## 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 Friday, October 2, 2015.

VOLUME V

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Friday Morning Session, 1 2 October 2, 2015. 3 4 EXAMINER SEE: Let's go on the record. 5 Let's take brief appearances by the parties, name and 6 who you represent. 7 Start with the company and go around the 8 room. 9 MR. NOURSE: Thank you, your Honor. 10 behalf of Ohio Power Company, Steven T. Nourse, Matthew J. Satterwhite, Matthew S. McKenzie, Daniel 11 12 R. Conway, Christopher L. Miller. 13 MR. K. BOEHM: Good morning, your Honor. Kurt Boehm appearing on behalf of the Ohio Energy 14 15 Group. 16 MR. YURICK: Good morning, your Honors. 17 Mark Yurick on behalf of the Kroger Company. 18 MR. PETRICOFF: Good morning, your 19 Honors. On behalf of the Electric Power Supply 20 Association, the Retail Power Supply Association, PJM 2.1 Power Providers, Exelon Generation LLC and 22 Constellation NewEnergy, the firm of Vorys, Sater, 23 Seymour & Pease, Howard Petricoff, Gretchen Petrucci, 24 Michael Settineri, and Steve Howard. 25 MR. DARR: On behalf of IEU-Ohio, Matt

- 1 Pritchard and Frank Darr.
- 2 MR. OLIKER: Good morning, your Honors.
- 3 On behalf of IGS Energy, Joe Oliker.
- 4 MR. BEELER: On behalf of the staff of
- 5 | the Public Utilities Commission of Ohio, Steven
- 6 | Beeler and Werner Margard.
- 7 MS. BAIR: On behalf of the Ohio Office
- 8 of Consumers' Counsel, Jodi Bair, William Michael,
- 9 and Dane Stinson.
- 10 MS. GHILONI: Good morning. On behalf of
- 11 | the Ohio Manufacturers' Association Energy Group,
- 12 Danielle Ghiloni and Kim Bojko.
- MR. MENDOZA: Good morning, your Honors.
- 14 On behalf of Sierra Club, Tony Mendoza, Kristin Henry
- 15 and Christopher Bzdok.
- 16 MR. DOUGHERTY: On behalf of the
- 17 | Environment Defense Council and the Environmental
- 18 Defense Fund, Trent Dougherty.
- 19 MS. FLEISHER: Good morning, your Honors.
- 20 | Madeline Fleisher and Justin Vickers on behalf of the
- 21 | Environmental Law & Policy Center.
- 22 MR. AUSTIN: On behalf of Buckeye Power,
- 23 | Michael Austin.
- 24 EXAMINER SEE: Thank you.
- 25 Mr. Thomas, I'll remind you that you

1258 1 continue to be under oath. THE WITNESS: Yes, your Honor. 2 3 EXAMINER SEE: And I believe we agreed to 4 start with IEU. Mr. Darr. 5 MR. DARR: Thank you, ma'am. 6 7 TOBY L. THOMAS 8 being previously sworn, as prescribed by law, was 9 examined and testified further as follows: 10 CROSS-EXAMINATION 11 By Mr. Darr: 12 Ο. Mr. Thomas, yesterday you were 13 voluntarily removed from the hearing room for a portion of the hearing; is that correct? 14 15 Α. That is correct. 16 And the reason why you were required to 17 leave the room is because of corporate separation 18 requirements; is that correct? 19 Α. I am not allowed to know regulated Yes. 2.0 affiliate information that could be construed as 2.1 market-related information so I chose to leave to not 22 disrupt the flow of the confidential session. 23 Ο. And those corporate separation 24 requirements, they're more commonly known as code of

conduct requirements; is that correct?

A. That's correct.

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- Q. Those code of conduct requirements arise because of rules implemented by the Federal Energy Regulatory Commission; is that correct? Is that your understanding?
- A. That is correct. Yes, that's my understanding.
- Q. And those rules also applied to you as a result of Ohio corporate separation rules as well, if you know?
- A. Yes, they do. And when we separated the generation business from the wires business in Ohio, then that same code of conduct applies with any regulated affiliate company.
- Q. And yesterday I believe the concern was with regard to information concerning the Ohio Valley Electric Corporation; is that correct?
  - A. That's correct.
- Q. Those same rules, however, would also apply to information with regard to the operations of the Ohio Power Company or, as it's referred to in this case, AEP Ohio, correct?
  - A. Generally, yes, I think that's right.
- Q. And with regard to AEP Ohio or any of the regulated utilities, you do not typically provide

services to those regulated utilities, correct?

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A. Not typically, but under the FERC construct, there is a way to get a waiver from the FERC code of conduct, and you have to put a plan out and FERC will approve those plans or those waivers. We can do some services between the regulated and nonregulated companies, but they're subject to the asymmetric pricing rules that FERC has.

For example, as a competitive unregulated affiliate, if I provide a service to a regulated affiliate, it has to be at the lower of my cost of market, however that market price is determined, and the inverse is also true if I get a service from the regulated side. But generally we try to keep that separated just for clarity.

- Q. Right. And that's with regard to the pricing of services. With regard to the exchange of information, you are similarly bound, as we saw yesterday, to not have access to certain what would be considered confidential or proprietary information; is that correct?
  - A. That is correct.
- Q. And that applies to all affiliates including AEP Ohio, correct?
- A. I believe it applies to all the -- the

FERC rules I believe apply to any unregulated affiliate to any regulated affiliate.

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- Q. Good clarification. Thank you. And so that would include both AEP Ohio and, as we saw yesterday, Ohio Valley Electric Corporation.
- A. I guess, yes, I believe the code of conduct rules would apply. Again, both those companies are regulated affiliates of AEP Generation Resources so, yes, the FERC code of conduct would apply excluding a waiver that could be granted by FERC.
  - Q. Very good. Thank you.

This may be a little out of your wheelhouse and more in Mr. Mitchell's wheelhouse, so let me know if that's the case. Are you familiar with the concept of an accounting impairment?

- A. At a very high level.
- Q. Could you share with us what your understanding of that is?
- A. Yes. My understanding is simply if you have an asset that has a value on your books based on accounting rules or accounting principles, if somehow there's something that happens that required -- or that value could, I don't know what the rules are, but deemed to differ than by accounting rules, you

have to go reconcile those two and either increase the value or decrease the value. But that's the extent of my understanding.

Q. Fair enough.

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Do you know whether or not AEPGR,

Generation Resources, has conducted an impairment
analysis of any of the PPA units?

- A. I don't remember. There could have been something done at corporate separation, but I don't recall if one was completed, no.
- Q. Are you aware of whether or not any impairments have been taken in the past three to five years of the PPA units?
- A. I'm not aware of any. But -- I don't know for sure, but I don't recall.
- Q. And, again, this may be in Mr. Mitchell's wheelhouse more than yours, but let me just present it to you. The accounting and the reporting of that accounting to federal regulatory agencies for the generating and marketing affiliates of AEP is done on a segment basis. Are you aware of that?
  - A. I --
  - Q. I can tell from the look in your eye.
- A. That's a foreign concept to me. I'm sorry, I'm not aware of that.

- Q. Okay. We'll hold that for Mr. Mitchell, then.
  - A. Thank you.

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- Q. Do you know what the reported income for 2014 of AEPGR is?
  - A. I don't off the top of my head.
- Q. What about the first or second quarters of 2015?
  - A. No. I'd have to go review the public statements to see. I don't know the number.
- 11 Q. And would you rely on -- what are you referring to as the "public statements"?
- A. Our quarterly earnings statements that

  American Electric Power would put out to Wall Street

  or to our investors.
- Q. Would that include such things as, for example, the Form 10-Q and the Form 10-K that's filed with the SEC?
  - A. That would be my understanding.
- 20 Q. I think you indicated yesterday that 21 you're on the operating committee -- or, let me 22 rephrase that.
- You're on the operating committee for each of the co-owned facilities, correct?
- 25 A. Yes, I am.

- Q. You are not on the operating committee for OVEC; is that correct?
- A. Yeah, I'm not allowed to have any interaction with OVEC. We no longer have any ownership interest. That's all AEP Ohio.
- Q. Do you know the age of the OVEC units, when they were brought in service?
  - A. I don't specifically.

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- Q. Now, with regard to the facilities that you participate on the operating committees, each one of those, as we found out yesterday, is subject to an operating agreement; is that correct?
  - A. That is correct.
- Q. And each of those operating agreements contains a cost-sharing arrangement, correct?
  - A. To the best of my recollection, yes.
- Q. And under the cost-sharing arrangement each of the co-owned units shares in the costs and benefits of those units on an ownership share; is that correct?
  - A. I believe that is correct, yes.
- Q. On the cost side of this transaction the agreements, as I understand it, provide for the recovery of the costs of those units without a provision for an equity component; is that correct?

A. I don't know that detail to that level.

The way -- what I do know is the ownership structure,
the equity that is in that business is already our
equity. So it's not -- it's not the operator's
equity. It's already our equity so any return
would -- I don't know that there would be any
component for that because, again, it's our
investment that's in the unit based on our ownership
share. But I don't -- I can't say either way whether
or not the agreement has anything related to that,
but I don't believe it does.

Q. I'm sorry?

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- A. I don't believe the operating agreements have equity-related items in them.
- Q. To the extent that there are earnings associated with these co-owned plants, those earnings for AEP Ohio -- or, excuse me, for AEPGR would be the result of the sale of the power attributes into the various markets or by bilateral contract; is that correct?
- A. Can you help me? Are you talking about as we stand today or under the proposal?
  - Q. Correct, as you stand today.
- A. Yes, my understanding is we would sell our capacity and energy and any ancillary services

into the market and get associated revenue. We'd net out the costs to run the business, there would ultimately be some result that would wind up in a profit or a loss.

- Q. So any return on the ownership interest is based on the prices that you're able to realize in, for example, the PJM market, correct?
- A. Are we still talking about the co-owned units? Are we talking about any PPA units?
- Q. I'm talking about the co-owned units.

  THE WITNESS: I'm sorry. Can you repeat that question.

(Record read.)

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- A. Yes, I believe that's correct. It's all based on ownership shares. We have our ownership share of the cost, and we get our ownership share of any output, whether it be capacity, energy, or ancillary services.
- Q. And then you sell that into the PJM markets, those capacity, energy, and possibly ancillary services.
  - A. Correct.
- Q. And the revenues realized on that are offset by the costs, and any earnings or losses are recognized on that basis.

- A. Yeah, for the co-owned units, yeah, all on an ownership-share basis.
- Q. With regard to the Cardinal unit, that is subject to what's called the Cardinal Operating Agreement, correct?
- A. That's one of the agreements it's subject to. That's the main operating agreement.
- Q. And under that agreement, AEP GenCo is the owner of or AEP Generation Resources, as we referred to it, is the owner of Cardinal Unit 1, correct?
  - A. That's correct.

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- Q. And units 2 and 3 are owned by Buckeye, correct?
  - A. That is correct.
- Q. And there is an obligation running from GenCo, or Generation Resources, to furnish backup energy to the full extent that it backs up the firm contract demands of its own customers during such periods of time during any calendar year when the capability of Buckeye unit 1 and Buckeye unit 2 is curtailed; is that correct?
- A. Well, that's just a piece of the relationship. There is a broader relationship where in return for providing some backup power, we get the

excess generation generally off the units. So I guess in my experience it's a balanced relationship. It's not just backup power. There's a benefit on the other side.

Q. Fair enough. But in response to my question, Cardinal 1 is a backup facility for Cardinals 2 and 3 as provided by the station agreement, correct?

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- A. The arrangement that you're speaking of that has where we get the excess or provide backup, I believe is broader than just Cardinal, meaning that the AEP Generation Resources can provide that, get the benefit if there's an excess amount of generation on the Cardinal 2 and 3 that's greater than Buckeye's load, and then if there's a backup power need, we can provide it off of Cardinal 1 or any of the other assets, or the market, whatever the case may be.
- Q. So the responsibility is that of AEP

  Generation Resources generally; it's not specific to

  the Cardinal unit. Is that correct?
  - A. I believe that's correct, yes.

MR. DARR: I'd like to have marked as IEU

Exhibit -- I'll need a little help here. IEU 9,

please.

For the record, I've handed, actually

Mr. Pritchard's handed out a copy of the document that we've had marked as IEU Exhibit 9 which is the full station agreement and I've also provided a copy of it to Mr. Nourse.

But what I want to point the parties to, and what I've handed out more generally, is page 35 of the agreement, and I just wanted to make sure that if there were any questions that Mr. Thomas had with regard to the agreement, that he have the full agreement in front of him.

(EXHIBIT MARKED FOR IDENTIFICATION.)

- Q. Mr. Thomas, do you have in front of you what's been marked as IEU Exhibit 9?
  - A. I do.

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- Q. And could you identify for us what that is.
  - A. It appears to be "Amendment No. 12 to Station Agreement dated as of January 1st, 2014, by and between AEP Generation Resources, Inc., Buckeye Power, Inc., and Cardinal Operating Company."
  - Q. And is this one of the station agreements that you were referring to previously in your testimony this morning?
    - A. I believe it is, yes.
      - Q. And turning to page 35 of this document,

do you see "Article Nine - Backup of Buckeye Power Requirements"?

A. I do.

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- Q. And so the record's clear, is the provision that we were talking about concerning the responsibility of AEP Generation Resources set out in paragraph 9.2, subparagraph (a)?
- A. I'm going to need to take a little time to read this section.
  - Q. Take whatever you need, sir.
- 11 A. Thank you.
- 12 EXAMINER SEE: Mr. Darr.
- MR. DARR: Yes, ma'am.
- EXAMINER SEE: Do you have another copy
  of the entire agreement for the Bench?
- MR. DARR: I do, your Honor.
- THE WITNESS: Okay. Could you reread the question, please.
- 19 (Record read.)
- A. Yes, I believe it is. But, again, this
  is only part of the arrangement that deals with the
  backup. There's another piece in the agreement that
  deals with the excess energy benefits that flow to
  AEP Generation Resources. And as you look at this,
  the obligation's capped based on so many

megawatt-hours.

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- Q. Now, Buckeye Power is a cooperative that's owned by 25 cooperative distribution cooperatives including one in Michigan, correct?
- A. That sounds right. I'm not familiar at that level of detail with Buckeye's operation, but that generally sounds correct.
- Q. And the members are rural electric cooperatives that provide retail electric service to their cooperative members, correct?
- A. Again, I believe so. I'm not that familiar with Buckeye's specific operations.
- Q. The term of the agreement that you have in front of you I believe is through December 31st, 2026; is that correct? For confirmation I'd point you to page 46.
- A. Yes. In section 14.1 it appears to state that the end of this term is December 31st, 2026.
- Q. And are you aware of whether Buckeye is also a partial owner of the OVEC generation facilities with an entitlement to Kyger Creek and Clifty Creek?
- A. I don't know. They could be, but I don't know. I know there's many owners as part of that relationship. Buckeye could be one of them.

- Q. And to determine that we'd have to turn to the ICPA; is that correct?
  - A. What is the ICPA?

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- Q. Fair enough. The agreement among the members of OVEC. Does that help?
- A. I'm not familiar with OVEC so I don't know.
  - Q. Under current operations AEP Generation Resources offers its energy into the PJM market, and then PJM dispatches all generators across its footprint, meaning PJM, to meet the demand requirements of PJM, including Ohio load, correct?
  - A. I would say generally, yes. I'm not -- I don't think all of Ohio is within the PJM footprint.

    I just don't know for sure.
  - Q. To the extent that Ohio is within the PJM footprint, PJM would be dispatching that load, correct?
    - A. They would be dispatching the generation.
  - Q. Good point. I'm sorry, I misspoke.

    Dispatching generation to meet that load within its service region, correct?
  - A. Yes, I believe so.
- Q. Now, that service region for PJM includes
  more than the state of Ohio, correct?

A. Yes, it's fairly large.

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- Q. It runs all the way from the East Coast in New Jersey to Illinois, correct?
- A. Yeah. I think that's generally correct.

  I don't know the exact parts of PJM's footprint, but
  it's relatively large.
- Q. Are you aware that AEP, I'm speaking now of corporate, also has facilities in the state of Michigan?
- A. Yes, I'm aware we have our nuclear facility owned by Indiana-Michigan Power in that state. I think there are also some hydro facilities that could be in Michigan as well.
- Q. And it also has a distribution utility that operates on the border of Indiana and Michigan and in both states, correct?
- A. Again, I believe Indiana-Michigan Power has service territory in Michigan and then some in northeastern Indiana.
- Q. And are you aware of whether or not those facilities are considered as part of the PJM footprint?
- A. I believe they are, given that when

  American Electric Power entered PJM, my recollection
  is all their generation and all their load went into

PJM.

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- Q. So given that all of the load went into PJM, that would include also the states of Kentucky, West Virginia, and Virginia where AEP Ohio -- where AEP has affiliate distribution companies, correct?
- A. Yes. I believe that's true. Again, where AEP owns and operates those particular wires companies or generation, yes.
- Q. Turning to your testimony at page 12 starting at line 1 and then going down to line 10, you indicate that there would be a change or a potential change in the investment decision with regard to PPA units if the rider was approved, correct?
  - A. What page were you on again, please?
  - Q. Page 12 of your testimony.
  - A. And what lines, please?
- Q. Beginning at line 1 and going through line 10.
- A. Yes, on page 12 of my testimony on lines

  1 through 10 I discuss about the difference in the

  investment that I would see if the PPA were approved.
- Q. And am I correct that it would change in that AEP Generation Resources would be able to take a longer view because it would have a FERC-regulated

agreement at that point?

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- A. Yes, I would agree, simply in the fact that we would have a long-term agreement, in this case with AEP Ohio, and then the ultimate investments that would get made under the PPA would be ultimately determined by the proposed operating committee.
- Q. And the horizon that you're -- or, you refer to this, or have referred to this, as a change in the investment horizon; is that correct?
- A. Can you point me to the specific line, please?
- Q. I'm referring to your deposition, page 104, if that would help refresh your recollection.
  - A. Page 104?
  - Q. Yes, sir.
- A. I'm sorry. What line were you referencing on page 104?
  - Q. The question starts at line 5 and the discussion ends at line 13.
- A. Yes, I still agree that it would change the investment horizon if we had the power purchase agreement.
- Q. And you view the current investment horizon as approximately three years, correct?
- 25 A. Yes.

- Q. And so the investment horizon would run out to, say, ten years; is that correct?
- A. Are you talking about the investment horizon if the proposed PPA were approved?
  - Q. Yes, sir.
- A. Ten years, maybe longer, but it would certainly be longer than three years.
- Q. And you would agree with me that if the Commission approved the PPA, this information about the availability of the rider would be generally available to other parties including merchant generators, correct?
- A. I'm sorry, I don't understand the question.
- 15 Q. Sure.

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- A. What information are we talking about?
- Q. If the Commission were to approve the PPA rider proposal, which includes the underlying agreement, that would be done through a public order of the Commission, correct?
  - A. Are you talking about the rider itself, in view of the rider costs?
  - Q. The rider and the underlying proposal that AEP has asked for in this case, which is approval of the prudence of entering into the PPA

agreement. That would be generally available to the public through the Commission's orders, correct?

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- A. Yes, I believe so since it's a -- it would be a public document approved by the Commission. I don't know that and any prudency review of the PPA rider values, I would believe they would be public, but I'm not sure if the Commission does all those reviews on a public basis or whether there's some confidential. I'm just not experienced with that.
- Q. But the fact that the Commission had signed off on the prudence of the underlying contract and allowing the collection or credit of the rider would be public information, correct?
  - A. Yes, I believe so.
- Q. So that information would be available to merchant generators that were looking at the state of Ohio as a place to invest, would it not?
- A. I guess along with any other information they could find publicly, yes.
- Q. One last concern, Mr. Thomas, and then I'll wrap up. Would you agree with the following, that the fact that the PPA riders may not cover their costs during a specific period of time does not mean that the units are uneconomic?

A. I need help. I don't understand the question.

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Q. Well, let's go at it from the other direction. Is the fact that the units may be uneconomical compared to other generation assets bidding into the PJM market -- let me rephrase.

Do you consider the PPA units uneconomical relative to other generation units if the rider results in a charge to customers, or would result in a charge to customers?

- A. Well, from our perspective the PPA is simply an approach or a construct by which we can have a long-term agreement with a counterparty. How those units, you know, if there's going to be years where it's higher or lower -- but I guess I still don't understand your question, so I apologize. I don't know how to answer it.
- Q. Does the fact that the rider units may not cover their costs during a specific period of time mean that they're uneconomic?
- A. I would -- again, the PPA construct allows us to look over a long-term period so you can't pick out any one period and make a -- or I can't pick out any one period and make a blanket statement whether it's economic or uneconomic.

1279 1 Q. Fair enough. 2 MR. DARR: Thank you. That's all I have. 3 EXAMINER SEE: Mr. Petricoff. 4 MR. PETRICOFF: Thank you. 5 CROSS-EXAMINATION 6 7 By Mr. Petricoff: 8 Ο. Good morning, Mr. Thomas. 9 Α. Good morning. 10 I'm Howard Petricoff, and I'm here for a Q. number of suppliers. 11 12 You're the vice president of AEP Generation Resources? 13 14 I am a vice president of Competitive Α. Generation, yes, at AEP Generation Resources. 15 16 And your responsibility consists of 17 managing and operating a competitive fleet of 18 generators? 19 That is correct. Α. 2.0 I'm going to go through a series of Q.

Q. I'm going to go through a series of questions with you now because I want to establish what the electric generation market looks like. So this is -- I'm not asking about maybe individually how AEPGR, when I say "AEPGR" I'm referring to AEP Generation Resources, how they operate, but the

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1 market in general. Okay?

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So with that in mind, is there a multiregional market for power?

- A. Clarify what part of the country we are talking about? What region are we talking?
- Q. In this case I'm going to revoke my last instruction to you and talk to you about AEPGR.

  AEPGR has generating units that are tied into the PJM regional transmission organization.
  - A. Yes, we do.
- Q. In fact, does AEPGR have units that are tied into another regional transmission organization other than PJM?
  - A. Not to my knowledge, no.
- Q. And you'll agree with me that PJM covers roughly an 11-state area including Ohio?
- A. I would agree it covers parts of those states and parts of Ohio.
- Q. Okay. And since AEPGR's generation is tied into PJM, it can sell to any wholesale or retail user of power in the PJM footprint absent some areas in which there is congestion?
- A. I don't know how to make a blanket statement that anybody across PJM. I mean, certainly there are buyers and sellers in PJM. Some states are

deregulated so you can sell to the end-users on a retail basis. Some are not.

- Q. AEPGR is a merchant generator, correct?
- A. Correct.

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- Q. Okay. And as a merchant generator you are free to sell to any wholesale or retail customer that you contract with.
- A. I guess I would agree, if I contract with them, I can sell to them.
- Q. Right. In contrast, if we were talking about owning generation in a cost-of-service, noncompetitive state, you basically would be selling power to your service territory.
- A. Well, I'd say that's partially true, but I also know utilities sell what they call off-system sales, so they'll sell excess generation to other providers. So I can't -- again, as a blanket, any counterparty can sell to any other counterparty whether you're regulated or not, so I'm not -- maybe I'm not understanding your question.
- Q. No, I think you are let me just try to funnel it down, then. The distinction between a merchant generator and a utility selling into a service territory is that a merchant generator basically can contract with anyone they wish at an

unregulated price, whereas a regulated utility would be selling at a regulated price as its primary and if there was any surplus, then they may be able to sell the surplus in the market.

5 MR. NOURSE: I'm sorry. Is that a 6 question?

MR. PETRICOFF: That's a question.

THE WITNESS: Can you repeat the

9 question.

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MR. PETRICOFF: I'll rephrase.

THE WITNESS: Okay.

MR. PETRICOFF: I'll rephrase it.

- Q. You've agreed with me already that as a merchant generator you are free to sell to any counterparty in the PJM area that you can contract with, correct?
- A. Again, I don't know. I don't know all the criteria, what customers. I mean, it wouldn't be limited to just PJM, necessarily. If you had transmission rights, I guess you could take it somewhere else.
- Q. Okay. Fair enough. As a merchant generator you are free to sell your generation to the best contracts that you can arrange, correct?
- A. Generally I would agree with you.

- Q. Okay. And, further, there are no government-regulated prices at which you can sell your capacity and your energy.
- A. Again, to whom? Who is the counterparty we're talking about?
  - Q. Anyone who you can contract with.
- A. That's not my area of expertise. I honestly don't know.
  - Q. Okay.

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- A. I don't go out and sell power every day.

  I deal with the operations of these plants inside

  PJM. You're outside my area of expertise.
  - Q. Fair enough. Fair enough.

But it's inside your area of expertise to say that basically by having your units connected into PJM, the retail and wholesale arms of AEPGR can look for counterparties to sell capacity and energy to anywhere, at least in the PJM area, and at a price that the market dictates.

- A. Generally I would agree but, again, you're talking about parts of the business that I'm not responsible for and I have very little input into, so you're way outside my area of expertise.
- Q. Okay. Well, let me ask one more question to see if this is inside your area of expertise. Do

you follow the power market, prices on the power market?

