I do have recross. 16 17 RECROSS-EXAMINATION 18 By Ms. Petrucci: 19 Mr. Baron, the power energy and capacity Q. 20 and ancillary services are under the planned PPA as 21 proposed by AEP Ohio are intended to go to the PJM 22 markets, correct? 23 Α. Yes. 24 Not directly to any Ohio consumers. Ο. 25 Α. Yes.

3004 In your response on page 10 looking again 1 Ο. 2 at the same lines, 15 through 17, are you referring 3 to AEP Ohio's consumers? 4 Yes, from a financial standpoint. Α. In 5 other words, the key word is on line 15 it says the effective result. We're not talking about sales of 6 7 physical kilowatt hours but the effective financial 8 result. 9 Ο. So are you contending that the power that 10 AEP would be selling into the PJM markets will result in a rider to AEP Ohio's consumers that reflect 11 12 44 percent of the -- I'm sorry. Let me start that 13 question again. 14 Are you indicating that as a result of 15 the sale of the power from these units under the PPA 16 rider that AEP Ohio's consumers will be charged for 17 generation and 44 percent of that charge for 18 generation will be the cost of the PPA unit's output? 19 Not -- no. As we talked earlier in your Α. 20 questions customers will pay 100 percent of either 21 their SSO charges or if they're shopping the CRES 22 provider charges. What I'm saying here is that to understand and sort of order of magnitude, order of 23 24 impact of the rider, the rider covers the generation 25 output of the PPA units and OVEC represents about

3005 1 44 percent of the total megawatt hours that are 2 consumed by all AEP Ohio customers. And so it 3 gives -- it puts perspective on the portion of the 4 megawatt hours that are really being hedged by the 5 PPA rider. That's what it's really reflecting. It's a way to provide a summary of the 6 7 order of magnitude affect of the rider. Rider is 8 going to be a dollar number, it's either -- whatever 9 it is, it's either a credit or a charge. But it's 10 the generation that is being from the PPA rider units 11 is about 44 percent of the generation. 12 MR. KURTZ: Did you misspeak, 44 percent 13 of native load. Excuse me, native load. 14 Α. 15 Q. And AEP has provided an estimate of what 16 they think the PPA charge will be in the short-term 17 isn't that correct? 18 Yes. Mr. Pearce's analysis. Α. 19 Did you see Mr. Allen's estimate of what Q. 20 that charge will be to customers in the short-term? 21 MR. SATTERWHITE: Objection, your Honor, 22 that's beyond the scope of the redirect which was 23 focused on page 10 of his testimony. 24 MS. PETRUCCI: Your Honor, what I was 25 trying to do given the fact that he's explaining the

3006 difference between his reference to pricing in the 1 2 written testimony and his explanation of how the 3 pricing affects customers' charges, I'm following up 4 specifically and making sure the record is clear as 5 to what he is indicating that 44 percent would mean. MR. SATTERWHITE: And was available in 6 7 his prefiled direct and all these questions could 8 have been asked prior. 9 MR. KURTZ: And I agree with 10 Mr. Satterwhite. I limited it to a very narrow 11 topic. 12 MS. PETRUCCI: I'm trying to make sure 13 the record's very clear. EXAMINER SEE: And I believe this is the 14 15 same way explained by the witness on cross. Do you 16 have other questions? 17 MS. PETRUCCI: I don't think so. Thank 18 you. EXAMINER SEE: Mr. Pritchard? 19 20 MR. PRITCHARD: Yes, your Honor. 21 22 RECROSS-EXAMINATION 23 By Mr. Pritchard: 24 In regards to your clarification you gave Ο. 25 on redirect, you agree that you're not saying that

3007 1 44 percent of a customer's bill was going to be based on the PPA rider, correct? 2 3 Α. That is correct. 4 And that 44 percent of their bill is not Ο. 5 going to be based on cost of service ratemaking, 6 correct? 7 Α. That is correct. It's an order of 8 magnitude measurement of the amount of the total 9 megawatt hours used by customers that is effectively 10 being hedged by this cost of service type PPA rider. 11 Are you aware that Dr. Pearce has 0. 12 testimony in a table in his direct testimony that 13 describes the order of magnitude of what he projects 14 the hedge is as far as the order of magnitude? He calculates dollars, if that's what 15 Α. 16 you're referring to. 17 A dollar per megawatt hour, is that your Q. 18 recollection? 19 I accept that. I don't remember right Α. 20 now. 21 MR. PRITCHARD: No further questions. 22 EXAMINER SEE: Mr. Kurtz -- I'm sorry. Mr. Satterwhite. 23 24 MR. SATTERWHITE: No questions, your 25 Honor. Thank you.

3008 1 EXAMINER SEE: Mr. Margard? 2 MR. MARGARD: No, thank you. 3 EXAMINER SEE: Mr. Kurtz? MR. KURTZ: I could but I think we've all 4 5 had enough. EXAMINER SEE: We have. Did you move for 6 7 the admission? 8 MR. KURTZ: Thank you, your Honor. I move for the admission of OEG Exhibit 1. 9 10 EXAMINER SEE: Are there any objections? MR. SATTERWHITE: No objections. 11 12 EXAMINER SEE: With that OEG Exhibit 1 is 13 admitted into the record. (EXHIBIT ADMITTED INTO EVIDENCE.) 14 15 EXAMINER SEE: Thank you for your 16 patience, Mr. Baron. 17 THE WITNESS: Thank you, Your Honors. Ι 18 appreciate being able to complete my testimony today. 19 MR. PRITCHARD: Your Honor, I have a 20 document I know was discussed earlier but I would, just to be clear, reoffer IEU Exhibit 15. 21 22 EXAMINER SEE: We already decided. MR. PRITCHARD: Just wanted to be clear 23 24 that it was admitted. 25 MR. SATTERWHITE: We won't object to the

admission but just reiterate our objections from earlier. EXAMINER SEE: And we've already taken care of what was marked as IEU Exhibit 15 and how we're going to handle it, correct? MR. SATTERWHITE: Thank you. EXAMINER SEE: Is there anything further? Given that, we'll conclude for the evening. We'll reconvene tomorrow at 9:00 a.m. (Thereupon, the hearing was adjourned at 8:18 p.m.) 

	3010
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 Thursday, October 15, 2015,
5	and carefully compared with my original stenographic
6	notes.
7	
8	Julieanna Hennebert,
9	Registered Professional Reporter,
10	RMR, and Notary Public in and for
11	the State of Ohio.
12	My commission expires February 19, 2018.
13	
14	
15	
16	
17	Rosemary Foster Anderson,
18	Registered Professional Reporter
19	and Notary Public in and for the
	State of Ohio.
20	
21	My commission expires April 5, 2019.
22	
23	
24	(rfa-79513)
25	

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## Case No(s). 14-1693-EL-RDR, 14-1694-EL-AAM

Summary: Transcript In the Matter of the application of Ohio Power Company hearing held on 10/15/15 - Volume XI electronically filed by Mr. Ken Spencer on behalf of Armstrong & Okey, Inc. and Anderson, Rosemary Foster Mrs.