A. Which power market?

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- Q. The PJM power market.
- A. There are different prices that settle across nodes across PJM every five minutes. I don't -- we have people inside our organization that do that. Do I look at those prices? With the exception of what my units see on their busbar for their day-ahead prices, their realtime prices, those are generally the ones I concentrate on.
- Q. Okay. Let's take a step back and look at this at a very high level. You'll agree with me that electricity is a realtime product. It can't be economically stored at the moment.
  - A. I would agree with that.
- Q. Okay. And because electricity is a realtime product, the demand for the power is very sensitive to both the time of day and the season of the year.
  - A. That's generally true.
- Q. And you'll agree with me that PJM runs markets in which any PJM-connected generator can sell power, either realtime on an hourly basis or for power to be delivered a day ahead.

A. I agree PJM has a day-ahead and a realtime market for energy.

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EXAMINER SEE: Mr. Thomas, I'm going to need you to speak up a little throughout your entire answer.

THE WITNESS: Okay. Thank you.

Q. And when you spoke before about the -you said you looked on the, I think you said, the
screen to see what prices were in the day-ahead
market for my unit, you were talking about that PJM
market that has prices that any generator can offer
their power into the PJM day-ahead market. Actually,
let me withdraw that.

When you were looking at the PJM market, are there pricing nodes?

- A. Based on my experience, every generator has its own node and its busbar.
- Q. Okay. And are there also -- when you're selling into the market, are there also prices for every delivery area?
- A. I believe there may be, but that's, again, that's back to what our trading group does and our wholesale group.
- Q. Let's approach it this way. Could you turn to page 9 of your testimony.

A. Okay. I'm there.

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- Q. On page 9, line 16, you talk about "uncertainty of market-based revenue from the PJM capacity and energy markets." Do you see where I'm referring you to?
- A. I do see those words on my testimony at page 9, looks like lines 16 and 17.
- Q. That's correct. And you expressed the concern that they may not -- they may not support a sufficient economic return. I want to hone in with you, because I'm trying to identify the PJM capacity and energy market, so now I'm talking -- let's start with the energy market.

How do you understand the organization of the PJM energy market?

- A. My understanding of the PJM energy market from a generator's perspective is there's a day-ahead market and there's a realtime market and there's some amount of ancillary services.
- Q. And the price that is set in that energy market is set at basically an open auction by all suppliers who can deliver in that market who care to do so versus demand for power in the PJM energy market.
  - A. My understanding is with respect to

energy, we place bids in; I'm assuming all generators do. PJM takes whatever the load forecast is, and then they clear units hour by hour to be able to meet those requirements. That's my understanding.

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- Q. And when you say they clear it, they start with the lowest price and award it to those generators until they have enough power to meet the demand.
- A. I don't know the details of how PJM works.
- Q. But for purposes of your testimony when you're concerned about the economic returns, you're looking for the revenues that are coming out for making sales into this PJM market, correct?
- A. The purpose of my testimony is to talk about as I look at the longer-term investments, that there are short-term signals related to the PJM market, and they fluctuate up and down significantly, and it makes it very difficult to make long-term investments in any unit, from my perspective.
- Q. Well, I understand that. I'm trying to take you down one gradation, and, you know, if you don't understand -- I'm sorry, I want to take you down one gradation to try to understand the revenue scheme that you had in your mind when you said that

you were worried that the revenue wouldn't be sufficient.

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Is your concern that because this is a day-ahead or possibly even an hourly competitive market and you don't know what that price is going to be, that is why you're concerned that some of these units may not produce a sufficient economic return to stay in operation?

- A. What I'm saying here in my testimony is based on what we believe the -- what we see in the short term for energy and capacity revenues and how they fluctuate, because they're all short term, that, yeah, we're concerned there will not be enough revenue to make sufficient investments to keep the units safely and reliably operating into the future.
- Q. And so what the PPA does, and just for the energy market, is that it will transfer the risk of that hourly or day-ahead price fluctuations to the customers in exchange for receiving all of its operation and maintenance costs plus a fixed return.
  - A. Is there a question in there?
  - Q. Yes. Is that how --
  - A. Can you repeat the question?
- Q. -- the PPA is going to work? Actually, let me rephrase the question.

You agree with me that the energy market changes its prices at least daily and maybe hourly in the PJM energy market.

A. It does both.

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Q. It does both, all right.

And the risk of those changes are ones for the marginal units that you consider to be too great for AEPGR.

A. No. I would disagree. We're just saying these are marginal and at more risk. If the markets go up, there may be enough revenue to make these investments. If the markets go down, there may not be.

As part of us looking at the business strategy, we're trying to get a more predictable revenue stream because that's what our investors, as part of American Electric Power, desire, and that's what we're going after from our perspective as part of this proposed power purchase agreement.

- Q. So the proposal is to take the risky units in terms of their revenue and transfer that risk to the ratepayers?
- A. Well, I'll go back to Witness Pearce's testimony. We can look over the long term, we believe it's going to be a benefit to customers. We

are willing to give up the upside to get the predictable revenue stream based on the desire of our shareholders. I think it's -- from my experience and my view, I think it's a win for the customers over the long term, and it helps provide stability, basically jobs in this part of Ohio, as well as allows us to make longer-term investments to ensure the units are there such that there's adequate supply and demand, fuel diversity.

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MR. PETRICOFF: Move to strike. I asked about the risk, transferring the risk of the hourly and day-ahead market to the customers. That is the goal of the -- I'm sorry, let me stop because I've asked to strike.

EXAMINER SEE: Response?

MR. NOURSE: Your Honor, obviously
Mr. Petricoff is, you know, arguing with the witness
about this pejorative statement about the intent of
the PPA being to transfer risk. I think Mr. Thomas
is just explaining, you know, rejecting that
argument, saying it's a balanced proposal and there
are trade-offs, but you can't just look at one aspect
and conclude that there's subversive intent behind
the PPA. So it's obviously not an innocent question.
He's trying to defend his position.

EXAMINER SEE: And the answer as it was given stands. The motion to strike it is denied.

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- Q. (By Mr. Petricoff) Earlier in answers that you gave to counsel for IEU, you indicated that the, I think you called it -- well, I'll paraphrase it -- that the focal point, the horizon for your economic review was three years, is that correct, for these units?
- A. Approximately three years is what I've put in my testimony here.
- Q. And is the basis for having a three-year horizon the fact that PJM in the capacity market -
  I'll move now from the energy market to the capacity market -- that the capacity market is basically always three years out?
- A. That's the general focus, yes. That's the only revenue that we know we're going to be able to make is the capacity payments -- or capacity revenues, I'm sorry, three years out.
- Q. And so when you are trying to decide what is a marginal unit, you look at what the capacity revenues are going to be out for three years and then your projection of what the day-ahead and hourly revenues will be for selling into the PJM energy market.

A. Well, there's three potential revenue streams: One is a capacity payment, one is an energy payment based on operating within PJM, and the other one is whatever ancillary services would come from operating those units for regulation service or voltage service. Those would be the revenue streams. Then we have our cost forecast.

- Q. And, relatively speaking, how much of the revenue stream comes from the ancillary services?
  - A. I don't know.

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EXAMINER SEE: Mr. Thomas, I'm going to need you to speak up.

THE WITNESS: Yes, your Honor.

- Q. And so when we're deciding whether a unit is marginal or not, you -- when I say "you," you AEPGR -- sum up all of these three revenue streams, what you get from ancillary services, what you get in the energy market, what you get in the capacity market, and then you would compare those revenues for each unit against what the cost is to run that unit; is that a fair statement?
- A. Well, partially. What I did here in this testimony is the way we look at it, we have to estimate those revenues for those streams, capacity, energy, ancillary services, and then we need to be

able to meet our costs plus a reasonable return over a period of time. That is the market.

- Q. But the mechanics then is you're balancing your forecasted revenues from those three income streams against your forecasted costs for each of these units on a unit-by-unit basis.
  - A. Generally, yes.

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- Q. All right. And when we're looking at, on page 9 of your testimony, you cite in there several times, one would be line 5 for example, marginal units. Marginal units are one in which the projected revenue may not be sufficient to cover the projected costs.
  - A. Partially, plus a return.
- Q. Okay. We can agree when we say the costs, that includes you -- the costs includes a return on your investment.
- A. Well, if that's your definition, then yes, I would agree.
- Q. In fact, let's take a moment or two and talk about costs. So the costs would be for an individual power plant, you'd have what I would call your variable costs, the items or expenses that are tied directly to generation, like fuel; is that correct?

- A. Among other things, fuel is one.
- Q. Is that a term that you use, "variable costs"?
  - A. Generally, yes.

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- Q. And besides fuel, what else would you put into the variable-cost bucket?
- A. We would put other consumables, limestone costs, urea costs, various other items, chemical costs that, again, go up and down throughout the production you have on a given unit.
- Q. And then you would agree with me that you have another set of costs which are -- they're annual and they're unavoidable in the short term, which are not tied to generation such as, oh, labor that's covered under labor contracts and other foreseeable operation and maintenance activities.
  - A. Generally, yes.
- Q. And then we have a third category of costs, and those would be any loans or outstanding debt that's required to be paid on the generator investment.
  - A. Yes, I'd agree that's another category.
- Q. And you would agree that a fourth category would be a return on the dollars that are invested in the generating facility.

A. Yes, I believe that would be another category.

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- Q. Now, before when we said we were talking about balancing the costs and the revenues, besides these four, if you will, buckets of costs that we've just reviewed, are there any other costs that have to be covered?
- A. I'm not sure. I don't have all the information in front of me to be able to answer that question.
- Q. But, in general, at a high level have we touched upon almost -- have we touched upon the major categories of costs that an operator of a power plant would consider?
- A. Well, again, I don't have the information in front of me so I can't say we've hit all the major ones or not. I'm not prepared to go through each one.
- MR. PETRICOFF: Your Honor, I'd like to have an exhibit marked P3 No. 1. May I approach?

  EXAMINER SEE: Yes.
  - (EXHIBIT MARKED FOR IDENTIFICATION.)
    - Q. Mr. Thomas, did you have an opportunity

to read the testimony of Mr. Pearce, which has already been admitted into evidence here?

- A. I've been through some of it. I don't know that I've read the entire testimony.
- Q. Okay. I have attached to the back of what has been marked as PJM Exhibit No. 1 the item that was Attachment A of his testimony. Have you ever seen that chart before?
- A. Just for clarification, the one that says Exhibit KDP-1 at the upper right-hand side of the page?
  - Q. That's correct.
- 13 A. I don't recall looking at this specific table.
- Q. In that case let's turn to the first page which says "Non-OVEC PPA Units."
  - A. Okay.

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- Q. Take a look at that first column. Are these all of the plants that you have identified in your testimony as marginal plants, save for the OVEC units?
  - A. Yes, that's correct.
- Q. And then what I have done is I have
  basically taken the information that you provide on
  pages 3 and 4 of your testimony, and I have footnoted

those at the base, to put in the size of the PPA entitlement that is owned by AEPGR and the total size. And if you would, take a minute and see if I have correctly transposed those from your testimony onto the chart.

- A. They appear to be correct. Some of the AEP ownership percentages go out to the tenth decimal place so this is rounded, but, I mean, generally they look correct.
  - Q. This is the lawyer's version. We round.
  - A. Okay.

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- Q. Let's start with the first plant, and that's the Cardinal plant. Now, this is the plant, the unit No. 1, over which earlier today you discussed the operating agreement with Mr. Darr?
  - A. The Cardinal Operating Company agreement?
- 17 Q. Yes.
- 18 A. Yes.
- Q. And so the Cardinal plant is owned by
  AEPGR, and it's also subject to that operating
  agreement; is that correct?
- 22 A. Yes, I believe that's correct.
- Q. Okay. And could AEPGR close the Cardinal plant during the term of the Cardinal operating agreement?

A. The entire plant?

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- Q. No. The unit. I'm sorry. Could they close unit 1. Could AEPGR close unit 1 during the time -- during the term of the Cardinal operating agreement? If you know.
- A. I believe we can, but I'd have to go back to the specific agreements to double-check that. But I believe we have unilateral rights to what happens with Cardinal unit 1.
- Q. Okay. So, basically, it is your understanding that the Cardinal plant is one in which AEPGR could close the plant if they found it to be uneconomic.
- A. I believe so, yes, subject to checking the actual operating agreements to verify.
- Q. And if AEPGR was going to close the Cardinal plant, if you know, would it write those, the value of that plant, off its books? It would just terminate the operation of the plant?
- A. Are you talking about the Cardinal plant or Cardinal unit 1?
  - Q. I'm sorry. Thank you for keeping it specific. Just unit 1.
- A. Again, I would look to accounting to

  decide whatever those accounting rules were. I don't

know specifically.

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Q. Okay. Fair enough.

And do we have the in-service date correct for the Cardinal plant, it came in in 1967?

- A. That is correct, yes.
- Q. Let's move on to Conesville. I'm going to skip this and talk about Conesville 5 and 6. Are those baseload units or are those intermediate units?
- A. The definition we have, we call those more of an intermediate unit because they're subcritical.
  - Q. And what does "subcritical" mean?
- A. Subcritical has to do with the way the boiler operates and the steam temperatures and pressures. A subcritical unit has a steam drum. A supercritical unit does not, and it's based on the thermodynamics and the physics that go on with the steam.
- Q. Would you expect the Conesville 5 and 6 units to be run an equal number of clock hours with a baseload -- as a baseload plant like Cardinal?
- A. I'm not sure. That would depend on a number of factors, what's going on in the market.

  But, generally, given that it's a more intermediate unit, I would say generally I wouldn't expect it to

run as much. But, again, market prices would increase. It has the capability to do that, certainly, or may have the capability to do that.

- Q. Is it easier to turn an intermediate plant on and off than a baseload plant?
- A. For coal units it's somewhat easier. I wouldn't say it's easy to turn off an intermediate coal plant, but it's easier than turning off a cycling baseload supercritical plant.
- Q. Okay. And is it true that AEPGR owns a hundred percent of the Conesville 5 and 6 units?
  - A. That is true.

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- Q. Now, yesterday you were questioned a bit about, I think it's Sierra Club No. 7, Exhibit No. 7, that showed investments that would have to be made in power plants to meet both O&M needs, operation and maintenance needs, as well as environmental. Do you recall that cross-examination?
- A. I do. The specific exhibit that I believe you're referencing is related to the major environmental capital projects that we discussed.

  Now, there are other O&M and smaller costs that were provided to Witness Pearce as part of the analysis, but my recollection is that table you're referencing is major environmental capital projects.

- Q. And basically it would be AEPGR that would be advancing the capital for those investments for any environmental or O&M investments in the Conesville 5 and 6, correct?
- A. That's correct. Given we own the units, it would be our capital investment that would go into those units.
- Q. And for the Conesville 5 and 6, I have correctly put in the in-service dates for them, for those units?
  - A. Those are correct.

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- Q. Now let's compare that with the Conesville unit No. 4. Who owns the Conesville unit No. 4?
  - A. There are three owners of Conesville unit No. 4: AEP Generation Resources owns 43-1/2 percent, Dayton Power and Light owns a certain percentage, I don't remember that exactly, and then Dynegy now owns the balance.
- Q. And in order to close the Conesville unit No. 4, would you have to have agreement from all three partners?
- A. I believe under those operating
  agreements for a retirement decision you have to have
  a unanimous vote.

Q. And for long-term investments, additional capital that has to be invested in the unit No. 4 to meet operation and maintenance needs and environmental needs, would you need the approval of both partners?

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- A. My recollection of those agreements, those type of investments are governed by majority vote between the three owners.
- Q. So two of the partners would have to agreed to make the capital investments.
- A. That's my recollection of that decision.

  Again, those agreements have different criteria

  depending on the subject of the decision, but that is

  my recollection, yes.
- Q. Have you discussed -- have those partners discussed the type of environmental and operation and maintenance investments that will have to be made in the Conesville No. 4 unit in order to continue it out for its full economic life?

Actually, let me take that back. Let me do it this way: You turned in a schedule of capital improvements that you believe are necessary for all of the PPA units to Dr. Pearce; is that correct?

- A. That is correct.
- Q. And did some of the projects that were on

that list include capital improvements to Conesville unit No. 4?

A. Yes, they did.

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- Q. And have the partners, DP&L and Dynegy, agree to those investments?
- A. Well, as we look out farther, the process we follow, we exchange budgets once a year, and then the committee gets together and approves the following year's budget, and the rest is just a forecast. So to say "approved," no, the parties have not approved those, nor have we as one of the owners approved anything at Stuart and Zimmer yet. That process comes as those projects get closer.

And then there is an official approval process where a large investment will ultimately have to be approved by all three owners in writing before the owners -- or, the operator of that specific unit can proceed.

- Q. And for the projects that were given to Dr. Pearce and were incorporated in the forecast, at this time there is not approval from the partners to make those investments, correct?
- A. No, there's not, but nor would there be.

  That's not part of our ownership agreement for those
  units. It's not the way we operate that arrangement

so I wouldn't expect there to be an approval for our forecast.

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- Q. Are you anticipating that the partners will approve those investments?
- A. I can't speak for the partners. We give them, just like they give us as the operator, they give us the operating plan, and each owner does their own evaluation as to whether or not they agree with the project or not. Then we get together and discuss it and ultimately vote.
- Q. And does responsibility for the capital investment basically mirror the ownership percentage?
- A. Yes, it does. Any expense or investment in those plants and any benefit that comes out is all done off of ownership share.
- Q. And will these partners be participating in the PPA ratepayer guarantees, or will that only go to the AEP portion of the Conesville No. 4 unit?
- MR. NOURSE: Your Honor, I just object to the "ratepayers guarantees" phrase. I'm not sure what that really refers to, but I think it's inaccurate.
- MR. PETRICOFF: Let me rephrase, your
  Honor.
- 25 EXAMINER SEE: Okay.

Q. Under the PPA as presented in the application, you would agree with me that the ratepayers will assure the payment of all reasonable operation and maintenance expenses plus a return on the investment somewhere in the range of 8.9 to 15.9 percent on equity.

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A. The power purchase agreement is a relationship that's proposed between AEP Generation Resources and AEP Ohio. Everything that's done under that power purchase agreement is subject to prudent utility practice, which is standard across, you know, our industry and well known.

As far as the customers and what risks they take, the amount that ultimately would go onto a rider is going to be subject to prudency reviews, so I can't say it's pushed to customers, given that the Commission will have prudency review over those costs.

MR. PETRICOFF: Your Honor, I move to strike. That's not responsive.

MR. NOURSE: Well, again, Mr. Petricoff
has -- in his prior question he asked about a
guarantee, which he rephrased to being that the
ratepayers will assure payment. So I think he's
entitled to explain, you know, the difference between

the wholesale contract and actually getting through to customers on the retail side, which is the thrust of the question.

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EXAMINER SEE: I'll allow the answer to stand.

- Q. When AEPGR makes its decisions on the capital improvements going forward in the Conesville No. 4 unit, if the Commission approves the application in this case, won't they be looking at a different set of risks than the other two partners for the No. 4 unit?
- A. I'm not sure. Each owner does whatever each owner wants to do today, so that owner's risks and benefits -- we are through antitrust laws I believe. Each owner does its own thing already today so I'm not sure I know how to answer that question.
- Q. The way you understand the application in this case, neither Dynegy nor DP&L will be receiving the PPA obligations and rewards that AEPGR -- I'm sorry -- that AEPGR will be receiving under the PPA agreement.
- A. I would agree that under this PPA we are offering AEP Generation Resources' share of those units to AEP Ohio. The other co-owners have their ownership share. They can do with that whatever they

so choose, like they do today. But, no, those co-owners are not a counterparty to this power purchase agreement.

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- Q. And you are anticipating that those partners will approve the kinds of capital projects that you sent to Dr. Pearce, even though they are not going to have anything similar to the PPA agreement that you've asked the Commission to approve for AEPGR or to find prudent, which includes AEPGR.
- A. I haven't made that assumption. What I have said here in the PPA and what we've offered is we will take our recommendations to AEP Ohio, and ultimately we will take AEP Ohio's vote to our operating committee as the buyer, and then, you know, the three parties will decide whether we move forward or not with any given project.
- Q. Okay. And AEPGR would not make up any of the investment obligations of the other partners if they elected not to approve one of the capital projects on the list that you sent to Dr. Pearce.
- A. I can't say. I don't know what our rights are under the agreement if another owner chooses to do something or not do something. I haven't looked at that.
  - Q. Let's move on to talk about the Stuart

- units 1 through 4. In those units is it true that AEPGR owns roughly 26 percent of the units?
  - A. Yes, I believe that's true. We have a 26 percent undivided interest in the plant.
    - Q. And the Stuart plant is operated by DP&L?
  - A. That is correct.
  - Q. And the in-service dates are correct for the Stuart plant?
    - A. Yes, I believe they are.
- Q. And now we'll move on to Zimmer. Zimmer also has DP&L and Dynegy as partners?
- A. Yes.

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- Q. And the Zimmer plant is operated by Dynegy?
- 15 A. Yes.
  - Q. And for both the Stuart plant and the Zimmer plant, do we have the same type of structure in which there is a committee made up of the three partners and that all three partners have to approve closing the plant and a majority of the partners have to approve major capital investments?
  - A. I believe that's true, correct. Or, yes, that's true.
- Q. In order for all the projected
  improvements that you sent to Dr. Pearce to be funded

and implemented, won't the partners have to agree to put up their concomitant share of the investment?

A. Yes, I believe they would.

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- Q. And isn't it true that they will not be doing it with a PPA agreement similar to what AEPGR will have with Ohio Power?
- A. I can say they won't be doing it with our proposed agreement. I have no idea what Dynegy and Dayton Power and Light or AES do with their assets and their output. So no, they won't be part of this power purchase agreement, but I can't speak to what they they might have anywhere else.
- Q. One last question. Do you anticipate that the partners are going to turn down their investments because market conditions won't allow them to go forward with it?
- MR. NOURSE: Mr. Petricoff, are you asking about these environmental investments or in general?
- MR. PETRICOFF: No, the investments that are on the sheet that he sent to Dr. Pearce.
- A. Well, I don't know. I don't run the business for Dynegy or Dayton Power and Light. So they're sophisticated companies. They'll make decisions as they see fit.

1310 1 MR. PETRICOFF: I have no further 2 Thank you very much, Mr. Thomas. questions. 3 THE WITNESS: Thank you. 4 EXAMINER SEE: Ms. Fleisher, you have 5 questions for this witness, correct? MS. FLEISHER: I do. 6 7 EXAMINER SEE: Can someone make room for 8 Ms. Fleisher. 9 MS. HENRY: I am. 10 EXAMINER SEE: Thank you. 11 12 CROSS-EXAMINATION 13 By Ms. Fleisher: Good morning, Mr. Thomas. My name is 14 Madeline Fleisher, and I represent the Environmental 15 16 Law and Policy Center. 17 Α. Good morning. 18 Q. Thanks for being here one more day. 19 So first just a couple cleanup questions. 2.0 So you were talking to Mr. Darr about the different 2.1 units at the Cardinal plant, and I was just 22 wondering, does unit 1 have the same forced outage rate as units 2 and 3? 23 24 I don't know. I'd have to look at the 25 data. It varies year to year.

- Q. Okay. In terms of the projected outage rates that the EFORd used for capacity auction bidding, do you know whether they have the same EFORd?
  - A. I don't know.

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- Q. And there are other -- outside of the PPA units, AEPGR owns other coal plants -- coal units in Ohio, correct?
  - A. That's correct.
- Q. That includes, for example, the Gavin plant, correct?
- A. That is correct.
- Q. How many megawatts, roughly, is the Gavin plant?
  - A. Gavin is approximately -- Gavin has two units, and it's approximately 2,600 megawatts total.
    - Q. And Gavin wasn't included in this proposal because it's not, to use a rough term, financially stressed, correct?
  - A. Well, I wasn't involved in what the decision to include or for which units to include as part of the PPA. So I wasn't in those discussions, so I'm just here to talk about the ones that were included.
- Q. Based on your position with AEPGR, would

you say that the Gavin plant is as financially stressed as the PPA units?

- A. I would say it's at less risk.
- Q. Is it still at risk?

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- A. I'd say some risk, yes.
- Q. And one of the things you're testifying to is that environmental compliance at the PPA units is consistent with the factor identified by the Commission, correct?
  - A. Yes. That's correct.
- Q. And in preparing your testimony on that
  point, did you view the environmental permits for the
  PPA units?
  - A. I did not.
  - Q. Are you familiar with the permits for the PPA units?
  - A. At a very high level. We have a great number of permits. I have people within my organization that know the details of each permit for air, water, waste, and so forth, and they work very closely with Mr. McManus's organization, but I do not know the details of all those permits, no.
    - Q. Okay. You should have a couple documents up there if we can resurrect a couple from yesterday. There should be one that's the Stuart Clean Water Act

permit marked as Exhibit 7. Or, I guess --

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A. I'm sorry, I don't have it with me right here.

MR. NOURSE: I've got it. Do you have extra copies if you want to talk to him about it?

MS. FLEISHER: Oh, you didn't save --

MR. NOURSE: I've got my copy.

EXAMINER SEE: Let's go off the record for just a second.

(Discussion off the record.)

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

- Q. Mr. Thomas, just take a second and look through that document and let me know when you're ready. I just want you to take a quick look at it.
- A. Okay. This is ELPC Exhibit No. 7. It appears to be the NPDES permit for Stuart Station, yes.
  - Q. Have you ever seen that permit before?
  - A. Not to my recollection.
- Q. Do you know whether Stuart is subject to an enforceable compliance schedule for attaining compliance with mercury discharge limits?
- A. I don't directly recall any discussions.

  It may have been discussed in one of our engineering

and operating committee, but we have a subcommittee that's the environmental counsel that gets together, or like a John McManus equivalent. I don't recall hearing about that, no.

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- And do you have Sierra Club Exhibit 7, the version you were using with the different versions beside you?
- EXAMINER SEE: I'm sorry, what was the 9 last part of that?
- 10 MS. FLEISHER: I'm just specifying the version he was using that excludes the OVEC 11 confidential information. 12
  - Α. Yes, I have the table that was discussed with Sierra Club counsel yesterday.
    - Ο. Right. And looking at the entries on that table for Stuart, do you see a mercury treatment project listed?
    - I see a mercury effluent wastewater Α. treatment project.
  - Q. Okay. In that same row it says that's a NPDES-related project, or that's how I would interpret it; would you agree?
    - Α. Yes, I would agree.
- 24 And, for the record, NPDES refers to the 25 Clean Water Act permit under the National Pollutant

Discharge Elimination System.

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- A. I would agree.
- Q. Do you know anything about the details of that project?
- A. I don't know the details of that project. As I've discussed before, we have a process between co-owners where the operator will look for solutions, come up with plans, and then we discuss those plans at a high level amongst the operating committee, and then the operator of a specific unit will then execute that plan. But I don't know the details of this plan, of this project.
- Q. And are you aware that Stuart also has an adjacent landfill for disposal of gypsum?
- A. I know Stuart has the Carter Hollow landfill. I honestly don't know where it is in relation to the plant.
- Q. Okay. And do you know whether that landfill has leachate discharge?
- A. I don't specifically. I would expect it to have leachate discharge, but I can't tell you for certain.
- Q. All right. A couple things to come back on the confidential, but that's all for now.
- 25 And then if someone could also just

provide him with ELPC Exhibit 8 real quickly, I
imagine this will be speedy. Just take a quick look
at that one.

- A. Yes, I see ELPC Exhibit No. 8, which appears to be the NPDES permit for the Zimmer station.
- Q. And have you ever seen this permit before?

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- A. Not to my recollection, no.
- Q. Do you know whether the Zimmer plant is subject to any enforceable compliance schedules for achieving compliance with Clean Water Act discharge limitations?
  - A. Not that I'm aware of.
- Q. Do you know whether Zimmer's mercury wastewater discharge is currently within the water quality standard for the Ohio River?
  - A. I do not know.
- MS. FLEISHER: Let's do one more. Your
  Honors, may we approach?
- 21 EXAMINER SEE: Yes.
- MS. FLEISHER: If we can have this marked as ELPC Exhibit 12. For the record, it's the Clean Water Act permit for the Conesville Plant.
- 25 EXAMINER SEE: So marked.

(EXHIBIT MARKED FOR IDENTIFICATION.)

Q. Mr. Thomas, have you ever seen this document before?

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- A. I probably have, but I don't recall if I've seen this specific document. I have individuals in my organization that manage our compliance day to day at this site and at most of the large sites, but I don't know that I've seen this specific document.
- Q. Okay. Do you have any reason to believe it's not an accurate copy of the Conesville Clean Water Act permit?
  - A. It appears to be.
- Q. And do you know whether the Conesville
  Plant has a variance from the Ohio EPA allowing it to
  discharge at levels above the applicable monthly
  average mercury limit?
- A. I don't remember specifically for

  Conesville. I do recall at some plants we do have a variance, but I can't tell you specifically for

  Conesville. It sounds familiar but, again, I'd have to go check to see.
- Q. If you look on page 21 of the document you have marked ELPC-12, would that maybe refresh your memory?
  - A. Yes, on page 21 the agency has granted us

a variance.

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- Q. And do you know whether that variance expires when the permit expires?
- A. I don't know the specifics of when the variance expires.
- Q. Okay. And do you have any familiarity with any steps the Conesville Plant might have to take to maintain or renew that variance?
- A. I'm not familiar with specific steps. I know, as outlined in here, we have to put a credible plan in front of the agency and demonstrate that we're making improvements and so forth as outlined, but as far as specifics of how we would extend the variance if necessary, I don't know.
- Q. And for purposes of preparing your testimony and the list of projects in Sierra Club Exhibit 7, did you analyze any costs that might be related to maintaining or renewing this variance?
- A. No, not this particular variance. My recollection is that the other projects we've identified as far as the conversion of other sources to dry handling and closing or relining certain ponds, my recollection is that that is a holistic view that we believe will ultimately end up in allowing us to meet this limit. I mean, that's my

recollection.

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Because those projects change the water balance within the plant, change -- because there's filtration on the wastewater stream coming out of certain units there, there are a lot of projects here.

Again, my recollection is holistically when these are done, the units should be capable of meeting that, but that's just my recollection.

- Q. So what's that understanding based on?
- A. Well, the understanding is based on we are taking certain units that handle ash wet, we're converting it to dry. We are treating wastewater streams that come out of Conesville unit 4 because it's a different type of scrubber, so all those affect the total water balance within the plant and ultimately what gets to the outfall.

Again, my understanding is the collection of those, I believe that will meet the 12 -- I don't remember the unit -- nanogram-per-liter limit. But that's just my recollection.

- O. That's for that Conesville Plant?
- A. Yes.
- Q. And my understanding for the Kyger Creek plant is that you don't have any familiarity with

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      environmental compliance with that plant; is that
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      correct?
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                  That is true.
             Α.
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                  MS. FLEISHER: Okay. Could we just get
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      one more exhibit marked. This will be ELPC Exhibit
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                  MS. HENRY: May we approach?
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                  EXAMINER SEE: Yes.
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                  MR. NOURSE: Can we go off the record for
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      a second?
                  EXAMINER SEE: Yes.
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                  (Discussion off the record.)
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                  EXAMINER SEE: Take five.
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                  (Recess taken.)
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                  EXAMINER SEE: Let's go back on the
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      record.
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                  Ms. Fleisher.
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                  (By Ms. Fleisher) Okay. So, Mr. Thomas,
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      you have a document marked as ELPC Exhibit 13; is
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      that correct?
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                  Yes, that's correct.
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                  I just want to verify that you don't
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      recognize this document.
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                  I do not. It appears to be the NPDES
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      permit for Ohio Valley Electric Corporation, so, no,
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I have no knowledge of this document.

- Q. And in preparing your testimony did you review the current -- the then-current environmental compliance status of each of the PPA units?
- A. I did not. I rely on Mr. McManus's group to look at the status of those types of things.
- Q. Okay. And in the course of your regular duties, are you aware of potential environmental violations with respect to any of the PPA units?
- A. Generally, when a potential issue comes up, then I become aware of the issue.
- Q. Okay. And so you don't --

MS. FLEISHER: Let's go off the record one second. I need to retrieve exhibits.

EXAMINER SEE: Sure. Go off the record.

16 (Off the record.)

17 EXAMINER SEE: Let's go back on the

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MS. FLEISHER: May we approach the witness, your Honor?

21 EXAMINER SEE: Yes.

MS. FLEISHER: These documents were previously marked yesterday as ELPC Exhibit 10 and ELPC Exhibit 11, and I've provided the witness with unmarked copies, but I'll just refer to them by that

context so you can keep them straight.

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- Q. Just let me know when you've had a chance to look them over.
  - A. Okay, I've reviewed both documents.
- Q. Let's start with the one dated December 24th, 2014, subject line: "Notice of violation, Stuart Generating Station." Have you seen this document before?
- A. I may have seen this document before. I was aware of an alleged opacity violation by the agencies. We, I believe we discussed it. Usually when this kind of thing goes, when we get a notice, the parties will notify the other owners there has been a notice of something like this. But generally those notices will go to, either to Mr. McManus's group or environmental counsel first.

I don't know if I've seen this specific document, but I do recall an alleged opacity violation at Stuart.

- Q. Okay. And that's alleged by the U.S. EPA, correct?
  - A. Yes, this is the U.S. EPA.
- Q. And under the Clean Air Act, just so the record is clear for those who aren't emersed in the technicalities?

- A. Under the Clean Air Act, yes.
- Q. Okay. Great.

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And can you turn to the other document dated December 16th, 2014.

- A. I'm there.
- Q. And are you familiar with this document?
- A. Like we just discussed, I was aware that there was an alleged opacity violation at the Zimmer plant as well. I don't know if I've seen this specific document. I may have, but I don't recall.
- Q. I imagine you see a fair number of documents.
  - A. I see a lot of documents, yes.
- Q. Okay. And were you aware of these alleged opacity violations at the time you prepared your testimony in this case?
  - A. I don't recall.
- Q. Do you generally have some experience dealing with alleged violations under environmental statutes?
- A. Yes, I am aware of generally what we do at the agencies. These are two examples. We're not perfect as an operator, nor is Dynegy nor Dayton Power and Light. We do have a good track record working with the agencies to work through these type

issues to make sure we understand what the reasons were as far as their method 9 readings here, in this case for opacity, and we work extensively with the agencies to make sure that we correct whatever the issue was, if there ends up being one, because we take -- our environmental responsibilities are paramount to us I mean, these are legal obligations, you know, under the Clean Air Act.

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So we do have an extensive, basically, process that we use to work through environmental counsel and our environmental expert group like Mr. McManus runs, and his counterparts with the other co-owners, to work through these types of issues with the various agencies, and we've done that successfully in the past.

- Q. Can alleged environmental violations lead to legal penalties?
- A. I believe they can lead to legal penalties. I think there's a fairly lengthy process, to my recollection, working with the agency and how they go through and decide what that penalty may or may not be.
- Q. And it's correct, isn't it, that per the resolution of environmental violation, it would require a plant to undertake additional environmental

control measures to address the violations?

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- A. It's possible. In the case of these two instances that we're talking about here with opacity, in my experience it's likely something with the precipitators and so forth that may need to be addressed. But I wouldn't expect significant investments to be required for these examples.
- Q. And you're familiar with the 2007 EPA consent decree that AEP entered into with the EPA regarding a number of its plants, correct?
  - A. At a high level.
- Q. Would you say that consent decree required significant investment in environmental controls?
- A. I don't remember the details of the consent decree, but it was related to reducing sulfur emissions and I believe NOx emissions. But, again, I'm not familiar with all the requirements within that legal document.
- Q. To the extent you are aware, can you speak to whether that involved significant investment in environmental controls?
- A. Well, I can say we did make significant investments, but I can also say we were already making those investments for other regulations to

install those scrubbers, those SCRs, so I can't say it was directly related to that consent decree.

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- Q. Are you aware of any other unresolved environmental violations at any of the PPA units?
- A. The only one I recall is, I believe it's related to thermal discharge limits at the Stuart station. That's the only one I recall. That's been an ongoing discussion between the owners, primarily Dayton Power and Light and -- several agencies related to the river. I can't name all of them, but it's more than just the Environmental Protection Agency. I think ORSANCO and other agencies were there, but that's the only one I recall.
- Q. And was that ongoing at the time you prepared your testimony in this case?
  - A. Yeah, I believe it was.
- Q. And this may be confidential, but I want to cover my bases in case it's not. Are you familiar with whether any of the PPA units had outages during either the polar vortex or in January and February of winter 2015?
- A. I know some of the -- the polar vortex in 2014, that first quarter time period, some of the units had -- some of the PPA units had some forced outages. As far as this, the winter or the first

quarter of 2015, I don't recall.

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- Q. Okay. And do you know whether any of those outages were related to cold weather?
  - A. I'd have to look at the specifics on each outage to be able to answer that question.
    - Q. Okay. All right.

7 MS. FLEISHER: That's all I have, your 8 Honors, thank you.

EXAMINER SEE: Thank you.

Mr. Dougherty, did you have any

11 cross-examination for this witness?

MR. DOUGHERTY: No questions, your Honor.

EXAMINER SEE: Thank you.

Mr. Beeler?

MR. BEELER: No questions, thank you.

16 EXAMINER SEE: There were two parties,

did Sierra Club have any confidential cross for this

18 | witness, Mr. Mendoza?

MR. MENDOZA: We do not.

MS. FLEISHER: Sorry. I may have

21 forgotten to indicate I have a couple.

22 EXAMINER SEE: You did indicate that.

So let's move to the confidential portion

24 for Ms. Fleisher to conduct her cross-examination of

25 this witness. Anybody in the room?

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                  MR. NOURSE: Your Honor, I believe
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      Ms. Fleisher's the only one that mentioned that or
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      reserved anything, correct?
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                  EXAMINER SEE: She is.
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                  MS. FLEISHER: Okay. Are we off the
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      record?
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                  EXAMINER SEE: Let's go off the record.
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                   (Discussion off the record.)
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                   (CONFIDENTIAL PORTION EXCERPTED)
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                   (OPEN RECORD.)
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                        REDIRECT EXAMINATION
      By Mr. Nourse:
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                   Mr. Thomas, I wanted to cover two areas
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      real quick with you. There's been a fair amount of
      discussion during your examination about Sierra Club
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Exhibit 7, Attachment 1, which was the major environmental capital spreadsheet. Do you recall that?

A. I do.

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- Q. Okay. And so the, what I'll call,
  Attachment 1 captures the major capital investments
  during the projection period for environmental
  capital requirements, correct?
  - A. That's correct.
- Q. And so what about minor capital projects that relate to environmental investments, where would those be captured?
- A. Well, as I discussed yesterday, as far as what I delivered to Dr. Pearce, those would be covered in what we call our blanket projects. We have a certain amount of money that we put in the blanket projects, and those would simply fall within that process because we consider them minor. We just deal with them in that way.
- Q. Okay. And then what about O&M impacts of environmental projects during the study period, where would they be captured?
- A. They would be captured in the O&M estimates that we provided to Dr. Pearce, and, as I discussed yesterday, given that we're putting in some

new equipment with these major environmental projects, we're taking out some older equipment, based on my experience I believe it's reasonable that we don't expect a significant increase or any increase in O&M, and those O&M dollars to maintain those units are built into that forecast based on that assumption.

- Q. And is it fair to say that compliance with environmental requirements is part of the -- part of your business in running the PPA units?
- A. Yes, I'd say it is because the fact that if I'm not in environmental compliance, I cannot run the units.
- Q. Okay. And that takes us into the second area I wanted to cover. Mr. Petricoff asked you some questions about the co-owned units and whether you could, I guess, guarantee or indicate that the other co-owners other than AEP would make certain -- would vote or support capital projects that relate to environmental requirements. Do you recall that?
  - A. I do.

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Q. And while I appreciate your prior answer that talked about each owner making their independent determination as a business judgment whether to make capital investments and whether to vote in favor of

capital investments for the co-owned units, would you address in the specific context of environmental capital investments any additional considerations you'd like to add.

A. Well, yeah. When you look at that, the sheet from the Sierra Club exhibit, the major capital projects, the owners indeed have the right, based on certain criteria, to do a project or not. But those major environmental projects that are listed by us for Conesville unit 4 and then by the other co-owners for Stuart and Zimmer, if those projects are not completed by the estimated dates we have in there, the units will no longer be compliant and so a decision to not invest on those projects based on our interpretation today would mean that those units could no longer operate past that date.

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

EXAMINER SEE: Mr. Mendoza?

MR. MENDOZA: Just a few questions, your

Honor.

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## RECROSS-EXAMINATION

23 By Mr. Mendoza:

Q. Looking at Sierra Club 7, Attachment 1, that we've been talking about. There are nonmajor

projects on this list, right?

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- A. Well, there are line item projects on there. I'm just saying the blanket approach that we take to manage other projects is included in the total forecast that we provided Dr. Pearce.
- Q. And how does the -- how does that line item label fall in the continuum of major and nonmajor?
  - A. I'm not sure I understand your question.
- Q. And I didn't understand your answer. I think you just told Mr. Nourse that this list had major projects on it, but I want to know if there are some nonmajor projects on this list as well, however you define the term "major."
- A. There are a fewer smaller discrete projects that are on here, again, well-defined -- like, for example, the catalyst layers changeout.
- Q. Would you describe that project as a major capital investment project under your definition?
- A. That particular one is in a gray area. There's no bright line between major and minor. These are the ones, when we responded to this data request, we brought out what we believe were most representative projects of what was requested.

- Q. And so you can't say that this list is exclusively major projects, right?
  - A. I cannot say that, no.

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- Q. Okay. And so you have -- all the major projects are here and some of the nonmajor projects are here, and some of the other ones were provided in the other -- in the bucket of minor projects, but we don't know how to draw a distinction between those, right?
- A. This is just based on the way we run our business. We have a blanket amount of money because we don't know exactly what's going to happen. This is the projects that are not listed here are simply the ones we would do just in the normal course of business. Some are environmental, as simple as all the way down to replacing some sort of transmitter on an environmental system. That technically is an environmental investment. Those are the types of things we would capture in there, and anything that is relatively small, we cover in the blanket.
- Q. So the nonmajor projects on this list you would do in the normal course of business also, right?
- 25 A. I would agree.

1 MR. MENDOZA: Okay. I have no further 2 questions. 3 EXAMINER SEE: Counsel for OMAEG? 4 MS. GHILONI: No questions, your Honor. 5 EXAMINER SEE: Ms. Bair? 6 MS. BAIR: Thank you. 7 8 RECROSS-EXAMINATION 9 By Ms. Bair: How would you define "minor projects"? 10 Is it a dollar amount? 11 12 As I just answered, I don't have a bright 13 line between minor and major. We just -- as we look 14 at it, if it's very specific and something that is very well-defined, generally we'll itemize it. If 15 16 it's something that we would normally do in the 17 course of business because it could change year to 18 year, we cover those type of investments in our 19 blanket approach. 2.0

- So it's discretionary and is not related to dollar amount?
- 22 It's business judgment. The total Α. 23 numbers all add up to be the same whether you put 24 them in a line item or you put them in a blanket, 25 so...

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- Q. Okay. And just following up, the minor, where were those in Pearce's attachment or something, did you say?
- A. I provided the entirety of the forecast to Dr. Pearce, and I don't remember which interrogatory now. The list that we're looking at here is a subset or an extraction of that total information with our best attempt to itemize the environmental projects that we thought were significant.
- Q. Thank you. And I do believe on redirect you talked about O&M being included in some things; is that correct?
- A. We provided an O&M forecast to Dr. Pearce, yes.
- Q. And I may be mixing apples with oranges, but could you please look at Sierra Club 7. Do you have that before you?
- 19 A. Mine are not marked.
- 20 MR. NOURSE: I think it's what we've been referring to as Attachment 1.
- MS. BAIR: I don't know.
- 23 May I approach?

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- EXAMINER SEE: Yes.
- EXAMINER PARROT: He's not supposed to

1344 see that exhibit. He has a special one he needs to 1 2 refer to. 3 MS. BAIR: It's just the first page. 4 EXAMINER PARROT: He's still not to have 5 the entire exhibit. EXAMINER SEE: Yes, your confidential 6 7 exhibit --8 MS. FLEISHER: He should have that 9 discovery response. 10 EXAMINER SEE: He already has the first page. Tell the witness what you are looking for. 11 12 MS. BAIR: I am looking at Interrogatory 2-45 of Sierra Club. 13 14 THE WITNESS: I think I have the original 15 version and then a supplemented version somewhere. 16 MS. BAIR: I think this is the original. 17 The interrogatory starts with "Refer to Q. 18 page 6." 19 Α. Okay. 2.0 Do you think you have the right one? Q. 2.1 Α. I think I have the right one, yes, thank 22 you.

interrogatory that it seems to indicate at the bottom

Mr. Nourse on redirect, and I see on this

You were talking about O&M with

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of the page, No. 4 says, "O&M costs associated with projects have not yet been estimated."

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A. Well, this is like I discussed yesterday, based on my experience we are -- the projects that we laid out in the table that -- in the Sierra Club reference, we are installing some new projects, for example, a dry fly ash system, and then we are taking out other projects that are in service today, the wet fly ash system.

So as we approach this have we done -- we have not completed any detailed studies, but in my experience, given what I'm putting in that is new and given what I'm taking out of service that is older, we don't believe there will be any incremental O&M required to operate and maintain the new system, any greater than what we've got in the forecast to operate and maintain the old system.

- Q. So the correct answer to this would be there is no increased O&M included in these projects to be estimated for the PPA? Or is there any O&M?
- A. I would say there's no increased O&M.

  Again, as I just discussed, we are taking some

  systems and the maintenance related thereto out of

  service. Those are in the forecast. We're building

  new systems. We're putting those into service. And,

based on my experience, we don't expect there to be an increase in O&M. What used to go to the old system will now go to maintain the new system.

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- Q. And I guess it's just confusing because the response reads: "O&M costs associated with the project have not been estimated." So it's incremental O&M. Would you revise this to say increased or incremental O&M?
- A. I just -- what I'm saying here is we have not completed a study. Based on my experience we don't expect there to be the -- the O&M that we have forecasted and provided to Dr. Pearce will be representative of what it will take to operate these systems given the old systems are coming out.

MS. BAIR: Your Honor, I'm going to try and ask my question again.

Q. Would you change the response on this interrogatory to increased or incremental?

MR. NOURSE: Well, I object. I think he's answered it three different times, and he's explaining that the -- exactly as this says, there was no study, no determination as to a specific amount for the new investments.

But in his testimony today and again on redirect, he's shown that, based on his experience,

that the projected O&M that was already in Dr. Pearce's numbers will not change in any significant way.

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MS. BAIR: So, your Honor, I understand that counsel is answering just what he answered, but my question is related to the interrogatory that I believe he's modifying.

EXAMINER SEE: Mr. Thomas, answer the question if you can. The objection is overruled.

- A. Can you please point me to the specific section of the interrogatory that you're referencing?
- Q. Okay. No. 4 at the bottom of the page in the response, under the response, it should be the bottom line. Does yours read: "O&M costs associated with projects have not yet been estimated"? Do you see that?
- A. Yes, I see that. By that what I mean and what I meant is we have not done any studies. I'm basing my analysis based on my experience to say since some systems are coming out of service and new systems are going into service, we believe that there will be no incremental O&M.
  - Q. Okay. So the --
- A. But we have not completed the studies as requested in this interrogatory.

- Q. Thank you. So for the attachment, the projects included here, there is O&M associated with it, is that correct, that is in your attachment?
- A. I'm sorry. Which attachment are you referring to?

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- Q. Sierra -- oh. The PPA budget estimates that you have provided --
- MR. NOURSE: I'm sorry, your Honor, I've lost track of whether there's a question or not.
- MS. BAIR: I'm asking if O&M is included in his budget estimates for the environmental compliance projects.
  - MR. NOURSE: In the capital?

    MS. BAIR: Yeah.
  - A. We have provided in the table that you're referencing in the Sierra Club exhibit the capital projects. What I'm saying is based on my experience the projects that are retiring and coming out of service and these projects that we're building, the O&M impact is going to be very small, if any, so the O&M dollars that I provided to Mr. Pearce I believe are representative of what it will take to do these projects in light of the equipment that's coming out of service. Pumps, motors, belts; this is pumps, motors, belts.

1 MS. BAIR: I have no more. 2 EXAMINER SEE: Mr. Oliker? 3 MR. OLIKER: No questions, sir, your 4 Honor. 5 EXAMINER SEE: Mr. Pritchard? MR. PRITCHARD: No questions, your Honor. 6 7 EXAMINER SEE: Mr. Petricoff? 8 MR. PETRICOFF: Just one or two, your 9 Honor. 10 RECROSS-EXAMINATION 11 12 By Mr. Petricoff: 13 0. Mr. Thomas, given your response on 14 redirect, is it fair to say that whether this 15 Commission approves the PPA application or rejects

Q. Mr. Thomas, given your response on redirect, is it fair to say that whether this

Commission approves the PPA application or rejects the PPA application, if the partners in the co-owned units don't vote for certain capital improvements for environmental upgrades, the units will not operate?

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A. Well, I'm not sure because I've never been in a situation with the co-owners that they can't -- you've got to have unanimous to retire so if one says we're not going to retire -- I've never been in that situation, and I don't -- I'd have to go back to look at the agreements to see what happens there. If there's an investment that's needed to keep it

compliant but yet if you don't do the investment it requires retirement, and one is a unanimous vote and one is -- I don't know how to answer that question without looking at the documents.

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Q. The question I'm asking is much easier than that, and that is, isn't it true that since the decision -- that the decision by the partners whether to either close the plant or not fund -- well, let me start over.

Isn't it true that the Commission's decision on the PPA application will not affect whether or not the co-owned plants operate for failure to make certain investments?

THE WITNESS: Can you please reread that question.

(Record read.)

A. Again, I'm not sure. I have to go back and look at the agreements. We're talking about two different scenarios. One is if you don't do the investments, the units cannot run, but then you also have a unanimous vote as to whether or not you can retire a unit or not.

So if the Commission approves this PPA,
AEP Ohio, as the buyer, would have a vote as to
whether or not it retires. But how the interplay

between making investments and then ultimately retiring, I'm just not sure how that works because I've never been there.

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- Q. Let me try it another way. Isn't it true that if the Commission approves the PPA, there is still no guarantee that the co-owned plants will run during the nine-and-a-half years covered in the study period?
- A. I guess, again, I'm unclear. When you look at the investments that would need to be made, whether or not we could step in and take over other pieces and just, for example, make investments on one unit if the other co-owners didn't want to come along, I don't know. I can't say for certain whether or not it would or wouldn't because there are other remedies potentially within that agreement, and I'm not prepared to talk to those.
- Q. The question is much more simplistic.

  Isn't it true that the co-owners could close -- isn't it true that the co-owners could take -- the mere fact that the Commission approves the PPA application does not affect the ability of the co-owners not to fund the project.
  - A. I quess that's possible, yes.
  - Q. And failure to fund some of the projects

could result in the plants closing.

A. Again, like I've answered multiple times, when you get into the difference between it takes a unanimous vote to retire a plant and you're talking about a different process to make investments, I do not know how those two interplay so I cannot answer that question.

MR. PETRICOFF: No further questions.

Thank you, Mr. Thomas.

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EXAMINER SEE: Mr. Yurick?

MR. YURICK: No questions, your Honor.

EXAMINER SEE: Mr. Boehm?

MR. K. BOEHM: No questions, your Honor.

EXAMINER SEE: Ms. Fleisher.

MS. FLEISHER: Just a couple.

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## REDIRECT EXAMINATION

By Ms. Fleisher:

- Q. Looking at the attachment in Sierra Club
  7, is it your assertion that every single one of
  these projects is replacing some existing
  environmental control?
- A. Not all of them, but I believe many
  would, yes. The major projects that are listed here,
  the larger-dollar ones, are going to replace systems

that are in service today.

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- Q. Okay. So let's talk about a couple specifics. Look on Conesville down towards the bottom of that section, the Gore mercury control project for MATS. Will that have O&M costs?
- A. It will, but it's already installed and it's already in the budget.
- Q. Okay. What about the landfill expansions, will those involve some leachate collection system? There are a number. I could point you to some specific one, but I think there are several listed on here.
- A. I don't know the specific design. I would assume they would have leachate collection systems.
- Q. Okay. And do you know whether there would be any treatment requirements for that leachate?
  - A. There could be.
- Q. And do you know whether that treatment could involve O&M costs?
- A. It's possible there could be some O&M costs associated with that.
- Q. And, to be clear, you never went through each of these projects and analyzed what the O&M

costs might be and how those would compare to existing O&M costs, correct?

A. That is correct. I'm just using my judgment and my experience in operating this fleet to make that determination.

MS. FLEISHER: That's all. Thank you.

EXAMINER SEE: Mr. Dougherty?

MR. DOUGHERTY: No questions, your Honor.

EXAMINER SEE: Mr. Austin?

MR. AUSTIN: No questions, your Honor.

EXAMINER SEE: Mr. Beeler?

MR. BEELER: No questions, thank you.

13 EXAMINER SEE: I believe counsel for AEP

has already moved for the admission of AEP Exhibit 5.

MR. NOURSE: Yes, your Honor.

16 EXAMINER SEE: Are there any objections?

(No response.)

18 EXAMINER SEE: Hearing none, AEP Exhibit

19 5 is admitted into the record.

20 (EXHIBIT ADMITTED INTO EVIDENCE.)

21 EXAMINER SEE: Sierra Club.

MR. MENDOZA: Thank you, your Honor. I

23 move that Sierra Club Exhibits 16 and 17 be admitted

24 into the record.

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25 EXAMINER SEE: Are there any objections?

1355 1 MR. NOURSE: No. 2 EXAMINER SEE: Sierra Club Exhibits 16 3 and 17 are admitted into the record. 4 (EXHIBITS ADMITTED INTO EVIDENCE.) 5 EXAMINER SEE: IEU? MR. PRITCHARD: Yes, your Honor. 6 7 would move for the admission of IEU-Ohio Exhibit 9, 8 and, for clarification, Mr. Darr had initially marked 9 as IEU Exhibit 9 a page 35 of the Cardinal agreement 10 and we would -- in response to questions and answers 11 from the witnesses, other pages of the document were 12 referred to and referenced, and, therefore, we would 13 at this time move for the admission of the complete 14 Cardinal station agreement. 15 EXAMINER SEE: And you will provide to us 16 all copies if it's admitted? 17 MR. PRITCHARD: Yes, your Honor. 18 EXAMINER SEE: And to the Bench. 19 MR. PRITCHARD: Yes, your Honor. 2.0 EXAMINER SEE: Are there any objections 2.1 to the IEU Exhibit 9? 22 MR. NOURSE: No. EXAMINER SEE: The entire exhibit. 23 24 MR. NOURSE: No, your Honor. 25 EXAMINER SEE: IEU Exhibit 9 is admitted

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      into the record.
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                  (EXHIBIT ADMITTED INTO EVIDENCE.)
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                  EXAMINER SEE: P3.
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                  MR. PETRICOFF: Yes, your Honor, we move
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      to admit P3 No. 1 into the record.
                  EXAMINER SEE: Are there any objections
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      to the admission of P3 Exhibit 1?
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                  MR. NOURSE: No.
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                  EXAMINER SEE: P3 Exhibit 1 is admitted
      into the record.
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                  (EXHIBIT ADMITTED INTO EVIDENCE.)
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                  EXAMINER SEE: Ms. Fleisher.
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                  MS. FLEISHER: Yes, your Honors, I'd ask
      the bench to take administrative notice of ELPC
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      Exhibits 7, 8, 12, and 13, which are the Clean Water
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      Act permits for Stuart, Zimmer, Conesville, and Kyger
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      Creek. These are publicly available documents that
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      are maintained on the Ohio EPA website. They're
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      certainly relevant to the factor the Commission
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      identified regarding environmental compliance at the
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      PPA units, and I don't think there's -- certainly if
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      there's some dispute as to their authenticity, I'd be
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      happy to discuss that, but I believe that's pretty
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straightforward.

exhibits, your Honor?

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2 MS. FLEISHER: I was going to address 10

3 and 11, but I figured --

EXAMINER SEE: Let's start with the four that you started with.

MS. FLEISHER: Yeah.

MR. NOURSE: Well, your Honor, I think, you know, these aren't the kind of documents we normally take administrative notice in these proceedings. And neither witness that was questioned about these documents, Mr. McManus or Mr. Thomas, had specific knowledge about it. They both indicated that other people in the organization were responsible for these permits and administering them.

So, I mean, it's just a data dump into the record. I don't think they're, until

Ms. Fleisher's motion at the end of the examination,

I don't think there had been any indication about the source of these documents or the authenticity because there was no relevant examination, I think. I don't see the purpose in bringing them in.

And, again, I don't think a technical environmental permit is the kind of thing that is really appropriate for administrative notice.

MS. FLEISHER: If I could respond, your

1 Honors, if that would be useful?

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MS. HENRY: Can I respond as well?

EXAMINER SEE: Ms. Fleisher.

MS. FLEISHER: Well, I mean, I do believe I mentioned yesterday these were on the Ohio EPA website. I can call -- I can provide the URL, whatever is required, so I think a document issued and maintained by the state government is certainly something that is appropriate for the Commission to take administrative notice of.

In terms of whether it's a data dump, it's information, certainly, regarding certain environmental compliance issues at the plants, which is something the Commission has issued express notable interest in.

And, you know, the fact that AEP's witnesses weren't familiar with them is -- I don't think makes them any less relevant to the environmental compliance status of the plants.

MR. NOURSE: Well, your Honor, that's why the parties have their own witnesses to sponsor documents that they want to bring in that aren't familiar to other parties' witnesses.

MS. HENRY: Your Honor, if I may.

EXAMINER SEE: Go ahead, Ms. Henry.

MS. HENRY: In the ESP III order the Commission specifically requested that the company come to them and let them know for that these units that they would like to have a rider on for the life of these units. One of the environmental compliance obligations, factor 3, that's what Mr. Vegas said he was going to address. That's why Mr. McManus and Mr. Thomas put it in their testimony.

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I think the ratepayers, you know, we're trying to show that they didn't give you a full projection of all the costs these units were subject to. They didn't even look to see if there was a notice of violation and that they would be subject to additional compliance costs because they are currently violating the law. This is relevant information as to whether this is a good deal for the ratepayers, and I think this Commission and the ratepayers should have this in the record.

MR. NOURSE: Your Honor, I won't respond to all Ms. Henry's, you know, merit arguments in this case but I will say that this is not evidence. The Commission asked parties to put forth evidence.

Ms. Fleisher did not submit this as evidence. She's asking for administrative notice and didn't sponsor a witness to bring it in. So I'm not going to respond

to the other allegations. This is a narrow evidentiary question, not an opportunity for rhetoric.

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EXAMINER SEE: Thank you. Thank you all. The Bench is willing to take administrative notice of the NPDES permits previously marked as ELPC Exhibit 7, 8, 12, and 13.

Were you going to address the two other exhibits, Ms. Fleisher? Ms. Fleisher, are you going to address the other two?

MS. FLEISHER: Certainly, your Honor. At this time I'd like to ask that the Bench would take administrative notice of these two notices of violation. These are also not only federal government documents, they are also available on the U.S. EPA website. Witness Thomas did say that he's familiar that there are these asserted violations with respect to the two plants.

Again, this relates back to the

Commission having specifically said it's interested
in knowing about the environmental compliance status
of the units, and certainly since Mr. McManus and
Mr. Thomas were put forward as witnesses testifying
on that subject, I expected that they might be
familiar with those documents, although it turned out

not to be.

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MR. NOURSE: Well, your Honor --

EXAMINER SEE: Mr. Nourse.

MR. NOURSE: -- again, none of the witnesses asked had knowledge about these particular documents, and, you know, personally, I think it's unfair because this is basically taking one instance out of who knows how many hundreds of thousands of other compliance opportunities that have been achieved.

So I think it's prejudicial. I don't think it's relevant, and I would say if you're going to take administrative notice as a substitute for evidence, then we should take administrative notice of the EPA's entire website and all of AEP's, you know, statistics and outcomes and favorable resolutions. If we're just going to take one random example and assert -- you know, bypass the evidentiary process to take administrative notice of it.

EXAMINER SEE: And the witness did discuss the two documents that were previously marked ELPC-10 and 11 and went into some detail as to what he recalled the issues that were raised by those documents. And I am willing -- the Bench is willing

to take administrative notice of those two documents as well.

MR. NOURSE: So, your Honor, are you ruling on my request to take administrative notice of the EPA, all compliance documents? Because this witness --

EXAMINER SEE: Not --

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break.

MR. NOURSE: -- did have some familiarity. I didn't move to strike any of the stuff that was in the record. It's these documents that had no authentication or relevance, and I believe, like I said, based on the rest of my argument, it was prejudicial.

So can you rule on my request?

EXAMINER SEE: Let me hear both sides as to that, and we'll rule on it after we take a brief

Mr. Thomas, you're excused.

THE WITNESS: Thank you, your Honor.

MR. PRITCHARD: Your Honor, there might be more than two sides that might want to weigh in on that, but I will defer to Madeline to begin.

MS. FLEISHER: With respect to the entire website, there's certainly a lot of stuff on there that was not the subject of questioning. You know,

Mr. Nourse had the chance to redirect regarding these notices of violation, and so they have -- these documents have been through some back and forth on the parties that would have a chance to raise any issues as to their authenticity.

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I cannot say that's true as to the entire EPA website, which I will note contains all sorts of documents from third parties, and, I don't know, all kinds of stuff.

EXAMINER SEE: Okay.

MR. NOURSE: Well, your Honor, I find it interesting that the objection is that we didn't have any opportunity to test documents on the website, and that was the entire basis for taking administrative notice of these same documents.

Again, we didn't object to the examination that was in the record that was based on personal knowledge. We didn't object to any of that. We're objecting to these documents, and they're using the same argument they used to support administrative notice to oppose my request

EXAMINER SEE: Okay. Thank you both. We'll address the issue further when we return from break.

We'll return at 1:30, and we'll address

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      that issue and pick up with Mr. Bletzacker.
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                   MR. NOURSE: Thank you.
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                   (At 12:32 p.m. a lunch recess was taken
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      until 1:30 p.m.)
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1365 1 Friday Afternoon Session, 2 October 2, 2015. 3 4 EXAMINER SEE: Let's go back on the 5 record. Mr. Nourse. 6 7 MR. NOURSE: Yes, your Honor. During the 8 break I realized I may have gotten carried away with 9 my request to take notice of the internet, and I was 10 trying to make a point and I apologize. I'll 11 withdraw that request without the need to discuss it 12 further. 13 EXAMINER SEE: All right. Thank you. 14 EXAMINER PARROT: The company may call 15 its next witness. 16 MR. CONWAY: Thank you, your Honor. At 17 this time AEP Ohio calls Karl Bletzacker. 18 EXAMINER PARROT: Mr. Bletzacker, please 19 raise your right hand. 2.0 (Witness sworn.) 2.1 EXAMINER PARROT: Please have a seat. 22 23 24 25

1366 1 KARL R. BLETZACKER 2 being first duly sworn, as prescribed by law, was 3 examined and testified as follows: 4 DIRECT EXAMINATION 5 By Mr. Conway: Mr. Bletzacker, Could you give your full 6 7 name for the record. 8 My name is Karl R. Bletzacker. Α. 9 Ο. And by whom are you employed? 10 Α. I'm employed by American Electric Power 11 Service Corporation. 12 Q. And what is your position? 13 Α. My position is director of Fundamental 14 Analysis. 15 0. Mr. Bletzacker, did you prepare or cause 16 to be prepared prefiled testimony for this case that 17 was filed on May 15th of 2015 in support of the company's, AEP Ohio's, amended application which was 18 19 also filed on May 15, 2015? 2.0 T did. Α. 2.1 MR. CONWAY: Your Honors, at this time I'd like to mark as the company's next exhibit 22 23 Mr. Bletzacker's May 15th, 2015, testimony in 24 support of the amended application, I believe we're

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at No. 6 now.

1 EXAMINER PARROT: So marked. 2 (EXHIBIT MARKED FOR IDENTIFICATION.) 3 Mr. Bletzacker, do you have a copy of Q. 4 your prefiled testimony with you? 5 Α. I do. And do you have any corrections or 6 7 modifications to make to your prefiled testimony 8 filed on May 15, 2015 at this time? 9 Yes, I do. I have two very minor typo 10 type corrections. Please go to page 13, line 14. You'll see in the very middle of that sentence the 11 12 word "a." Please change that to "and." 13 On the line below it you'll see two of 14 the word "the." Please strike either one you like. 15 And that's all. Thank you. 16 Mr. Bletzacker, with those two changes, if I asked you the questions contained in your 17 18 prefiled direct testimony today that's been marked as 19 Company Exhibit 6, would your answers be the same as 2.0 they appear in that document? 2.1 Α. Yes, they would. 22 And are those answers true and accurate Ο. 23 to the best of your knowledge and belief? 24 Α. Yes, they are. 25 MR. CONWAY: Your Honors, at this time

1368 Mr. Bletzacker is available for cross-examination, 1 2 and I would move for the admission of Company Exhibit 3 No. 6 into evidence. 4 EXAMINER PARROT: Thank you, Mr. Conway. 5 Mr. Bzdok. MR. BZDOK: 6 Thank you. 7 8 CROSS-EXAMINATION By Mr. Bzdok: 9 10 Good afternoon, Mr. Bletzacker. Q. Good afternoon, Mr. Bzdok. 11 12 Q. You periodically produce a long-term 13 North American Energy Market Forecast for AEPSC; is that correct? 14 That is correct. 15 Δ 16 This is sometimes referred to as a 17 fundamentals forecast, right? 18 Α. That is correct. And it is also sometimes abbreviated as 19 Q. 2.0 the LTF for long-term forecast. 2.1 It has been given that as well as other 22 identifications in the past. 23 0. The fundamentals forecast that you 24 prepare includes projections of energy market prices

and capacity prices among other things; is that

correct?

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- A. Among other things, that's correct.
- Q. And you produce the fundamentals forecast using the AURORAxmp energy market model; is that correct?
- A. The AURORAxmp energy market model is one of the many tools we use, so to that extent, that is correct.
- Q. The fundamentals forecast is used ubiquitously throughout the company; is that correct?
  - A. That is correct.
- Q. And until recently it was published on an AEP intranet site; is that true?
  - A. It has been published on an AEP intranet site, and now it's called a SharePoint site.
  - Q. Is that some kind of arrangement, an intranet or internal company?
  - A. Yes, a place where it may be found for intra -- intracompany use.
- Q. Okay. A software change essentially, is that true?
  - A. Yes. A platform change, yes.
- Q. Now, the history of the last five years
  has been that you issue a new fundamentals forecast,
  give or take, roughly once a year; is that true?

- A. Yes. If you divide the number of forecasts by the numbers of years, that would be the correct answer.
- Q. And the fundamentals forecast is used by various affiliates and subsidiaries of AEP, correct?
  - A. That is correct.

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- Q. And those -- and also by the strategic planning group, is that true?
  - A. That's correct.
- Q. And also by the integrated resource planning group, is that true?
  - A. That's correct.
- Q. Now, some of these groups who use the fundamentals forecast run the PLEXOS model, correct?
  - A. Yes, they do.
- Q. And that would include strategic planning?
- 18 A. I don't believe they use the PLEXOS
  19 model, no.
- Q. But it would include the IRP group,

  correct?
- 22 A. That is correct.
- Q. Generally, as you generally understand
  the use of the fundamental forecast by some of these
  other groups who use PLEXOS, they use projections

from the fundamental forecast that you prepare as inputs to PLEXOS; is that correct?

A. That's correct.

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- Q. And you're aware that Dr. Pearce in this case used projections from your fundamental forecast for his PPA rider revenue and cost forecast, correct?
  - A. That's correct.
- Q. You were in the room for Dr. Pearce's testimony in this case; is that right?
  - A. Not for all of it.
  - Q. For a lot of it, right?
- 12 A. For some of it.
  - Q. Okay. Did you hear him testify that he used projections from the fundamental forecast as inputs to PLEXOS in creating the PPA rider revenue and cost forecast?
    - A. I did.
  - Q. Now, you communicated with Dr. Pearce during that process; is that correct?
    - A. Yes, I did.
    - Q. And, generally, the nature of those discussions was that you provided clarification and further understanding to Dr. Pearce regarding the fundamental forecast and the premises behind it; is that correct?

- A. That's correct.
- Q. Do you recall when those discussions occurred?
  - A. In preparation for this trial.
- Q. My question to you was temporal. Do you recall when they occurred?
- A. That would roughly be in the April-May time period, prior to the filing May 15th.
- Q. Did those discussions include legal counsel?
- 11 A. Yes.

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MR. CONWAY: Your Honor, at this time I would just point out that I think we're treading fairly closely, if we haven't already crossed, the boundary into communications that are a part of the work-product scope and attorney-client communication privilege scope, and so I would just observe that we assert the protection of the doctrine and the privilege.

And we don't have any problem with examination of Mr. Bletzacker with regard to his forecast that he prepared and conversations that he might have had with Dr. Pearce in the normal course of business outside of the scope of the discussions they might have had as part of the preparations of

our case, but we do object to delving into communications that are in that scope.

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So I would just simply appreciate from the Bench an instruction that the witness isn't compelled to answer about those kind of discussions that he might have had with Dr. Pearce but, rather, anything that's outside of that scope is fair game, including, of course, the forecasts themselves, anything about them, anything about his testimony, and the like. So I'd just like to sensitize you to the issue that I see looming here.

EXAMINER PARROT: Well, I think it's reasonable that you brought it to our attention, but I don't think that it's necessary at this point to issue any sort of caution. I haven't heard anything yet from Mr. Bletzacker that I think is going to require any instruction from the Bench other than he did mention discussions with legal counsel and I will see what his next question is and then maybe issue such instruction, but at this point I don't think it's necessary.

So please continue, Mr. Bzdok.

MR. BZDOK: Thank you, your Honor.

Q. (By Mr. Bzdok) Mr. Bletzacker, were you in the room when Dr. Pearce testified that he had the

pleasure of running into you and interacting with you on a regular basis?

A. I don't recall.

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- Q. He had a sort of a testimony, I have the pleasure of knowing Karl. I've known him for a long time. We talk frequently about, you know, things related to family and also things related to work.
- A. I hear that from a lot of people. I don't recall that in here with Dr. Pearce, but it wouldn't surprise me if he did, so many people do.
- Q. In the course of any of the hallway discussions, in the course of any, and I'm specifically excluding from my question any discussions that you had in relation to trial preparation, but in the course of any of the hallway "run into you" type discussions that Dr. Pearce mentioned, did you ever have any discussions about the fundamental forecast?
- A. I have had discussions about the fundamental forecast, and I don't really characterize them as hallway discussions.
  - Q. How would you characterize them?
- A. Oh, I think we've described those as part of trial prep. We've talked about the fundamentals forecast and the unique features of the fundamentals

forecast.

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- Q. Were you here when Dr. Pearce testified that he became aware at some point over the summer that you were working on a new fundamental forecast?
  - A. I don't recall that.
- Q. Do you recall any -- and do you recall that interaction occurring?
  - A. No, I don't.
- MR. BZDOK: Your Honor, may I approach the witness?
- 11 EXAMINER PARROT: You may.
- MR. BZDOK: Thank you.
- Q. Mr. Bletzacker, I am going to show you a document that I will ask to be marked as Sierra Club Exhibit 18, proposed. I will note that this document was produced as a response to discovery by the company under a file name. It was an attachment with a file name OCC RPD-5-055\_Supplemental\_2013H1\_

  LTF\_FT\_Base\_Nominal\_2013\_10\_21.
- 20 EXAMINER PARROT: The document is marked as Sierra Exhibit 18.
- 22 (EXHIBIT MARKED FOR IDENTIFICATION.)
- Q. Take a moment and familiarize yourself,
  sir. Let me know when you're ready. I know it's a
  long document.

- A. Yes, subject to greater check, I recognize this document as the 2013H1 fundamentals.
- Q. You said "H1". H1 means that the research for this fundamental forecast was done in the first half of 2013; is that correct?
- A. Well, research is ongoing for these fundamentals forecasts but, generally speaking, the bulk of the research was done in the first half of 2013.
- Q. And do you agree that the file name that I identified when we were marking this exhibit is the file name, the Excel file name, for the 2013 fundamental forecast?
- A. Yes, and I'll read it back to you to make sure. OCC RPD-5-055\_Supplemental\_2013H1\_LTF\_FT\_
  Base Nominal 2013 10 21.
- Q. Thank you. And that date at the end, 2013\_10\_21 on the file name you just read, that refers to the date that this fundamentals forecast was released and published on the company intranet; is that correct?
  - A. That's not correct.
- Q. Do you recall my taking your deposition in this matter?
- 25 A. I do.

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1377 1 It was about a week and a half ago; is Q. 2 that right? 3 Monday, to be exact. Α. 4 MR. BZDOK: May I approach the witness 5 again? 6 EXAMINER PARROT: You may. 7 MR. CONWAY: You're not proposing to mark 8 this as an exhibit, are you? 9 MR. BZDOK: Not at this point, no. But we'll see. 10 11 I am somewhat short on copies of this. 12 Q. I'm going to ask you to turn to page 42 13 and 43 of that deposition. I have that in front of me. 14 Α. Pardon me? 15 Q. 16 I have that in front of me. Α. You were open to those pages already? 17 Q. 18 Yes. Α. 19 You knew this was coming? Q. 2.0 Α. I have my own copy. 2.1 0. So take a look at the question starting 22 on line 18 of page 42. Question: "What's the significance of the date in the name -- in the name 23 24 of the document, the electronic document?"

Just for reference, since we're already

open to it, we're talking at this point about the same 2013 fundamental forecast; is that correct?

A. That's correct.

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Q. And the question: "What's the significance of the date in the name -- in the name of the document, the electronic document?"

And then there's an interaction. And the answer says: "Last several digits of the file name, that refers to the date that it was released and published on our intranet." Do you see that?

- A. I do see that.
- Q. Are you changing your testimony today about the file name?
- A. No, but I'd like to draw you to the fact that on page 84, line 4, a similar line of questioning I say "No. But I should clarify looking for significance to that date, is that's when the last run was completed."
- Q. What forecast are you referring to on page 84 in the answer you just quoted?
  - A. That's the 2015 forecast.
- Q. So as to the 2013 forecast, which was the subject of my question, is October 10 -- sorry,
  October 21, 2013, the date that it was released and published on the company intranet?

A. No.

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- Q. So you're changing your testimony sitting here today from your sworn deposition testimony a week ago Monday; is that correct?
- A. I'm saying that you can't identify a single date after the model has been run that has been released. So I answered that question in kind of a broad sense that, yes, it was released -- significant to me is that it was released at some point after the last model run was done. There's significant QA/QC that takes place after that. It could have been as that recently. It Could have been even longer than that. And with the 2013 it's hard to know exactly, but it Could have been that date.

When you asked me the question about the 2014 -- or, 2015, I recognized that, you know, there really is a significant amount of time after for QA/QC and other things to take place. That's really tough to call that the absolute date it is released, but you should look at it as the earliest possible date that Could include that date

Q. So the time in which you changed your testimony was in between my question to you in the deposition about the 2013 fundamentals forecast file name significance and my question to you in your

deposition about the 2015 fundamentals forecast file name?

- A. I think it would be wrong to say I was changing testimony. I think I would say I clarified your understanding in that that date Could be the earliest possible date. If I would have taken more time to add to that and given it some more thought, I would have called that the earliest possible date that could be done, certainly not before.
- Q. When I asked you about the 2013 fundamentals forecast, you told me without qualification that the date in the file name is the date that that forecast was released and published on the company intranet; is that correct?
- A. The answer to that one interrogatory contains those words, that's correct.
  - Q. And you --

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A. But upon -- I'm not done with my answer yet.

Upon further consideration, especially when the question came up around 2015, I'm reminded that, you know, these forecasts have been going on for years, and I've done them for years and years and years. It's probably too narrow to say that is about the date or that is the date it was released for

publication. It's released as soon as that date, that's the earliest possible date. Sometimes during this quality control and quality assurance we Could find some small bust and they need to go fix them very quickly and Could be released right after that model run gets done. Sometimes it takes longer, more time to go do all of that. So that's the -- consider that to be the earliest possible date.

Q. And just for the record, when we were discussing the 2013 fundamental forecast in your sworn deposition testimony, you didn't offer any of this qualification at that time, did you?

MR. CONWAY: Objection.

## A. My --

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MR. CONWAY: Objection. He's already explained that later on in the deposition. He did explain the point in reference to the 2015 forecast, and now he's explaining here on the stand, he's now done it two or three times. Mr. Bzdok may not like the answer, but the witness has stated it and restated it, and he's not changing his sworn testimony. He's explaining that he's clarifying it. And so I object to the continued effort to try to characterize it as something else.

MR. BZDOK: May I respond?

1382 1 MR. CONWAY: We've covered the ground two 2 or three time now. 3 MR. BZDOK: May I respond? My questions 4 were very specific to the 2013 forecast, and so my 5 clarification question just now was as to the discussion of the name of the 2013 forecast. And so 6 7 I'm just clarifying that all of these qualifiers he's 8 giving us were not given to me in my -- in response 9 to my question about the 2013 fundamental forecast at 10 his deposition. 11 EXAMINER PARROT: The objection is 12 overruled. 13 Do you need us to reread the last 14 question that's pending? 15 THE WITNESS: That would be helpful. 16 (Record read.) 17 While I will -- I understand that I Α. 18 offered no qualification at that time. My 19 interpretation of the question was more general about 2.0 our forecast as opposed to that one specifically. 2.1 Ο. So you're agreeing with me? 22 No, I'm not. Α. 23 MR. BZDOK: May I approach? 24 EXAMINER PARROT: You may. 25 MR. BZDOK: I'm going to ask that another

document be marked, and I will identify this document
for the record as another printout of a spreadsheet,
and this particular printout has a discovery
response and file name label on it that is OCC
RPD-5-055\_Supplemental\_2012H2\_Price\_Forecast\_Nominal\_
FTCA\_CSAPRx\_2012\_08\_27.

EXAMINER PARROT: It's been marked as Sierra Exhibit 19.

(EXHIBIT MARKED FOR IDENTIFICATION.)

- Q. Mr. Bletzacker, just to save us some time, did I read the name of this response and file correctly?
  - A. Yes, you did.

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- Q. And is this a fundamental forecast prepared by you in 2012?
- 16 A. Subject to further check, this is a
  17 fundamentals forecast prepared by my group, that's
  18 correct.
  - Q. Under your direction, correct?
- 20 A. Under my direction, correct.
- Q. Your group is the fundamentals analysis group?
- A. That's correct.
- Q. And that group prepares these forecasts from time to time under your direction; is that

correct?

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- A. That is correct.
- Q. And what leads you and your group to produce a new fundamentals forecast?
- A. Generally speaking, whenever there is a significant change in the drivers of the energy market to justify that forecast, for example, this particular case you've put in front of me, which I'll save time and just read the last part of it that says \_ CASPRx \_ 2012 \_ 8 \_ 27, that's when CASPR was vacated. We certainly needed to make an adjustment, actually render a new forecast because of the vacation of CASPR.

MR. BZDOK: May I approach, your Honor?

EXAMINER PARROT: You may.

MR. BZDOK: One more forecast. I'm going to ask that another document be marked as proposed Sierra Club Exhibit 20. Just for the record, did I ask the other one be marked as 19?

EXAMINER PARROT: You did.

MR. BZDOK: Thank you.

- Q. This document has a Response to Discovery and file name of OCC RPD-5-055\_Supplemental\_2015H1\_ LTF\_FT\_Base\_Nominal\_2015\_04\_24; is that correct?
  - A. That is correct.

1385 1 EXAMINER PARROT: So marked. 2 (EXHIBIT MARKED FOR IDENTIFICATION.) 3 Take a moment to review this document as Q. well. 4 5 Α. I will. Do you recognize this one? 6 Ο. 7 Of course, subject to further deeper Α. 8 check, yes I do, I recognize this as what we call the 2015 fundamentals forecast. 9 10 Okay. Now, in your deposition --Q. 11 MR. BZDOK: May I approach the witness 12 one more time, your Honor? 13 EXAMINER PARROT: You may. 14 MR. BZDOK: I'm going to show counsel this document before I show it to you. 15 16 In your deposition we looked at a version 17 of this forecast which was inclusive of the annual 18 sheets for the forecast; is that correct? That's correct. 19 Α. 2.0 Q. And this exhibit that I've given you as 2.1 proposed Sierra Club 20 includes other sheets in 22 addition to the annual; is that correct? 23 That is correct, namely, monthly detail.

And also the GDP and also the

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definitions; is that correct?

A. I believe so.

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MR. BZDOK: May I?

- Q. I want to ask you some questions about the capacity prices in your fundamentals forecasts.
  - A. Certainly.
- Q. Now, as I understand it, the fundamentals forecast capacity prices represent the difference between the total revenue required by marginal generating units and the energy revenue that they project to receive; is that correct?
- A. I'd like to state it another way, and we will see whether you're correct. And the way I'd like to state that is that marginal units, those that are on the supply stack that make very little or no money from energy revenue, need to have a level of income in order to be available.

If that level of income is insufficient, of course, they will be retired and a new unit would be built. So it stands to reason that the capacity prices do tend to limit out at the model's cost of a new entrant, but capacity prices and energy prices are inextricably linked in the way, I believe you've typified, in that if capacity revenues are insufficient for the unit to stay available, it's at risk for retirement or risk to no longer stay in the

stack because it's not economically -- it's uneconomical at that point.

- Q. So I believe you've given me a rationale for the reason why you believe capacity prices should represent the difference between the total revenue required by marginal generating units and the energy revenue that they project to receive. My question was simpler, as to whether that was the case in the fundamentals forecast?
- A. What it means to me is a simpler representation can sometimes miss some important facts, so but for some additional qualification, which I've given you and I'm sure more that I can come up with, that's correct.
- Q. So you still have that deposition in front of you?
  - A. I do.
- Q. Okay. Take a look at page 73.
- 19 A. I'm there.

- Q. Starting also line 18, there's a question: "Were capacity prices an input or an output of the model?"
- Answer: "They are an output of the model."
- Did I read that correctly?

A. That's correct.

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Q. And then there's a question: How were they prepared?

Answer: "The model calculates the revenue required by marginal generating units not provided by energy revenue in order for them to remain as marginal units.

"Put another way, if those marginal units don't receive these capacity values... there's not enough revenue from energy to allow them to continue to exist economically."

Is that a fair reading of your answer on that day?

- A. It's a fair reading.
- Q. Is your opinion on this point fundamentally different today than what we reviewed from your deposition?
  - A. No.
- Q. Capacity prices -- today in the PJM market, capacity prices are not set by way of calculating or estimating a difference between total revenue required by marginal generating units and energy revenue they project to receive; is that true?
  - A. That's true.
    - Q. In the market, capacity prices are set as

a function of the PJM base residual and other capacity auctions; is that correct?

- A. For certain years, that's true.
- Q. In the near term or what I think you've called the nearby, those PJM auction results are a more reliable indicator of actual capacity revenue that generating units will receive than fundamental forecast capacity prices are, correct?
  - A. That's correct.

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MR. BZDOK: May I approach the witness?

EXAMINER PARROT: You may.

MR. BZDOK: I'm going to ask that a document be marked as proposed Sierra Club Exhibit 21.

Q. And I'm going represent that this document is a 30-page report with the heading "2018/2019 RPM Base Residual Auction Results," PJM.

I'm also going to show counsel the document before I show it to you.

EXAMINER PARROT: Sierra Exhibit 21 has been marked.

MR. BZDOK: Thank you.

(EXHIBIT MARKED FOR IDENTIFICATION.)

Q. I'm going to hand the document I was showing counsel to you and ask you -- well, let me

just ask you a couple of questions.

The document that I've handed you that I showed to counsel, that's a deposition exhibit from your deposition; is that correct?

- A. Yes, that's correct.
- Q. And that deposition exhibit is the three-page Executive Summary from this PJM 2018-2019 RPM Base Residual Auction Results report, correct?
  - A. That's correct.
- Q. And we discussed the executive summary in your deposition a week ago Monday; is that correct?
  - A. Yes.

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- Q. And I also provided you at that time with a complete copy of the report as well for completeness. Do you recall that?
- A. I don't recall it being a complete report but...
- Q. Take a look at page 79 of your
  deposition. We'll see if we can refresh your memory.
  So just take a moment and look at that page.
  - A. I've read that page.
  - Q. Okay. So this is where I was providing you with Deposition Exhibit 3; is that correct?
- A. Well, you'll have to help me work through this.

Q. Sure.

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- A. In the question that begins on line 9, you essentially offer me what's turned out to be Exhibit 3, which is the executive summary.
  - O. Sure.
- A. Which you handed to counsel the full summary.
- Q. Sure. I said, "For purposes of completeness, if I didn't mention that, I'm providing your counsel with the entire 30-page document which you may want to reference as well." Is that correct?
- A. Okay. The record here is absolutely correct.
- Q. Take a look at Figure 2 on page 17.

  MR. DARR: Is that a reference to Exhibit

  21?
- MR. BZDOK: Yes. Thank you.
- MR. DARR: Thank you.
- 19 A. I have page 17 in front of me.
- Q. Now, you indicated that you review PJM

  BRA auction results in a cursory fashion as part of

  your job responsibilities in the fundamentals

  analysis group; is that correct?
- A. That's correct.
- Q. And you indicated that at the time we

Ohio Power Company Volume V 1392 1 took your deposition -- so I'm looking at the blue 2 line which is labeled "RTO" and the very last figure 3 which is \$164.77 corresponding with the 2018-2019 4 planning year. Do you see? 5 Α. I do see that. MR. CONWAY: Just a second, Mr. Bzdok. 6 7 Let me catch up to the two of you. Are you on page 8 21 of the document that's been marked as --9 MR. BZDOK: Page 17 of Exhibit 21. 10 MR. CONWAY: Seventeen. And you have a color version of this document? 11 12 MR. BZDOK: Are you asking me or your 13 witness? 14 MR. CONWAY: I'm asking you, Mr. Bzdok, I'm not examining the witness. 15 16 MR. BZDOK: I apologize. 17 MR. CONWAY: Okay. I got it. I'm with 18 you. 19 Could I have the question reread, please, 2.0 your Honor. 2.1 (Record read.) 22 MR. CONWAY: Thank you.

that you reviewed from the last PJM base residual

2018-2019 planning year on the RTO line as the result

You recognize that \$164.70 figure for the

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auction; is that correct?

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- A. That's correct.
- Q. Let's look at the capacity price forecasts in the August 27, 2012, version of the fundamental forecast which we have marked as proposed Sierra Club Exhibit 19. Capacity prices appear in this forecast in two places; is that correct? As an annual figure and as a monthly?
- A. I see it in 19, Sierra Club 19, as an annual figure. I am searching for that as a monthly figure.
  - Q. A few more pages back. Take your time.
- A. I will. Okay, please restate the question.
  - Q. You have found it?
- 16 A. Yes.
- Q. Okay. So referring to whichever of those capacity values from your forecast is helpful to you, the capacity price projection for the planning year 2015-2016 in the August 12, 2012, fundamental forecast was \$279 per megawatt-day; is that correct?
  - A. You'll have to remind me where you're getting that number from.
- Q. From the monthlies.
- I apologize. Strike that.

Let's look at the 2013 forecast, Sierra Club proposed Exhibit 18.

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- A. Yes, I have that in front of me.
- Q. Take a moment to familiarize yourself.

  This document also contains capacity price

  projections; is that correct?
- A. Yes, it does; specifically for AEP Gen Hub and also for SPP.
- Q. I'm sorry, what was the last thing you said?
- A. Specifically for AEP Gen Hub and SPP,
  Southwest Power Pool.
  - Q. Let's take a look at the -- well, let me ask you this: If we're looking at the annuals, how do those relate to the PJM planning year?
  - A. Our annual, after a certain point, which I can't recall, after a certain point as a convenience we would calendarize the SPP planning year. You're very comfortable, I'm sure, that the SPP planning year is from June through May, and roughly there would be a 7/12, 5/12 allocation, so to speak, of that planning year. We calendarize that for convenience in our fundamentals forecast.
    - Q. And just for the record, SPP is what?
    - A. Southwest Power Pool.

- Q. What is the significance of the AEP Gen
  Hub capacity value compared to the SPP capacity value
  in the fundamentals forecast?
  - A. Two different RTOs.
  - Q. And which one is germane to AEP Ohio?
  - A. AEP Gen Hub.

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Q. So if we have -- let me try it this way.

If we have calendarized data in the fundamental

forecast for the calendar-year period and we have -
strike that.

I'd like to compare the capacity price projection that would include dates within the PJM planning year of 2017 to 2018. And so looking at your capacity price forecast, if we were looking, for example, at the PJM planning year of 2018-2019, the relevant numbers would fall somewhere between \$199.74 and \$215.54; is that correct?

- A. That's correct.
- Q. Okay. So for the 2018-2019 PJM auction results, that clearing price was \$164.70 per megawatt-day, right?
  - A. Of course. Yes, that's correct.
- Q. And the capacity price projection for the planning year in the October 21, 2013, fundamental forecast was somewhere between \$199.74 and \$215.54;

is that correct?

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- A. I'm sure you're right. I'm going to check.
  - Q. Sure.
- 5 MS. HENRY: Would you like a calculator, 6 Mr. Bletzacker?
- A. No, I don't need a calculator. Please

  just repeat the two numbers you're referring to in

  the 2013 fundamentals forecast identified as Exhibit

  10 18.
- 11 Q. \$199.74, and \$215.54.
- 12 A. That's correct.
- Q. So the forecast as of 2013 was higher
  than the PJM clearing price relative to that planning
  year; is that correct?
- 16 A. That's correct.
- Q. Let's look at the 2015 forecast, Sierra
  Club Exhibit No. 20. This is also a forecast in
  which the capacity prices were calendarized; is that
  correct?
- A. That's correct.
- Q. And the capacity price projections from this forecast corresponding to the PJM 2018-2019 planning year are \$187.37 in 2018 and \$260.32 in 2019, correct?

- A. That's what I see here, yes.
- Q. Which is then still higher than the PJM clearing price of \$164.77 per megawatt-day, correct?

  MR. CONWAY: For which auction does that

5 apply, Mr. Bzdok?

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6 MR. BZDOK: I asked him about the 2018-2019 planning year.

MR. CONWAY: Just for my edification, you're asking him to compare the PJM 2018-'19 BRA price for capacity with the long-term -- excuse me, the fundamentals forecast value on the 2015 forecast for which year?

MR. BZDOK: I think if you're not sure you heard my question, the appropriate procedure would be to read it back rather than try to restate that question.

MR. CONWAY: I apologize.

Could you read the --

Q. Mr. Bletzacker, would you like my question read back?

21 EXAMINER PARROT: Reread the question, 22 please.

(Record read.)

A. Before I can answer that is correct, did you inform me the date that this memo was released,

which is Bletzacker 3 or Sierra Club 21?

- Q. Are you referring to the PJM report?
- A. Correct.

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- Q. I believe we discussed that in your deposition, that you were aware that the report -- that the auction was late this year and, therefore, the results were available in August or early-September. Do you recall that?
  - A. Yes, I do.
- Q. And is that consistent with your understanding from having reviewed your results and responsibilities in Fundamental Analysis?
  - A. Yes, it is.
  - Q. Okay.
- A. So it is correct that these numbers are higher than the \$165 you're looking for, but this auction took place after this printout that you see here.
- Q. The auction took place after the 2015 fundamentals forecast was completed; is that my understanding of your answer?
- A. These numbers were not updated to reflect the information that was available then, that's correct.
  - Q. So in the fundamentals forecast for years

that may be in the future, as of the date the forecast is prepared but for which PJM clearing prices are known, those clearing prices are incorporated into the forecast for those years; am I understanding you correctly?

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THE WITNESS: Please repeat that. (Record read.)

- A. No. No, you're not understanding correctly, and I hope this will help. When a forecast is released, it's used in other jurisdictions, it's locked down. Even with the release of some PJM numbers later, those aren't changed. Guaranteed those will be changed in the next forecast, but those aren't changed -- an existing forecast isn't continually updated. A new forecast is released.
- Q. So let me apologize that perhaps my question was unclear because that was not the intent of what I was trying to drive at with you. I think my intent is actually much simpler than that.

In a fundamentals forecast, it might be simpler to do it this way, let's use the specific example of your 2015 fundamentals forecast and the specific year of 2016 and the AEP Gen Hub, and there's a value there of \$91.30, correct?

A. Correct.

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- Q. And that would correspond to -- and then the 2017 number is \$94.74, correct?
- A. You said something that would correspond to some. I didn't hear what you said after "some."
- Q. Sure. Let me just ask the question and try to simplify this. At the time you prepared the 2015 fundamentals forecast, values for the PJM base residual auction 2016-2017 planning year were known, correct?
- A. Correct.
  - Q. And so those known values are incorporated into the fundamentals forecast for those years; is that correct?
  - A. A better way to phrase that is that they are calendarized as a convenience and recorded in the forecast, that's correct.
  - Q. And so by "calendarized" you mean there's some sort of averaging between the known values that's done?
  - A. Pursuant to the example that I've given you already with the 7/12-5/12 allocation between years.
- Q. So if we have a forecast that is prepared after PJM BRA auction results are known, that

forecast uses the actuals for the years at issue, correct?

- A. Yes. But I would like to define the word "uses." It records those, calendarizes those for convenience. I was here when Dr. Pearce unwound that with his calculator for somebody yesterday or the day before. Being used in the forecast is probably a misrepresentation. It's presented for use.
- Q. Let's take a look at -- well, let's stay on the 2015 forecast. We had a colloquy earlier about the meaning of the dates -- of the date in the name of the 2013 fundamental forecast. Do you recall that?
  - A. I do.

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- Q. The name of the 2015 forecast includes a date of April 24, 2015, correct?
  - A. It does.
- Q. And, as I understand your testimony here today, it is your position that the date in the 2015 forecast represents the earliest date that the forecast was released, but it may have been released at some later date. Am I understanding you correctly?
  - A. As identified in the deposition, you can be sure that there is a need for -- well, maybe it

wasn't in the deposition, but you can be sure that there is a need for quality control and quality assurance after a last model run. There are many, many model runs to get to a fundamentals forecast, and keeping track of the dates of those model runs is very important to us. So the earliest they Could come out, if it was a simple error that maybe we would have found, Could have been the day that that date indicates. It Could be several months later. That, I know is correct.

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- Q. And you referred to the deposition. Did you have a page number for me?
- A. I will. I did retract that from my answer, but I'll refer you to where I was thinking.

I'm on page 92 of my deposition. I'm on or about line 8 -- or, let's skip to line 11: "The best way to typify that would be that the final model run was completed. There's significant work that needs to be done beyond that."

- Q. Take a look at page 83 of your deposition. Let me know when you're there.
  - A. I will. I am at page 83.
- Q. And so at page 83 there's a question starting on line 19. Question: "And so like the 2013 Forecast, am I assuming correctly, am I

understanding correctly that the date of release internally to AEP of this forecast was April 24, 2015?"

Answer: "It was the day that it was completed. It may have been released at a later date."

Do you see that?

A. I do see that.

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- Q. So at least at this point you indicated to me that the forecast was complete as of April 24, 2015, but may have been released later. Do you see that?
  - A. With the subsequent clarity, it would say that the last -- the model part, the modeling part was complete. It doesn't mean the total forecast is completed. Calendarization is a good example.
- 17 | That's a post-model activity.
  - Q. Sure. Go to the next page, page 84.
  - A. I'm there on page 84.
    - Q. Sure. You indicate in the answer on line
      4: "But I should clarify that, looking for
      significance to that date, it's when the run was
      completed." Do you see that?
- 24 A. I do.
- Q. "And then subsequently would be made

available for release." Do you see that?

A. I do.

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Q. So April 24, 2015, is either the date that it was released or the date that the forecast was completed, or the date that the model run was completed for the forecast, or that the model run was still in draft form?

MR. CONWAY: Objection. Mischaracterizes the testimony.

MR. BZDOK: I think I've actually repeated all of the answers he's given on this topic. I'm trying to clarify.

EXAMINER PARROT: Let's rephrase it, Mr. Bzdok.

- Q. Which of the following is it? Or if it's something else, tell me that. Is April 24, 2015, the date that the fundamental forecast for 2015 was released, the date that it was completed, the date that the model run was completed, or the date that a model run of some type of draft form was completed?
  - A. The date the model run was completed.
- Q. And the document that was produced to us in discovery, the Excel sheet, was it different in any way from the document that was completed on April 24, 2015?

- A. No. I want to give you some -- help you with some understanding. The model --
  - Q. I -- go ahead.

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- A. No, no more understanding.
- Q. Did the nomenclature for these Excel forecasts change in some significant or formal way in the time period between the 2013 forecast and the 2015 forecast?
  - A. I don't believe so.
- Q. Did you ever communicate -- so the intent of my question is solely limited to conversations in the ordinary course and does not seek any information regarding meetings or preparation that you did at the direction or with counsel.
- I'm just saying in the ordinary course of interacting with people at the company, did you communicate with William Allen about the 2015 forecast?
- A. No. No. I answered that question with the assumption that you mean -- there's not a time frame that's limited. Have I ever communicated, was that the question?
  - O. Yeah.
- A. Have I ever? Oh, I certainly communicated about it after its release.

Q. When did that occur?

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- A. Sometime in the very end of June in order to be used in a IRP filing in July.
  - Q. What kind of an IRP filing?
- A. Of course, that's an integrated resource plan filing, and it was in one of our jurisdictions. I haven't checked, but I believe it was Virginia.
- Q. What is an integrated resource plan, to your understanding?
- A. An integrated resource plan is a line of sight as to what resources may need to be built to meet a deficiency that could be seen in generation in a particular jurisdiction. It's not a guarantee that will happen. It's not a answer for funds to go build something in the future, which is covered in CPCN, so it is a line of sight, general illustration of need, and a listing of potential solutions to that need handled by a different department than mine.
- Q. That's the integrated resource planning group?
  - A. That's correct.
- Q. And I think you told me earlier today that that group uses the fundamental forecast as inputs to other modeling for the purpose of creating those plans; is that correct?

A. That's correct.

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- Q. And specifically they use PLEXOS modeling to do that?
  - A. That's correct.
- Q. So what you're telling me is that your conversations with Mr. Allen were regarding this 2015 fundamental forecast in late-June relative to its use in an IRP?
- A. I didn't connect Mr. Allen's conversation with an IRP.
- Q. What was the communication with Mr. Allen about then?
- A. You should know, and we've heard back to even some things that you've offered, that this is a ubiquitous forecast used throughout the company. I get asked about it all the time. I'm asked to come to staff meetings to interact with colleagues about what the significance is of the activities in the energy markets. It is part of my responsibility to communicate what goes on in the energy market for anybody that requests it.
- Q. So you communicate with a lot of people about the forecast on a lot of different occasions; is that how I understand what you're saying?
  - A. That's correct, after it's released.

Q. My question had been what were the circumstances of your communication about it to Mr. Allen.

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- A. I don't remember for sure, but I would offer that this notion of asymmetry, which is a very powerful notion, that prices rise due to an equal change in load greater than they fall. Does that apply to all of our forecasts? Does that shape of that supply stack look the same everywhere? That's a common question I received. And I would not be surprised if that was the focus of the conversation, but I don't recall specifically.
- Q. So you're not sure when or what specifically you talked to Mr. Allen about regarding the forecast; is that --
  - A. That's correct.
  - Q. Am I understanding correctly?
  - A. That's correct.
- Q. So you and your group -- and your only -- just to confirm and just to make sure the record is clear, your only communication with Dr. Pearce about the 2015 forecast was in the context of trial preparation for this hearing?

THE WITNESS: Please reread that for me.

25 (Record read.)

- A. No, that's not correct.
- Q. What are your other communications with Dr. Pearce about the 2015 forecast outside of the trial prep?
  - A. I've had many conversations with Dr. Pearce or I've had conversations with Dr. Pearce about the 2013 forecast.
    - Q. My question was about the 2015.
    - A. I understand.
    - Q. Sorry. Go ahead.
  - A. Outside of trial prep, I don't know of any discussions I've had with Dr. Pearce but for that asymmetry discussion and how that carries on, which I know I've had. I just don't recall who with.
  - Q. This asymmetry discussion, did you have that prior to filing testimony on May 15, 2015, or afterwards?
  - A. Since it wasn't a forecast until long afterwards, it would have to be afterwards.
  - Q. So you don't remember specifically when it was?
- 22 A. No.

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Q. Now, you and your group, I think we've established, completed the model run for the 2015 fundamental forecast prior to the filing of your May

- 15, 2015, testimony in this case, correct?
- A. Keep in mind there are many model runs, but the last model run would be then, yes.
  - Q. The model run that was produced without material modification in discovery in this case that we have up here as a proposed exhibit, that's the one I'm talking about.
    - A. That's correct.
  - Q. You believe that the 2015 fundamental forecast was finalized and released after May 15, 2015; is that correct?
- 12 A. It would have to be; otherwise, I would have used the document.
  - Q. You mentioned something in connection with an IRP in an AEP jurisdiction you think is Virginia; is that right?
    - A. Subject to check, that's right.
    - Q. Have you had an opportunity since your deposition to check on that?
- 20 A. No.
- 21 MR. BZDOK: May I approach?
- 22 EXAMINER PARROT: You may.
- MR. BZDOK: I'm going to ask that a
- document be marked as proposed Sierra Club Exhibit
- 25 21.

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1 EXAMINER PARROT: Twenty-two. 2 MR. BZDOK: Twenty-two. I apologize. 3 And I will identify the document for the record as 4 the cover sheet, Table of Contents, Executive 5 Summary, and one other excerpted section from a document called "Appalachian Power, A Unit of 6 7 American Electric Power, Integrated Resource Planning 8 Report to the Commonwealth of Virginia State 9 Corporation Commission," Docket No. PUE-2015-00036, 10 Public Version, with a date of July 1, 2015. 11 EXAMINER PARROT: So marked. 12 (EXHIBIT MARKED FOR IDENTIFICATION.) 13 MR. BZDOK: I will also note for counsel 14 and the witness that I have a complete copy of the 15 document that I have made excerpts from which is 16 available if at any time you would like to look at 17 that as well. 18 (By Mr. Bzdok) Appalachian Power is an Q. AEP subsidiary, correct? 19 2.0 That's correct. Α. 2.1 Ο. And this, on its face, is an IRP that was 22 filed in Virginia in early-July of 2015; is that 23 correct? 24 It appears so, yes. Α.

Take a look at the section that I've

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Q.

excerpted, which, for the record -- so we've got the Table of Contents. Then we've got an Executive Summary running through ES-14. Then we've got a section I've excerpted from pages 69 to 78 which begins Section 4.0, Modeling Parameters. Do you see that?

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MR. BZDOK: May I approach one more time while the witness is looking?

EXAMINER PARROT: You may.

Q. Please take your time, sir, I have more paperwork.

MR. BZDOK: I'm just simply representing that this document was downloaded from the Virginia Commission's website and it was not available in color, and that we have since been able to obtain the color versions of the figures that are in the section that I've just asked him to turn to, and so I'm going to distribute those as well with the intent that those Could be used as substitute pages if that's clearer.

- Q. Take a moment. Let me know when you've located Section 4.0, sir, on page 69.
  - A. I have located that.
- Q. So I asked you to locate Section 4.0, and then I'm actually going to get a little more specific

and ask you to jump a couple pages forward to page
71, Section 4.3, "Fundamental Modeling Input
Parameters." Do you see that?

A. I do.

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Q. And Section 4.3 on page 71 of this
Appalachian Power Company IRP describes a long-term
energy price forecast that is prepared by the
fundamental analysis group from a proprietary model
known as AURORAxmp. Do you see that?

A. I do.

Q. That's your group, fundamental analysis, right?

A. That's correct.

Q. And that's your model, AURORAxmp, right?

A. That's correct.

Q. Let's take a look at those figures starting on page -- starting with Figure 15 on page 75. Figure 1 on its face presents PJM capacity prices in nominal dollars per megawatt-day. Do you see that?

A. I do.

Q. I'm looking specifically at the figures that we have here for 2017. Do you see that? And by "figures" I mean the location of these graph lines corresponding to the year 2017 on the X axis. Do you

Ohio Power Company Volume V

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see that?

A. Yes, I do.

Q. And that shows a -
MR. BZDOK: Just a moment, your Honor,

I've made a bit of a mess at my desk.

Q. So looking at the line on this graph, the capacity price projection in Figure 15 of Exhibit

Sierra Club 22 shows data that are at least below a hundred dollars per megawatt-day; is that correct?

- A. For 2016 and 2017; is that your observation?
- Q. Sure. I'm looking specifically at 2017, you know, since it's calendarized in your forecast.
  - A. That's correct. That's what I see also.
  - Q. Okay. So looking at Sierra Club Exhibit 20, the 2015 forecast, and the annual capacity prices -- are you there?
    - A. I am there.

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- Q. -- that also shows a projected 2017 capacity price below a hundred dollars, correct?
  - A. That's correct.
- 22 Q. Specifically \$94.74, right?
- A. I would agree.
- Q. And then looking at the 2013 fundamental forecast, same data point -- take your time.

A. I will.

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I'm there.

- Q. That data point from the 2013 fundamental forecast for capacity price projected in 2017 is over a hundred dollars, correct?
  - A. \$132.49 to be specific.
- Q. So we can be pretty confident that the capacity price that was used in the Appalachian Power Company July 1st, 2015, IRP was consistent with the 2015 fundamental forecast and not the 2013 fundamental forecast. Would you agree?
  - A. I would agree.
- Q. Look at Figure 16, the "PJM On-Peak

  Energy Prices" in nominal dollars per megawatt-hour.
  - A. Please repeat that.
- Q. Sure. In the IRP, Figure 16, take a look at the next figure in the IRP, 16.
  - A. Got it.
- Q. And that presents PJM on-peak energy
  prices in nominal dollars per megawatt-hour; is that
  right?
  - A. It does.
- Q. And those prices from the graph are largely, except for in one high case, below \$40 per megawatt-hour; is that true?

A. That's true.

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Q. And that would correspond with projected energy market prices in your 2015 fundamental forecast for PJM AEP Gen Hub on-peak of \$35.34 in 2016 and \$38.64 in 2017, correct?

MR. CONWAY: Counselor, Could you point out exactly where you're referencing in the forecast document?

MR. BZDOK: I think I did. I said power prices in the annual forecast for 2016 and 2017 PJM on-peak, AEP Gen Hub.

MR. CONWAY: Which forecast are you talking about?

MR. BZDOK: The 2015. All of these questions are going to follow the same pattern.

MR. CONWAY: Do you have a page reference in the 2015 forecast document you're referring to?

MR. BZDOK: Yeah. It's the third printed page, the first full page, second full page.

MR. CONWAY: And, again, your comparison, if you don't mind me asking, was between the forecast energy price and what?

MR. BZDOK: Your Honor, I'm not sure if this is an objection.

MR. CONWAY: I'm just trying to keep up

with you. You're using quite a few documents simultaneously. You've obviously rehearsed what you're going to do, and I'm trying to keep up with you, which I think I'm entitled to do, so I'm asking for the reference while I've got the documents in front of me of what your comparison is.

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MR. BZDOK: Sure. So I'm waiting for the witness to take as long as he wants, which I think he's entitled to do, and I think they have a live feed of the questions on their screen there. I guess I would object to this sort of long dialogue about asking follow-up questions on my questions.

EXAMINER PARROT: Well, while you're debating this, it's given Mr. Conway some time. Are you with us now, Mr. Conway?

MR. CONWAY: I'm not sure. If he could answer the last question, I would be, which is, what are you comparing the forecast document power prices to in this IRP set of papers?

EXAMINER PARROT: Let's try it one more time.

MR. BZDOK: I'd be happy to have my question reread.

EXAMINER PARROT: You can do it that way.

MR. BZDOK: I would suggest that's a much

more orthodox way if counsel has a question. 1 (Record read.) 2 3 MR. CONWAY: My question is, what is that IRP he referred to in his question, so it must be a 4 5 prior question to the one you just read. 6 (Record read.) 7 MR. CONWAY: I got to tell you, I'm not 8 seeing the last two dollar figures on the exhibit that you reference, we're comparing with Figure 16 9 10 from the IRP filing. MR. OLIKER: Why doesn't the witness 11 12 answer the question. 13 MR. CONWAY: Then it's an objection, 14 misstated values. MR. BZDOK: I don't understand the 15 16 objection. 17 MR. OLIKER: We can all see it. 18 EXAMINER PARROT: All right, everyone. 19 Let's stop. 2.0 Do we need someone to point this out to 2.1 you, Mr. Conway? Is that what you're telling us? 22 MR. CONWAY: Apparently, your Honor, 23 that's what I asked. I've got the second page from 24 the 2015 forecast document and looking at PJM AEP Gen

Hub On-Peak values. I didn't see the two values that

he just quoted.

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MR. OLIKER: I'll help.

EXAMINER PARROT: Thank you, Mr. Oliker.

MR. CONWAY: I think I have what you had or what you were -- I won't say trying to read, but the two values I have are 35.34 and 38.62. Are those the two ones that you were just looking at?

MR. BZDOK: Uh-huh.

MR. CONWAY: The record says 38.64 instead of 38.62, so I was trying to make sure I was on the same document you were on, so forgive me for that.

- Q. (By Mr. Bzdok) Mr. Bletzacker, are you able to answer my question?
- A. That's correct. Referring to your previous question, of course.
- Q. What you were agreeing with me about, just because we had a long walk to get there, is that the on-peak energy prices for 2016-2017 in Figure 16 of the IRP are consistent with the values of 2016-2017 in your 2015 fundamental forecast, is that a fair summary?
- A. Yes, they appear to be so, recognizing

  I'm looking at a graph that has a certain margin of

  error versus numbers on a table which are very

1420 1 specific. 2 Q. Sure. 3 Α. Sure. 4 On the graph they're below \$40, and on Q. 5 your forecast they're below \$40, right? Α. Correct. 6 7 Q. Now, comparing the same values from your 8 2013 fundamental forecast, PJM AEP Gen Hub On-Peak 9 2016 and 2017, those values are \$55.92 for 2016 and

> That's correct. Α.

\$58.33 for 2017, correct?

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- 12 Q. So we can be pretty confident that the 13 on-peak energy prices used in Figure 16 are from the 2015 fundamental forecast and not the 2013 14 fundamental forecast, right? 15
- 16 At least in 2016 and 2017 that you walked Α. 17 me through.
  - Q. Sure.
  - Beyond that, we haven't checked. Α.
  - Q. Sure. If you want to spend any other time looking at any of these other numbers, I'm just trying to do a little spot-check with you to establish some foundation here.
- 24 If that was a question, I agree with your 25 spot-check.

- Q. One more spot-check, Figure 17 of the IRP, this presents PJM Off-Peak energy prices in nominal dollars per megawatt-hour, this Figure 17 in the IRP, correct?
  - A. Correct.

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- Q. And looking at the graph, again spot-checking 2016 and 2017, those values fall below \$30 per megawatt-hour, correct?
  - A. Correct.
- Q. And looking at your 2015 fundamental forecast off-peak power prices for 2016-2017 at the AEP Gen Hub are also below \$30 per megawatt-hour, correct?
  - A. Correct.
- Q. Specifically, \$26.65 in 2016, \$27.41 in 2017, correct?
  - A. Correct.
- Q. And looking at your 2013 fundamental forecast, 2016 and 2017, the AEP Gen Hub off-peak power prices are over \$30 per megawatt-hour, correct?
  - A. Correct.
- Q. Specifically, \$34.10 in 2016 and \$38 -- sorry, \$37.38 in 2018 correct -- sorry 2017, correct?
- A. Yes. I'll read back to you what I have in front me. I have \$34.10 off-peak in 2016 and

\$37.38 off-peak in 2017.

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- Q. So we can be pretty confident that the off-peak energy prices used in Figure 17 are from the 2015 fundamental forecast, not the 2013 fundamental forecast; is that correct?
- A. To the extent of the spot-check in that area, that's correct.
- Q. Would you like to do any further spot-checking? Would you like to look at the gas prices or the coal prices?
- A. Depends on what you're asking me to represent. If you're asking me to represent that this is the 2015 forecast, it would take that kind of spot-check -- or, it would take a deeper check.
- Q. Okay. What other data would you like to review? Really, all I'm trying to establish is based on the fundamentals data that's provided in these figures in the IRP, does this appear to you to be the integrated resource plan that was filed in Virginia by an AEP affiliate using the 2015 AEP forecast?
- A. Subject to check, it would appear to me to be so, yes.
- Q. Take a look at the Executive Summary which follows the cover sheet and table of contents.

  There are a series of pages labeled "ES-1," "ES-2."

Do you see that?

- A. I do.
- Q. Go to ES-6, and there is a box, a text box, with a heading "APCo's Hybrid Plan." Do you see that?
- A. I do.
  - Q. And there's a note -- there are three notes at the bottom, and I specifically want to direct your attention to Note 1, and I will quote:

    "The modeling for this IRP was conducted prior to the issuance of FERC's June 9, 2015 order regarding PJM's Capacity Performance Proposal. That order may result in changes to future IRPs." Did I quote the text correctly?
    - A. Yes, you did.
  - Q. Now, you testified earlier today that the fundamental forecast is an input to the PLEXOS modeling; is that right?
    - A. That's correct.
- Q. And that the IRP group uses PLEXOS
  modeling to prepare the integrated resource plan,
  correct?
- 23 A. That's correct.
- Q. So based on this AEP document on its face filed with the Virginia Commission, the new

fundamental forecast had to have been completed early enough that the results Could be fed into the PLEXOS model and the PLEXOS modeling for this IRP to be run and completed no later than June 8, 2015; is that right?

- A. Or June 9th, 2015.
- Q. Well, they said it was completed before the -- before June -- prior to the June 9, 2015. Do you see that?
  - A. I do.

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- Q. Okay. So it had to be completed prior to

  June 9, 2015, right?
  - A. I wouldn't use the word "completed," but it had to be entered in the PLEXOS modeling prior to then.
  - Q. Okay.
  - A. The important thing to note is that the IRP group is an important part of this quality assurance/quality checking. We've had them take our inputs before, discover some errors, usually administrative errors similar to the ones of preparing testimony, and have fed back to us things that we need to change because of that. So they're part of our quality assurance/quality control.
    - Q. Sure. And on the face of this document

and based on your testimony today about what you remember about this scenario, the IRP group used the fundamentals forecast as input to the PLEXOS modeling that was conducted prior to June 9, 2015, right?

A. That's correct.

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- Q. Were you in the room when Dr. Pearce said that he worked on his PPA rider revenue and cost forecast update for the May 15, 2015, amended filing for a couple months in time leading up to that filing?
- A. I don't recall specifically, but -- I was out during some amount of his testimony. I don't recall specifically.
- Q. Okay. I guess we'll check the transcript for that.

How many days are there between May 15, 2015, the date of the amended filing in this case, and June 8, 2015, the last possible date the modeling for the Appalachian Power IRP was completed?

- A. Let's just say roughly 33 or 34.
- Q. Would you like to see a calendar to confirm that?
- A. Please reread the question. Maybe I heard it wrong.
- Q. How many days between May 15, 2015, the

amended filing in this case, and June 8, 2015, the day before the FERC order was issued?

- A. Twenty-three, 24.
- Q. How many business days between those two dates?
  - A. I would say maybe 18.
- Q. Do you want to see a calendar? I think it's less than that. Do you want to see a calendar.
- A. If you have an exact number, I might be able to confirm that.
- Q. I want you to make sure that you're comfortable. The number I have from a calendar is 14. Excuse me, 15.
- A. I'm comfortable.
  - Q. You're comfortable with 15 business days?
- 16 A. Yes.

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- Q. So based on what we know from all of this, either the PLEXOS modeling for this Virginia IRP was done in 15 business days or less, or the 2015 fundamental forecast was available within the company, at least for use in PLEXOS modeling, before May 15th; is that correct?
  - A. You should recognize that models don't need business days to run. Models are set up, kicked off, and can run overnight and through weekends.

Q. I'm just asking you about how many business days there were. I didn't understand your question as responsive -- or your answer as responsive to my question.

My question was: Based on this sequence of events, either that PLEXOS modeling for the Virginia IRP was done in less than 15 business days, however long, if it can run on the weekends, it was done in less than 15 business days, or the 2015 fundamental forecast was available for input into PLEXOS modeling before May 15th, right? It has to be one or the other.

- A. That's correct.
- Q. On page 10 of your direct testimony, you present an analysis. Let me know when you're there.
  - A. Twill.

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The page number again, please?

- Q. Ten.
- A. I'm there.
- Q. On that page you present an analysis of how PJM power prices change based upon deviations in load up or down; is that right?
  - A. Correct.
- Q. And specifically you state that "From 2015 through 2030 a sustained 5% load increase

results in an 18.5% around-the-clock wholesale power price increase, whereas a sustained 5% load decrease" -- for the same period -- "results in a 7.9% wholesale power price decrease," correct?

A. Correct.

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- Q. And you plot those numbers in Figures 5 and 6 on pages 11 and 12 of your direct; is that right?
  - A. That's correct.
- Q. Now, the 2015 fundamental forecast is your best and most recent forecast of the future; isn't that right?
- A. It's the most recent forecast, that's correct.
- Q. And the best forecast of the future sitting here today, right?
- 17 A. For the period that it's available,
  18 that's correct. When another forecast comes out, it
  19 will replace that forecast.
- 20 Q. Another forecast has not come out sitting 21 here today, right?
  - A. No.
- Q. So this is the best and most recent forecast of the future sitting here today, right?
- A. That's correct.

- Q. The numbers graphed in Figures 5 and 6 are based on the 2013 fundamentals forecast, correct?
  - A. Oh, that's correct.

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- Q. The numbers graphed in figures 5 and 6 would be different if they had been generated using the 2015 fundamentals forecast, correct?
- A. They would be different, but they would still likely substantiate that concept of asymmetry that when load deviates from normal, or load-normalized forecasts can sometimes hide what volatility can do to power prices. The concept would likely be the same -- haven't done the work. The concept would likely be the same, but numbers of power prices would certainly differ.
- Q. You haven't graphed the numbers based on the 2015 forecast; am I understanding you correctly?
  - A. That's correct.
- Q. So the numbers in Figures 5 and 6, we cannot say that they would be the same under the 2015 forecast, right?
- A. No. We can say that the numbers would not be the same. I would suspect that the concept would be the same based on the shape of the supply stacks.
  - Q. And we also can't say that the percentage

difference as stated in your direct testimony on page 10 would be the same if the 2015 fundamental forecast had been used instead of the 2013, right?

- A. I Could say that they wouldn't be to that precision. They would be different, but maybe would represent the concept well still.
- Q. And you haven't rerun an analysis to know what the new numbers would be, right?
  - A. That's correct.

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- Q. So the percentage difference as stated on page 10 and the data graphed in figures 5 and 6 do not represent data based upon the best and most current information available, right?
- A. Yes, but it's important to note that drivers to energy prices can change rabidly. Can you go through periods of time and there's very little change. Can you go through periods of time when there is a lot of change. The CPP, the final CPP coming out is a good example.

The cyclical drop in oil prices and products prices related to natural gas production can cause things to be changed very, very quickly. So you have to stop the process somewhere and the 2013 fundamentals is a fine place to stop. We can wait till the 2016 fundamentals come out or the second

half of 2015 and that will be another set of good numbers to take a look at. But within a band of credibility, the 2013 fundamentals look good.

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MR. BZDOK: Move to strike everything after the answer yes, there was just a whole lot of other ground covered which certainly can be covered on redirect but it sounded to me like a prepared speech, frankly.

MR. CONWAY: Your Honor.

MR. BZDOK: It was not responsive to the question. The question was is it or is it not based on the most recent and best information.

MR. CONWAY: Your Honor, I think the witness is entitled to explain his answer, he qualified his answer in the manner he thought appropriate and as far as what Mr. Bzdok thinks about the quality of his answers, I think that's something he can argue about later but it's irrelevant. I think it's perfectly appropriate for the witness to provide clarification and context for his answer.

EXAMINER PARROT: I agree, Mr. Conway. Motion to strike is denied.

Q. To the extent that Dr. Pearce relied on information in your 2013 fundamental forecast to generate projections regarding the PPA rider revenues

and costs, those projections are also not based on the best and most current information available, are they?

- A. I believe they're based on a forecast that's within what I would call a band of credibility.
- Q. So you're agreeing with me that they're not based on the best and most current information available?
  - A. Did you say best and most current?
- 11 Q. Yes.

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- A. I can identify, I can agree with you that it's the most current. You need to have a wider view before you say "best."
  - Q. The best and most recent information -- strike that.

17 Sir, you are genera

Sir, you are generally aware that

AEP Ohio has presented a variety of projections to
the Ohio Public Utilities Commission of Ohio for
reliance upon in this case, right?

- A. Generally aware, that's right.
- Q. In your deposition, and I'm happy to have you refer to it, pages 238 and 239, my friend

  Mr. Pritchard asked you question: And you didn't

think it would be helpful to supply other members of AEPSC your most recent fundamental forecast including a new analysis including the 5 percent above and below.

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Answer: I didn't say it wouldn't be helpful. I said that my responsibility is to put out this long-term North American Energy Market Forecast and gap analysis to previous forecasts is something that's very doable without my intercession.

Do you recall that discussion from your dep?

- A. I'm going to read so I can put it in context if you don't mind.
- Q. I'll be happy to let you do that. My first question which is foundational is do you recall that discussion?
  - A. I can see it in front of me; yes.
- Q. Is supplying the most fundamental, current fundamentals forecast to other witnesses in this case who rely on it in their testimony is not your responsibility, whose responsibility was it?
- A. I think you're misunderstanding the quote here or misunderstanding the intent here, that a gap analysis is taking a previous forecast and seeing the differences. It can be as simple as subtracting an

old power price versus this other power price and creating graphs along that line. They don't need me to do a gap analysis to a previous forecast.

O. If --

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- A. But I'm happy to explain to anyone in the company and any other regulators of course all of the moving pieces and parts behind a forecast that are very important to know to justify the generation of that forecast. And I get questions from time to time about that in the company.
- Q. If gap analysis to previous forecasts that are being relied upon in this case and presented to the Commission to assess the continued reliability of the projections is not your responsibility, whose responsibility was it?
- A. It is my responsibility to provide the background and all of the moving pieces and parts that make up a forecast. But I'd like you to know that the phrase "gap analysis" is kind of an engineering term. It really is the differentials between numbers in a particular category creating a gap analysis that kind of almost a manufacturing type mentality is what we mean by gap analysis.

So if the company is asking me to put out for their consumption the differences in these Excel

spreadsheets that you see for 2013 and 2015 and then give those differences of numbers for their consumption, that's somebody anybody can do, so when I use the phrase gap analysis I mean it more in a manufacturing or an engineering sense.

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- Q. Prior to filing your testimony on May 15, 2015, in this case, did you advise anyone outside of the fundamental analysis group that you had completed the model run for a new fundamental forecast?
- A. The integrated resource planning group, who does do -- we are a very small group, fundamentals analysis is, they do do quality assurance, quality control checks, they do sanity checks so to speak, on the elements of the fundamentals forecasts. So they are a group that we would have had conversations with after the last model run but before it was locked down, so to speak.
- Q. Who specifically at the company outside of fundamental analysis group did you advise that you had completed a new model run for a new fundamental forecast prior to May 15, 2015?
- A. That's also in the deposition. It would be Scott C. Weaver who is the head of integrated resource planning whose name may be on that document. The subject-matter experts, AEP is full of many

subject-matter experts, which are just valuable to putting together a long-term natural gas -- or, no, long-term energy market forecast.

Renewables expert Jay Godfrey.

Generation experts that know a lot about the costs of generation going forward. Toby wasn't but he would perhaps be one. I don't have a name for a generation expert -- I'm not done -- I don't have a name for a generation expert but Jay Godfrey we mentioned before, renewables, and possible extensions of production tax credits. The ones that were in my deposition would come to mind.

- Q. Just to clarify the record, you said Toby. You mean witness Toby Thomas?
  - A. Yes.

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- Q. And just to clarify, you believe you advised someone in his group but not him.
- A. No, I was giving an example of the folks that can provide -- expert type, subject-matter experts that can provide value to let me know if things have changed in the value of generation, in that example, or in the value of renewables and other items. Load is another good example.
- Q. So just to make sure the record is clear and just to make sure I understood your answer, are

you saying that the people whom you have identified by name or position generally are people that you did advise prior to May 15, 2015, that you had completed an April 24, 2015, model run, fundamental forecast, or are you saying those are the types of people you would have advised?

- A. Well, the answer in my deposition stands, of course.
- Q. I need an answer to the question. I'm trying to determine have you -- did the people you identified by name or by position, are you saying those are people you advised or those are the type of people you would have advised?
- A. In the deposition are the exact people that I visited with.
  - Q. And do you recall where that is?
  - A. I will, yes.

- Q. Is this where we talked about Scott Weaver and the other Scott Weaver?
- 20 A. That's correct. That's correct. Scott
  21 C. Weaver, I'll look this up, and Scott A. Weaver.
  22 Same name, different family.
  - Q. So, to just make sure the record's clear, as I understand your testimony sitting here today you informed Scott A. Weaver in environmental policy,

Scott C. Weaver in integrated resource planning and Jay Godfrey in renewables that you had completed the model run of this April 24, 2015, fundamental forecast prior to the filing of your May 15, 2015, testimony.

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- A. I did not give them that kind of advice. I did check back with them to see if anything has changed in their area of expertise over the last several months. Which then would cause me to run have more model runs be done and continue on. If nothing had changed, and my recollection is that it didn't, then we Could start with our quality assurance/quality control checks.
- Q. Anybody else at the company you can think of that you would have advised about the existence of this April 24, 2015, model run fundamental forecast prior to your May 15, 2015, testimony filing?
- A. I want to be clear that you're not assuming that I've advised those people mentioned in my deposition that some final run had been made.

  They probably don't care. What they do care is that I represent in the next forecast what they believe to be the status of their area of expertise. And that is a complete list.

MR. BZDOK: Your Honors, Could I ask for

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      a one-minute in place off-the-record hallway
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      discussion with my boss?
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                  MR. CONWAY: I'm sorry. I didn't catch
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      that.
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                  EXAMINER PARROT: I think it is probably
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      a good point to take a break anyway, we've been going
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      for nearly two hours so that's usually the point I
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      take a break anyway. So let's go off the record.
      We'll take a five-minute break.
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                  MR. BZDOK: Thank you.
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                  (Recess taken.)
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                  EXAMINER PARROT: Let's go back on the
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      record.
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                  MR. BZDOK: No further questions. Thank
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      you, sir.
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                  EXAMINER PARROT: Ms. Ghiloni.
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                  MS. GHILONI: I have no questions, your
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      Honor.
                  EXAMINER PARROT: Ms. Bair?
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                  MS. BAIR: Thank you.
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                        CROSS-EXAMINATION
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      By Ms. Bair:
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                  Could you please look at page 5, line 9
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      of your testimony. The first question and answer
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regarding the winter weather of 2013-'14 having an impact on energy prices, and you say that "In the event of a colder-than-normal heating season, that natural gas spot prices Could exceed \$8/MMBtu," correct? Is that what your testimony reads?

- A. Yes, it does.
- Q. There were no natural gas spot prices in the winter of '14-'15 that exceeded that, were there?
- A. I haven't checked, but subject to check, I would agree.
- Q. Okay. If I Could ask you to please look at page 67 of your deposition.
  - A. Yes.

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Q. The question begins on page 66, actually, lines 19 through 21: "Did you have any observation of whether natural gas spot prices in the winter of 2014/2015 exceeded \$8 per MMBtu?"

"Not that I recall."

"You don't know either way or you don't recall them exceeding that price?"

"I don't recall. I don't recall them exceeding that price."

MR. CONWAY: Could you give me a reference, counselor, to where you're reading from the deposition?

MS. BAIR: Deposition, page 66, starting 1 2 at line 19 going over to page 67, ending on line 2. 3 MR. CONWAY: And are you asking -- I'm 4 sorry. I apologize. Did you ask him --5 Or, Could you reread the question for me, 6 please? 7 (Record read.) 8 And, also, I have another question on Ο. 9 that answer. And then again on page 5 at line 9 you

- Q. And, also, I have another question on that answer. And then again on page 5 at line 9 you say that natural gas prices exceeded 30 MMBtu in many locations that winter. I'm in your direct testimony, direct testimony that you filed, on page 5, line 9.
  - A. Yes, I'm there.
- Q. Talking about the 30 MMBtu in many locations.
- 16 A. I see that.

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- Q. What locations are you referring to?
- A. Northeast. Subject to check, Transco zone 6 is a location that had high prices.
  - Q. And just another question going further up on page 5. In answer to that question, "The energy prices resulting from the 2013-2014 winter's colder-than-normal weather served as confirmation of the Companies' previous testimony."

For '14 and '15 was there

1442 colder-than-normal weather that you're discussing in 1 2 line 3? 3 So there was not an event in '14-'15 that 4 mimics what I am identifying on line 3 in 2013 and 5 '14. I don't know whether it was colder than normal 6 or not. 7 MS. BAIR: Thank you. That's all I have. 8 EXAMINER PARROT: Mr. Oliker? 9 MR. OLIKER: Thank you. 10 11 CROSS-EXAMINATION 12 By Mr. Oliker: 13 Ο. Good afternoon, Mr. Bletzacker. 14 Good afternoon, Mr. Oliker. Α. 15 Q. Following up on some earlier questions, 16 your testimony discusses power plant performance 17 during the polar vortex, correct? And this is just 18 generally speaking without a line reference. 19 Very generally speaking, yes. Α. 2.0 Q. Okay. But you have not reviewed the 2014 2.1 PJM Winter Report which was issued after the polar 22 vortex? 23 Not with any specificity. 24 You haven't reviewed it at all though, Ο.

have you, Mr. Bletzacker? Have you?

- A. Not that I can recall.
- Q. Okay.

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- A. And this reminds me that I'm very worried about folks that think that what happens in the nearby affects -- has a great effect on what happens very far out. My responsibility is a Long Term North American Energy Market Forecast. There certainly is a nearby component of that, but I'm here to present a forecast from today or whenever the forecast is released forward, not necessarily a look back.
- Q. Okay. And you also have not reviewed the PJM Winter Report for 2015?
- A. Not with any degree of specificity I can recall.
- Q. Okay. And on page 8, line 7, in response to the question: "What is necessary for natural gas to be delivered on a firm basis to an electric generating unit?"

You state: "Shipper will be charged exclusively for any new construction necessary to provide service to electric generating unit's specific location. Typically, a 15-year Firm Transportation contract is required to allow for cost recovery. In this statement you're referring to the construction of new pipeline capacity, correct?

- A. It can be new pipeline capacity. It can also be an upgrade of existing pipeline capacity.
- Q. Okay. To repeat, that Could be new pipeline capacity or an upgrade to existing pipeline capacity.

MR. OLIKER: Can we go off for a second.

EXAMINER PARROT: Off the record.

(Discussion off the record.)

EXAMINER PARROT: Back on the record.

MR. OLIKER: And just to make sure I heard that, Could I have my question and the witness's answer read back, please?

(Record read.)

- Q. And regarding the capacity performance product which has now been approved by FERC, you have no personal knowledge with respect to whether a natural gas-fired power plant may now include the cost of procuring firm transportation in their offer to provide the capacity performance product.
- A. I wouldn't say I have no knowledge. Is that the question? You're asking me -- you're stating that I have no knowledge; is that correct?
  - Q. Yes.

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- A. I have more than no knowledge.
- Q. Okay. Maybe I'll ask it this way: Do

you know whether a natural gas-fired generator can include the cost of acquiring firm pipeline transportation in their offer into the capacity market?

- A. I don't know for certain, but I do know it's necessary to have firm transportation to guarantee that space is reserved in the pipe so that you can receive your natural gas.
- Q. Okay. And you would agree that if there is existing capacity on a pipeline that is released, then a natural gas combined cycle power plant can purchase that capacity and attain firm transportation?
- A. To be specific, the concept of released capacity means that someone who has entered into an arrangement with firm transportation releases it to another shipper and they're able to pick it up for some shorter term or the whole term. So, yes, you can acquire firm transportation from another shipper that owns transportation as opposed to directly from the pipeline.
  - Q. Okay.

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- A. That's correct.
- Q. And a shipper can acquire firm
  transportation for a duration of less than 15 years,

correct?

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- A. Yes, they can.
- Q. Okay. And you are familiar with what is known as the capacity performance product but only at a high level, correct?
  - A. Correct.
- Q. And you did not know that 48,000 megawatts of natural gas-fired generation was offered into the 2017-'18 capacity performance transition auction.
  - A. I don't know to that level of detail.
- Q. Moving to the 2013 fundamental forecast, which you discussed earlier with counsel for Sierra Club --
- 15 A. Yes.
  - Q. -- you would agree that the fundamental forecast is referred to as the base-case forecast, correct?
  - A. That's correct.
  - Q. Okay. But there is a 5 percent high case and a 5 percent low case?
  - A. I prefer to call it a 5 percent high scenario because only one thing was changed, and that was just the assessment of load. In order to be a full case, you need to really adjust all the salient

features.

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- Q. Okay. But of these three scenarios, let's call them that, you believe that the base case is the most likely to occur, correct?
- A. If I said scenarios, I meant to call them sensitivities. Please restate.
- Q. Okay. You would agree that of these three sensitivities, that the base case is the most likely to occur.
  - A. Correct.
- 11 Q. Okay.
- A. Because it is based on 30-year normal weather.
  - Q. Okay. And regarding your forecast, you would agree that natural gas prices have probably the largest impact on the power prices that would be seen.
  - A. Remember that I or our group forecasts all around the United States, Canada, and Baja,

    Mexico. But with respect to PJM, for the foreseeable future it would appear as if natural gas sets the on-peak power price, that is correct.
  - Q. Okay. And then on page 5, line 8, you state: "It is likely, in the event of a colder-than-normal heating season, that natural gas

1448 1 spot prices Could exceed \$8/MMBtu." 2 Α. It does say that. 3 You would agree that during the winter of Q. 4 2014-2015 natural gas prices in the spot market 5 averaged under \$3 per MMBtu. I'd have to check. I don't know that I 6 7 can agree. But if you'd like, I'll agree subject to 8 check. 9 0. Okay. Thank you. 10 Α. It doesn't feel awful. Okay. Would you agree that February 2015 11 Ο. 12 was colder than normal? Two thousand --13 Α. As related to the weather normalized 14 Q. 15 average? 16 And you said 2014? Α. 17 Q. '15. 18 2015, was colder than normal? Α. 19 Q. Yes. 2.0 I don't know. Α. 2.1 We'll come back to that. Q. 22 Just to be clear, your statement regarding page 5, line 9, regarding \$30 per MMBtu, 23 24 that referred to the winter of 2013-'14, correct?

That's correct.

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Α.

Q. Okay.

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- A. That's the premise of the question.
- Q. And turning to the actual fundamental forecast itself, there is a natural gas price discussion, and I'm in Sierra Club Exhibit 18.

  There's a listing of natural gas prices on a nominal basis in the Henry Hub and in other locations, correct?
  - A. That's correct.
- Q. And as far as Ohio's concerned, the important prices would be TECO pool and Dominion South Point, right?
- A. I would say that it would be TECO pool and TECO delivered. TECO South Point has some effect on Ohio, but it's mostly eastern, far eastern Ohio and western Pennsylvania.
- Q. Okay. But those are out of all of the prices that are listed on here, you would agree that those are locationally the two closest price points for --
- 21 A. Yes.
  - Q. -- Ohio generation.
- A. Yes. Well, the three would be the closest TECO pool, TECO delivered, Dominion South Point.

Q. Thank you.

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- A. You should understand that the difference between Columbia Transmission Interruptible Paper Pool Gas and Columbia Gas Transmission delivered is the transmission charge on Columbia Gas Transmission.
  - Q. Which are things like fuel, right?
- A. Well, it's the full gamut. Columbia would be -- the interruptible rate is the 100 percent load factor firm transportation rate, but sold on a purchase-unit basis, for discussion here, it's something around 23 cents.
- Q. And you would agree that these prices that we have contained in your 2013 fundamental forecast, these are average annual prices.
  - A. That's correct.
- Q. But if we were to look on a monthly basis, there would be a differential likely for the summer and the winter, correct?
- A. Yes.
- Q. And that's because there is usually a seasonal spread, but not always for natural gas, correct?
  - A. That's correct.
- Q. Okay. Now, if we were to compare the 25 2013 and the 2015 forecasts, which is Sierra Club

Exhibit 20 and 18, I believe, and I'm still in the natural gas section --

A. Okay.

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MR. CONWAY: Mr. Oliker, might I inquire, is that the third complete sheet of -- the third page of this collection of sheets?

MR. OLIKER: I believe so. It is the Natural Gas MMBtu Nominal Dollars.

MR. CONWAY: Thank you.

MR. OLIKER: I think there's only one.

- Q. Now, if we were to compare the Henry Hub in the 2013 -- first, before we move there, would you agree that if we look at the 2013 forecast, the Henry Hub price is lower than the TECO pool and the Dominion South in the first two years.
  - A. That's correct.
- Q. But if we move to the 2015 forecast, the TECO pool and the Dominion South price are both lower than the Henry Hub for the -- through 2019, at least, maybe further.
- A. That's correct.
- Q. And that's referred to as basis differential, correct?
- A. Yes. Specifically basis differential is a locational value of gas so gas in these specific

locations are priced at these levels.

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- Q. And the reason for the basis differential is largely the Marcellus shale, correct?
- A. I want to be very specific here. The reason for the phrase "basis differential" is to identify the locational value. If you're referring to the differences between the Henry Hub and these pipelines, let's just say going down, we could argue that it's going up. Let's say going down, yes, the discovery of we'll call it indigenous natural gas reserves and the pipeline congestion surrounding that is the reason for that.
- Q. That's because the Henry Hub is down in Louisiana, right?
  - A. Doesn't affect us much, does it?
  - O. No, it doesn't.
- Okay. Regarding the natural gas market, you agree that there are cyclical and structural influences on price?
  - A. I do.
- Q. And one cyclical influence is rate count, correct?
- A. It is.
- Q. And that is because rate count generally reacts to increases in forward prices, correct?

- A. Generally, it does.
- Q. So the price meets parameters necessary to develop additional reserves, then additional rigs will come online, right?
  - A. That's a good generalization.
- Q. As additional rigs do come online, then production is likely to increase, correct?
  - A. That's correct.
- Q. And that may decrease price as that additional production comes on line, right?
  - A. No.

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- Q. You do agree as production goes up, price can come down?
  - A. I do.
    - Q. Okay.
- A. But for the volumes that are hedged by producers -- it's a very important concept to get your arms around. When a producer can see that a price, a futures price, is one that allows them to make the return they'd like to make, it doesn't matter where spot prices go beyond that. They are locked in and hedge that particular price.
  - So you Could have prices go down, but still have rig activity or productions' intentions to drill wells, chase that price that they've already

hedged.

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- Q. Would you agree that's why my company, for example, could call a producer and get a \$4 gas price \$10 from now -- ten years from now?
  - A. Please restate that.

MR. OLIKER: Could I have the question read back, and then we'll see if I can fix it.

(Record read.)

- A. I have an answer for that, and the answer is yes.
- Q. Okay. And would you agree that some consultancies believe that \$5 is -- per MMBtu is a resistance point against which price should not rise above?
- 15 A. I do.
  - Q. And that's because once price does reach \$5, that sends a signal for additional rigs to come online to meet that demand, correct?
    - A. That's correct.
  - Q. Okay. When additional rigs do come online, the price can actually drop below \$5 if that's the price signal, correct?
- A. Yes, it can, but for the hedging that we discussed.
- Q. Okay. So as we're looking at either the

2013 or the 2015 forecast of natural gas prices, price is going up every year, right?

A. Yes.

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- Q. But there's no certainty that that will occur, right? Anything is possible.
- A. Well, I'm with you on anything is possible, but I would like to warn you or let you know that you're looking at a nominal price forecast and, of course, those nominal dollars are not real dollars. They're adjusted for inflation, meaning that the value of the dollar is less, so you have to use more of them to buy that MMBtu of gas.
- Q. Okay. But even if we were to look at, say, 2013 forecast, would you agree that if we were to adjust your Henry Hub prices for inflation amounts you have considered, if you go out five years, you're nearly a dollar above \$5 in real dollars?

So, maybe I can state it this way: Would you agree that the Henry Hub price of \$6.43 is above \$5 adjusted for inflation for five years?

A. Well, the direct answer to your question is I'm not sure that I'd agree to it until I would refer to a real dollar forecast, but I'd also like you to be aware that in the '21 in preparation and certainly the '22 time period, a CO2 burden is

established that causes an increase in the demand for natural gas because of a decreased demand of coal, so there's a demand inducement there also.

But very loosely speaking, the forecast we have for natural gas is about \$5, \$5.50 on a real dollar basis through this period all the way to 2035.

- Q. I'm talking about 2020, which is before your CO2 projection comes into effect. \$6.43, if we were to adjust \$5 from, say, now, 2015, would you agree that using your inflation numbers you're going to be at a price a lot lower than 6.43.
- A. I'd have to do the calculation. If you would define "a lot less," then maybe we could get there.
  - Q. How about close to a dollar?
  - A. I'd have to do the calculation.
    - Q. Would you like a calculator?
- A. No. I'd like your computer.
- 19 Q. I have my questions on there. I need 20 that.
- A. But the calculation is really
  straightforward. It is the 1.02 times 1.02 times
  1.02.
- Q. Right.

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A. 1.02 to the exponential of the number of

years between now and then becomes your new deflation
factor, so to speak, and it's a very objective
number. But there's -- I'm very concerned that the
mathematics just walks past the numerous upside
threats to natural gas pricing rather than just
inflation. There's threats to the upside, especially
around demand.

- Q. Would you agree, though, that the inflation adjusted price of \$5 at 1.02 is about 5.50 for five years?
- 11 A. Subject to some check, that would be okay with me.
  - Q. You're familiar with something called the EIA Energy Short-Term Outlook, correct?
- 15 A. Yes.

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- 16 O. And you review it from time to time?
- 17 A. From time to time.
- Q. Would you agree that the EIA Short-Term

  Outlook is currently projecting gas prices in 2016 to

  be \$3.11 per MMBtu?
- A. I would have to check. If that's what it says, I will accept that.
- MR. OLIKER: May I mark an exhibit, your
- 24 Honor?
- 25 EXAMINER PARROT: You may.

1458 1 MR. OLIKER: I believe we are on IGS 2 Exhibit 2. This is a document titled "Short-Term 3 Ο. 4 Energy Outlook - U.S. Energy Information 5 Administration," released September 9, 2015. EXAMINER PARROT: The document has been 6 7 marked as IGS Exhibit 2. 8 (EXHIBIT MARKED FOR IDENTIFICATION.) 9 Ο. Mr. Bletzacker, do you see the document that's been marked as IGS Exhibit 2, recognizing your 10 document is plain. 11 12 Α. I do. 13 Ο. And is this the short-term energy outcome from the EIA? 14 15 Α. It would appear so. 16 And if we were to look on page 3 of that 17

- Q. And if we were to look on page 3 of that document, does the last full sentence in the first paragraph indicate: "The projected Henry Hub natural gas price averages \$2.84/MMBtu in 2015 and \$3.11/MMBtu in 2016."
  - A. Point me to that reference again, please.
- Q. It's the two paragraphs on page 3. It's the first paragraph, last sentence.
- 24 A. Yes.

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Q. Okay. And on this document --

MR. CONWAY: Your Honor, at this point I'm going to object. The witness, I don't think he's been -- he's established that he's familiar with the document. At this point Mr. Oliker is simply having him read in sections of the document on the record.

MR. OLIKER: Your Honor, my understanding was I asked him if he regularly reviews this report and whether this document was what I said it to be, which he indicated it was, which is what is all that is necessary for laying a foundation.

EXAMINER PARROT: The objection's overruled.

MR. OLIKER: Thank you.

- Q. And if I were to look on page 2 of this document, 2 of 4, would you agree there is a projection that the EIA is included for U.S. natural gas production imports?
  - A. I do.

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- Q. And that shows that production steadily rises between 2015 and 2016, correct?
  - A. Correct.
  - Q. Okay.
- A. As you create your next question, let me finish the answer to the last question. It's very important to note, and everybody should do this, the

assumptions that are behind every forecast. Rig 1 2 count has dropped precipitously, 62 percent since 3 Christmas. Production is now beginning to drop. 4 Prices will go back up in a cyclical manner that you 5 have described. Without unwinding all of the 6 elements of the EIA's forecast can you really 7 appreciate what that number is in their final 8 projection?

MR. OLIKER: Your Honor, I don't believe there was a pending question so I would move to strike his answer.

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THE WITNESS: It was a supplement or a continuation of my previous question.

MR. CONWAY: Your Honor, I think he's entitled to provide, again, clarification of his prior answer, and I think it's helpful to know what his view of the limitations are of the prices. He's being asked to quote from the document from the EIA.

EXAMINER PARROT: I agree, Mr. Conway.

Your motion to strike is denied,
Mr. Oliker.

Q. Mr. Bletzacker, you would agree that in every year since 2010 the wells in the Marcellus shale have produced a larger amount of natural gas per well?

A. Conceptually I think I would agree.

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- Q. And you would also agree that once a well starts producing natural gas, it takes at least three to five years for that well to deplete.
- A. I can conceptually agree that the depletion rates of shale wells, particularly in Marcellus and Utica, is exponential, meaning about 80 percent of the gas comes out in the first two, three, four years. So the decline rates as an engineer are very steep. So in order to maintain production at a particular level in the Marcellus or Utica is like trying to run up a down escalator and the down escalator is moving very fast.
- Q. Could you turn to -- first, you said two, three, four years. Would you agree in your deposition you said it could be three to five years?
- A. I would agree in my deposition that it was three to five years, and there really is no range, but you can expect that exponential decline, which is an engineering term, to be correct.
  - Q. Okay. Thank you.
  - A. But you're still on the same escalator.
- Q. Your testimony discusses the impact of storage levels as compared to a five-year average on price, correct?

A. Yes, it does.

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- Q. And your testimony is you believe when storage levels drop below 80 percent, a five-year average price will increase, correct?
  - A. That's correct.
- Q. And you believe that if the storage level is between 80 percent of the five-year average and the five-year average itself, then there's usually an increase in price but to a lower extent, correct?
  - A. That's correct.
- Q. And you discuss this concept largely on pages 7 and 8 of your testimony, correct?
  - A. That's correct.

MR. OLIKER: I'd like to --

- Q. You also indicated, Mr. Bletzacker, you normally review storage injection reports, correct?
  - A. That's correct.

MR. OLIKER: Your Honor, I'd like to mark another exhibit, please, as IGS Exhibit 3, the Weekly Natural Gas Storage Report from EIA released October 1st, 2015, at 10:30 a.m.

EXAMINER PARROT: So marked.

(EXHIBIT MARKED FOR IDENTIFICATION.)

Q. Mr. Bletzacker, is this the most recent EIA U.S. Energy Information Weekly Natural Gas

Storage Report?

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- A. Yes, it is.
- Q. And the EIA releases these every Thursday at 10:30 a.m., and everybody in the industry anticipates its release, correct?
- A. It could move the futures market radically. "Correct" is the answer.
- Q. Would you agree that if we also look on here, we can see the five-year average that you discuss and -- I'm sorry, does your copy have color, Mr. Bletzacker?
- A. It does. It does.
- Q. Good. And I don't know if I necessarily need to talk about yesterday's number just yet, but we can look and see where the storage level was in February of 2015, correct?
- 17 A. Pardon me for a minute.

  18 Please restate the question. I

19 apologize.

- Q. The graph on here which tracks working gas in underground storage compared with the five-year maximum/minium, by looking at that graph we can see where storage levels were in February of 2015, correct?
- 25 A. Yes, you can.

Q. And you agree it was below the five-year average.

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- A. Well, it's close, Mr. Oliker, but I'll go with you, that it could be below. It's certainly well within the band of history.
- Q. You say it's close. How many percent would you say it was below the five-year average?
- A. Well, if you would have given me the report from that particular week, it would have told us exactly. But you're asking me to take a small graph and look at the difference in the lines and then create a percentage. I can do it, but it would not be probably of sufficient precision.
- Q. Would you say roughly between February and March of 2015 the level was somewhere around 14 hundred billion cubic feet?

MR. CONWAY: Your Honor, at this point I'm going to object. If I'm looking at the same graph that Mr. Oliker is looking at and the witness is looking at, in light of the witness's reluctance to make the calculation, just looking at it, I don't see how it's possible to answer the question, so I object to the question.

MR. OLIKER: The curve's pretty flat, your Honor, on that part of the question between

February and March. And I can show him a bigger version on my computer.

EXAMINER PARROT: Mr. Bletzacker, if you can answer it, please do so. But I'm having trouble with it as well. I do not have a color exhibit either.

THE WITNESS: I can tell you this. I have a color exhibit in front of me. I see the average, I see the band, and I see an X axis mark for March of 2015, but the scale is just too tight for me to give you any sort of a quality answer.

But I do know if you were to produce this for that particular week, it would lay it out for you.

Q. Okay.

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- A. But what I can see on this particular report is that the East, where we live, was actually 25 Bcf below the five-year average, the producing is 164 above, and the West is 14 above, so as we sit here today, the East is a little bit behind the eight ball. That's the other information that's available behind me.
- Q. The East is always behind the eight ball though, isn't it?
- A. I don't know that.

Q. Let's tie this together. You do agree that we're below the five-year average in the winter of 2015, correct? And I'm referring specifically to February and March.

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- A. Yes. And we traditionally define winter as November through March. And I see that March 15th, that the blue line is below the gray line, so qualitatively, that would be below average. But it's well within the band of what's happened in the past, so I'm not really moved by it, is what I'm saying.
- Q. Just so we understand, are you now offering that price needs to exceed -- sorry, let me reclarify that.

Are you stating that as long as we're within this band, there's not going to be an inverse impact on price?

A. It's -- I'm not saying that if we're not within the band, and I think the testimony does a great job of identifying what it takes for this to happen. And the graph shows exactly when it did happen, why it happened, and when it did happen, and quantitatively what the reactions were.

But to summarize that rather than just say whether it's in the band of the EIA Storage
Report five-year history, no. And natural gas

storage, those beans in the jar there, they're to cover our needs in the wintertime. When those get to a sufficient low level, particularly below 80 percent of what would be average for a particular week -- remember, average changes. The average in storage for Christmas is different than the average in January, different than the average in March.

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But when it gets below 20 percent below that, when it gets 20 percent below those levels, particularly early in the year, prices then react exponentially. And there's several historical examples of that and no examples that I can think of where that didn't take place under those circumstances.

That whole thing was just to present the volatile consequences of abnormal weather and really do a good job of identifying that asymmetry that takes place when weather deviates from normal. We held gas prices to be the same. If gas prices were to go up like this, power prices would go up even greater. So the testimony really shows you what I think you need to see.

- Q. Okay. But you agree that prices for natural gas declined throughout last winter.
  - A. Subject to check, I would accept that.

Q. And that is summarized also in the EIA short-term outlook that you discussed in IGS Exhibit 2, correct?

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A. I'm not familiar with this, but I can tell you why prices would drop during that period, and that's because rig counts were very high going into last winter because oil prices were set at a hundred dollars. OPEC allowed us to have hundred-dollar oil, and the United States responded with shale production and natural gas associated oil production, very important for our gas pricing, and liquids production.

So the EIA that I -- the EIA report I see in front of me and the time I've had to look at it, I don't know that it's hit on those points, probably has, but subject to check.

- Q. And you would agree that just yesterday -- first of all, are you familiar with the Chicago Mercantile Exchange?
- A. Loosely. I've never traded on it personally.
- Q. And that is the -- that is the exchange that records over-the-counter transactions that occur in the market for natural gas futures, correct?
  - A. I hope that you're not thinking of the

New York Mercantile Exchange because that's the place where I go.

- Q. I'm referring to the CME group, which --
- A. CME is not Chicago. CME is the name of the group that --
  - Q. Thank you.

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- A. You're good.
- Q. And that's where you see Henry Hub futures transactions, correct?
- A. Yes. Yes. Yes.
  - Q. And just yesterday the prices were clearing at \$2.40 per MMBtu for next month, right?
  - A. Natural gas futures for delivery next month, sounds about right.
  - Q. And we can see transactions occurring through December of 2016 at \$3 exactly, correct?
    - A. Yes. And, again, I'm worried because those are for the settlements of the natural gas futures contract, nothing to do with the Long Term North American Energy Market Forecast. We're predicting what the spot prices will actually be during that period.
    - Q. These are observable transactions between willing buyers and sellers, correct?
      - A. Absolutely.

Q. And some of these transactions could be occurring with natural gas-fired power plants, correct?

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- A. Oh, they could be. And they also could be someone doing some storage arbitrage, I will take gas out of storage at this time, put it in at another time. There can be operators that are trading between products, at like a dark spread or a spark spread, or I can go ahead it take propane out of the gas stream, and there's a frack spread that's there, or it can simply be someone that wants to manufacture product; they're happy with a particular price at the same time the seller is happy with selling that -- a producer is happy selling it at that price. It does a miserable job of predicting what futures prices -- or, what spot prices will be in the future.
- Q. Would you agree that there are transactions occurring at below \$3 per MMBtu out through 2019?
- A. Subject to check, but I wouldn't be surprised.
- Q. And if that's a natural gas plant that's producing that gas, it won't matter what the spot price is in 2019. They've already got their contract, right?

A. Or more important -- right. And more importantly is that heat rate spread. If you have a machine that can produce power at a future power price on the futures market and within an implied heat rate that's given to you through the natural gas price that you see there, and you have a machine that can arbitrage that spread, that may be important to you.

- Q. Okay. Turning back to your forecast, and this applies to both your 2013 forecast and your 2015 forecast, would you agree that both of these forecasts had to assume a level of energy efficiency?
  - A. Yes.

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- Q. But neither of these forecasts assumed additional energy efficiency measures would be implemented to comply with the Clean Power Plan.
- A. I believe there was a data request or interrogatory around that, and our load forecasting people gave indication that that answer was no.
  - MS. FLEISHER: Could you speak up, sir?
- Q. And the AURORA model also considers wind and solar construction, correct?
  - A. Yes, it does.
  - Q. Because it has to create a supply stack.
  - A. Yes.

- Q. Is the wind and solar construction in the model an input or an output?
- A. The model chooses the generation that should be built based on economic -- the economics of those choices, so the level that is built is a model output. The costs of those generation, it can be built for X dollars per megawatt. It would be an input.
- MR. OLIKER: I would like to mark an exhibit, your Honor. May I approach, please?
- 11 EXAMINER PARROT: You may.
- MR. OLIKER: Thank you.

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- I'd like to mark as IGS Exhibit 4 the

  Interrogatory Response to INT-2-006 as well as the

  attached documents that were produced.
- 16 EXAMINER PARROT: So marked.
- 17 (EXHIBIT MARKED FOR IDENTIFICATION.)
  - Q. Mr. Bletzacker, do you recognize what has been marked as IGS Exhibit 4 as an interrogatory response that you provided?
    - A. I do.
  - Q. Looking at the attachment, specifically the first one, Solar and Wind Resource Construction, does this represent the output of the model?
- A. Yes, it does.

- Q. So am I correct in the 2013 forecast, for example, in 2015, 2017, '18, '19, and 2020, the model assumes no wind would be constructed?
  - A. That's correct.

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- Q. And would you agree -- and also are these outputs, is this within the PJM footprint, or is this in the United States and Canada? If you know.
- A. Subject to check, but I'm fairly confident that's PJM.
- Q. Okay. And would you agree that if solar and wind construction is, in fact, higher than the model assumed, energy prices would be lower?
- A. I would agree, and I'd also agree that low gas prices make solar and wind construction very difficult.
- Q. And you also on this subject talked about costs assumed by the model. There is a page identified as Renewable Energy Subsidies, I believe it is two pages beyond the natural gas assumptions, and let's do this first in Sierra Club Exhibit 18, which is the 2013 forecast.
  - A. I'm there.
- Q. Could you explain how the renewable energy subsidies is considered by the model?
  - A. Yes. It can be considered a credit for

every megawatt-hour that is produced.

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- Q. Is that what this is here? Is it like a production tax credit of \$48.40 per megawatt-hour?
  - A. That's correct.
- Q. Okay. And the renewable energy credit that would be considered here, that would partly drive the amount of renewable construction that occurs?
- A. Yes. It has a considerable affect on that.
  - Q. And if we look at the 2015 forecast, starting in 2020, am I correct the model assumes there will be no production tax credit for renewable energy?
    - A. That's correct.
  - Q. So would you assume that if there was, in fact, a renewable credit of some sort, then the level of wind and solar construction would be higher?
  - A. Generally speaking, yes. More favorable when someone gives you money to do it.
  - Q. And the power prices that are in the model would be lower, right?
- A. The supply curve would be shifted farther to the right, so it stands to reason the power prices would be lower at the same demand.

- Q. Thank you. Sorry to jump around. Could you please go back to Sierra Club Exhibit 18? Sorry.
  - A. I'll be happy to do that.

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- Q. With respect to your testimony, am I correct that you have calculated a tax on -- tax or carbon mitigation cost of \$15 per metric ton?
- A. Yes. And I probably prefer to call that a carbon burden. It's a dispatch burden, and it's \$15 a metric ton on a real-dollar basis.
- Q. And that converts to, depending on the type of coal you burn and the heat rate of the unit, somewhere between 13 to 15 dollars a megawatt-hour?
  - A. That's a good generalization.
- Q. So if we look at the 2013 forecast at the 2021 versus 2022, and we were to compare the on-peak and the off-peak power prices, would you agree that power prices are rising slower in both the on-peak and the off-peak than \$13 per megawatt-hour?
  - A. Yes, I would. And I would expect that.
- Q. So what the model is demonstrating here, if correct, is there is likely to be an increase in market prices but not necessarily an increase in margin for the PPA related plants.
- A. I'm really not that familiar with the PPA plants. But when we talk about a coal plant, in

general, I think that your assessment of what the dollar-per-megawatt consequence is of a \$15 per metric ton burden is would be correct.

Q. Okay. Thank you.

And to follow up on some of the discussion you had with counsel for Sierra Club about capacity prices --

A. Yes.

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- Q. -- I think you said this, but embedded in the total revenue requirement that is considered by the model, there is a return on equity component, correct?
- 13 A. That's correct.
- Q. But you don't know the ROE that the model assumed, right?
- A. With precision I don't, but generally I do.
- Q. Could you turn to your deposition at page 19 126.
- 20 A. Sure.
- Q. Let me know when you're there.
- 22 A. I'm at page 126.
- 23 Q. Yes.
- A. Thank you. I am.
- Q. And let me know if I read this correctly,

on line 11: "Do you know what the return on equity of the model assumes?"

Answer: "I don't know that specifically today."

Did I read that correctly?

A. Yes, you did.

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- Q. And you also don't know what level of debt the model assumed, correct?
- A. Well, your question says do you -- would you agree that the model also has to assume a specific cost of debt and interest rate, and that answer was yes.
- Q. I'm sorry, Mr. Bletzacker, I'm actually not asking you about the deposition now. I'm asking just another question in general.
- A. Okay. Please restate it for me, if you would be so kind.
  - Q. And also, before we move on to that, you would agree that the return on equity that was assumed by the model, that wasn't provided in discovery, was it?
    - A. No, not that I recall.
- Q. Okay. And now going back to your earlier answer, would you agree that the model also assumed a certain level of debt or interest rate in its revenue

requirement for capacity resource?

- A. I'd like to offer that the model only has one number in it, I do know this, and that number is just a rate of return.
  - Q. Okay.
- A. There's not different components. That may set a -- get past some confusion.
  - Q. But the rate of return is typically weighted a certain percentage of debt and a certain percentage of equity, right?
- A. ROE.

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- Q. You don't know the percent of interest that the model assumed, correct?
  - A. Not specifically, but I'd offer to you here today that it's somewhere around 11 percent.
  - Q. If I could refer to your deposition, on line 21 of page 126 there was a question: And "do you know that" -- first, let's go to line 17 where there was a question: "Do you -- would you agree that the model also has to assume a specific cost of debt, an interest rate?"

22 Answer: "Yes."

"And do you know that debt level that's assumed by the model in each year?"

25 Answer: "I do not."

Did I read that correctly?

- A. You did. If it's helpful, you appealed to me when you used the phrase "an interest rate."
- Q. Okay. And the distinction, key distinction, between the way the AURORA model establishes capacity prices as compared to the way PJM does, is the AURORA model can use any type of technology that's on the margin where PJM uses a reference technology, correct?
- A. Yes. They have an administrative approach versus an economic approach in the model.
  - Q. A combustion turbine in PJM, correct?
  - A. Absolutely.
- Q. And a bidder in the auction submits their bid three years in advance, correct?
  - A. Correct.

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- Q. And when they do that, they don't know what kind of energy margin they will receive, correct?
- A. That's correct.
- Q. Before we move on, you had a discussion with counsel for the Sierra Club about capacity prices that were assumed back in the 2012 forecast.

  And am I correct that for the AEP Gen Hub there was a 2016 AEP Gen Hub capacity price of \$281.92?

A. To be specific, I'm looking at Sierra

Club 19, which is a 2012 forecast. I'm okay so far.

I will go to the capacity section, which I hope

that's where you were, and I'm going to look at 2016.

Q. Yes.

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- A. And I see in 2016 a number of \$281.92 for AEP Gen Hub as opposed to SPP, of course.
- Q. Okay. And if we were to compare the 2016 price in Exhibit 19 with Sierra Club Exhibit 20 for 2016, which later recorded the base residual auction price, and we were to determine the impact of that difference on 3,000 megawatts, would you agree that the difference is about \$208 million?
- A. On which set of -- which basket are we comparing that?
- Q. We're just comparing 2016 projection and the 2012 to the number that is recorded on Sierra Club Exhibit 20 for 2016. And as I understand the math would simply be 281.92 minus 91.30, multiplied by 3,000 megawatts times 365 days.
- A. I think your math is wonderful, but I don't know where the 3,000 megawatts came from.
  - Q. Just a hypothetical.
  - A. Then I'm okay.
  - Q. Could you accept, subject to check,

that's about \$208 million?

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A. I will.

 $$\operatorname{MR.}$  OLIKER: Your Honor, if I could have a moment. Thank you.

- Q. Briefly, am I correct that coal prices are, in part, an input in the output of the model?
- A. Yes, Mr. Oliker. And to expand on that, we call them primarily an input, but should coal demand go up or down, as you do look at generation growth into the future, you may need to raise those prices if demand goes up or reduce those prices as demand goes down, according to these established elasticities, so there's an iteration that takes place, but it's primarily an in.
  - Q. One of the reasons why coal prices decreased, at least somewhat, in the 2015 forecast is because the demand for coal is going down, correct?
    - A. That very good. That's correct.
  - Q. Which would mean less dispatch from coal-fired generation?
- A. Yes, it would.
- MR. OLIKER: I have no further questions, your Honor.
- 24 Thank you, Mr. Bletzacker.
- 25 EXAMINER PARROT: Thank you, Mr. Oliker.

1482 1 Let's go off the record. 2 (Discussion off the record.) 3 EXAMINER PARROT: Let's go back on the 4 record. Mr. Pritchard. Sorry to interrupt you. 5 MR. PRITCHARD: Thank you, your Honor. 6 7 CROSS-EXAMINATION 8 By Mr. Pritchard: 9 Good evening now, Mr. Bletzacker. Ο. Good evening. 10 Α. My name is Matt Pritchard. I represent 11 Ο. 12 IEU-Ohio. I'd like to start at the beginning of 13 your direct testimony on pages 1 and 2. Let me know 14 when you're there. 15 16 Α. I'm there. 17 Here you are summarizing your educational Q. 18 background and business experience, correct? 19 Α. That's correct. 2.0 And in this section you identify several Q. 2.1 mechanisms that are available in the market to both 22 customers and utilities to reduce risk and volatility, correct? 23 24 Α. I do. 25 Q. I'd like to talk about one of the items

that you list on page 1, over-the-counter natural gas futures. Do you see that reference in your testimony?

A. I do.

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- Q. Over-the-counter natural gas futures that you identify here can extend for a period of time longer than that is available in NYMEX, correct?
  - A. Yes, it can.
- Q. And this over-the-counter natural gas future could be for a fixed price, correct?
  - A. Fixed or floating, but, yes, correct.
- Q. And this over-the-counter natural gas future would be available to both utilities and customers, correct?
- A. Yes.
- Q. And you also mention swaps and options.

  Do you see those references?
- 18 A. I do.
- Q. And swaps and options -- the swaps and options risk management strategies you mention here are also available to utilities and customers, correct?
- 23 A. That's correct.
- Q. And you also mention short- and long-term gas contracts. Do you see that reference?

A. I do.

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- Q. And natural gas contracts are available to customers for at least ten years, correct?
  - A. Yes.
- Q. When I referenced ten years in my prior question, did you understand that to be -- to mean for a term of ten years?
  - A. T did.
- Q. Okay. Now I'd like to talk a little bit about the fundamental forecasts that you have created. In general, the fundamental forecast that you create or that your group creates, it's used throughout AEP, correct?
  - A. That's correct.
- Q. And so that would be AEP Service Company as well as other operating companies, correct?
- A. AEP Service Company does create it, and there are units within AEP Service Company that would use it and other operating companies also, that's correct.
- Q. And one of those other operating companies that might use it would be, as you discussed earlier with counsel for Sierra Club, Appalachian Power, correct?
- A. Correct.

Q. And AEP Ohio might rely on your fundamental forecast as well, correct?

A. Yes, they do.

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- Q. Now, in relation to the parts of AEP

  Service Corporation that would rely on the

  fundamental forecast, could you give me some examples

  of some of the groups that would rely upon your

  fundamental forecast?
- A. Yes. Just an interesting example within our generation -- our generation department within AEP Service Corp., as they are looking to make engineering modifications to a generating station, they need to look forward as to what the value will be of power to justify a particular investment, that's a good example, above and beyond the normal integrated resource planning and regulatory use of the other operating companies.
- Q. If one of the generators, for example,
  AEP Generation Resources, was concerned about the
  value of its -- of one of its power plants and it
  went to do an impairment analysis -- are you familiar
  what an impairment analysis is?
- A. I'm familiar to the point where I know it's an accounting term, and I'm not involved in the accounting.

Q. But you understand they would compare the costs of that plant to the expected future market revenue streams?

A. Yes.

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Q. So as part of that impairment analysis, they would look to your fundamental forecast for the future market revenue streams, correct?

MR. CONWAY: Just a second. At this point it's not an objection but except for perhaps one of vagueness, which is the "they" that you're referring to are you referring to AEP Generation Resources or to the generation group within the Service Corp. that he mentioned or some other "they"?

MR. PRITCHARD: Well, I believe -- I'm just speaking in hypothetical terms. Let's just use AEP Generation Resources.

Q. If they were, hypothetically, looking to see if a value of one of their units was -- actually, let me back up.

Is the fundamental forecast available to AEP Generation Resources?

A. It is, subject to check, but I believe so. They pay part of American Electric Power Service Corporation's existence, so I imagine they would have access to its goods.

- Q. So if one of the organizations within the AEP wanted to look to see if their generation unit was impaired, they would look at the cost versus the projected market revenue streams which are available in your fundamental forecast, correct?
- A. I would expect that they would, and that would be correct with that qualification.
- Q. I think earlier you indicated to Mr. Bzdok that -- was it the strategic planning group would also rely on your fundamental forecast?
  - A. Yes.

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- Q. Can you think of any other entities or groups within AEPSC or within the AEP family that would rely on your fundamental forecast?
- A. The first one that comes to mind, although I understand from a press release they've been sold, is the barge operations, and they're quite interested in what loads they may carry up and down their waterways from power plants other than ours.
- Q. Any other groups that might use your fundamental forecast?
  - A. None that come to mind.
- Q. So for the groups that do use your fundamental forecast, they would use it in their ordinary course of business for whatever business

purposes they might have, correct?

- A. That's correct. Another way to phrase this would be I don't know of any other organization that would not use the fundamentals forecast.
- Q. And so when a fundamental -- a new fundamental forecast is created, it's released to all of AEPSC and is available through the AEP, Inc. intranet to all the operating companies, correct?
- A. It's available to everyone, that's correct.
- Q. And one of the groups that it would be available to would be AEP Ohio, correct?
  - A. Correct.
- Q. And it would also be available to AEP Service Corp., correct?
- A. Yes.

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- Q. And so anyone that regularly uses the fundamental forecast would know where to go on the AEP, Inc. intranet to pull the latest fundamental forecast, right?
- A. That's correct. And they also know to get ahold of me. I'll deliver it personally.
- Q. I didn't quite hear all of your response.

  MR. PRITCHARD: Could you read the answer
  back to me.

(Record read.)

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Q. Before you began preparing the 2015 fundamental forecast, the integrated resource planning group did not come to you and ask for your most recent forecast, correct?

MR. CONWAY: Could I have the question read back, please?

(Record read.)

MR. CONWAY: Thank you.

THE WITNESS: If you would be so kind, please reread it.

(Record read.)

"begin preparing" is the part of the question that bothers me because we're constantly analyzing all of the drivers of the energy market. You could even go so far as to say that we have begun preparing, at least in the research that we're doing, for the next forecast. So certainly the beginning of preparation happens after the prior forecast is released.

MR. PRITCHARD: Could I have that answer reread.

(Record read.)

Q. I'm not sure that within that answer you had answered my question, so forgive me if I

misunderstood, but let me just reask it.

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Before you began to prepare the 2015 fundamental forecast, the integrated resource planning group did not come to you and ask for your most recent forecast, correct?

- A. No, that's not correct.
- Q. Did the integrated resource planning group come to you and ask you for your 2015 fundamental forecast?
- A. It is a typical conversation coming from many different directions to ask for the latest forecast, and the integrated resource planning group would be no exception. If it's available, they can have it. If it's been released, they can have it. If not, it's not ready.
- Q. But they didn't specifically come to you in the months of January 2015 and June 2015 and request your most recent forecast, did they?
- A. Well, in preparation for IRP filings they will request the most recent forecast, so that portion would be true. You know, the 2015 forecast isn't available until it's available. It wasn't available for this proceeding, but it was available to the integrated resource planning group for their use in July.

- Q. In your process of preparing your 2015 forecast, regardless of the exact start date in 2015, the IRP group didn't come to you and ask you to give them your most recent forecast, correct?
- A. I guess they would ask for my most recent forecast to support their filing, so that's the only context I can give. I would expect that they would and they do.
- Q. Would you look at your deposition at page 224.
- A. I'm there.

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Q. At line 4 begins a question that reads:
"Before you began preparing this Fundamental
Forecast, did the IRP Group come to you and ask you
for your most recent forecast?"

Answer: "No."

Did I read that correctly?

- A. You read it correctly. But be aware that their IRP filings are not on some regular, predictable basis, at least from my perspective, so as they are preparing, they will come to me and ask me what's available. That may include a particular forecast or their cycle may even skip a forecast or two of ours.
  - Q. But in this instance, they did not come

and ask for your fundamental forecast when they were preparing their filing out, I think we established earlier it was July 1st, correct? That was your testimony during the deposition?

A. That's my testimony during the deposition.

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- Q. And, rather, as a general course of business and because you were aware that they had an upgraded integrated resource plan due, once your fundamental forecast was complete, you provided that to the IRP group, correct?
- A. That's correct. But you should know that the integrated resource planning group and my group report to the same senior vice president, and it would not be uncommon in staff meetings with that senior vice president of corporate planning and budgeting to have conversations about the work that we are doing, which would include my reporting on developing a new forecast.
  - Q. Who's that senior vice president?
  - A. Lonni Dieck, D-i-e-c-k.
- Q. And who else would be present at those staff meetings?
  - A. Her direct reports.
    - Q. Could you identify a few of them?

A. Ollie Sever, Pam Flemming.

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- Q. So it would be the four of you?
- A. Correct. Those are her only direct reports.
- Q. And are the other people in the integrated resource planning group or your group?
- A. Her four direct reports include myself, director of fundamentals analysis, the managing director of integrated resource planning, Scott C. Weaver, and two other direct reports involved with financial reporting and financial forecasting.
- Q. So the integrated resource planning group assisted Dr. Pearce in running the PLEXOS model for this case, correct?
- A. The integrated resource planning group ran the PLEXOS model. They didn't assist in running it.
- Q. So the integrated resource planning group ran the modeling in this case for Dr. Pearce.
  - A. Correct.
- Q. Switching a little bit to some of the actual information in the fundamental forecast, just as a general high-level item, if you decrease the natural gas price input into the AURORA model, there will be a corresponding decrease to the projected

on-peak power prices, correct?

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- A. You'd have to specify what location for me to answer that.
- Q. If the natural gas price earlier -- strike that.

For the PJM power prices, the on-peak power prices, would they be tied largely to the three pricing hubs that you discussed with Mr. Oliker earlier?

- A. No, but to speed this along, they would be tied to the AEP Gen Hub.
- Q. So if you decreased the relevant natural gas price on the hubs relevant to the PJM market, there would be a corresponding decrease to the on-peak power price in the PJM market, correct?
- A. That would be a good generalization, and -- but as you get further out in time and the generation fleet changes, there may be exceptions to that generalization.
- Q. Now I want to talk a little bit about the 5 percent above and below your weather normalized load case. Did you not run a new fundamental forecast to generate the energy market values for the 5 percent above and below normalized weather load, correct?

- A. That's correct. It was a specific query of the model with those parameters.
- Q. And by "query" you're referring to you were looking at the supply stack output of the weather-normalized fundamental forecast, correct?
  - A. That's correct.

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- Q. And so to look at what the 5 percent above and below load power prices would be, you took the normal-weatherized stack, generation stack, and you adjusted it 5 percent above and below to see what the corresponding power prices were, correct?
- A. Yes. Put another way, we kept everything constant except changed load. You expect maybe gas prices to go up or down. We kept everything the same.
- Q. And you did not recalculate the energy market prices for the 5 percent above and below load case based on the 2015 fundamental forecast, correct?
  - A. Correct.
- Q. And the reason you did not recalculate the 5 percent above and below market energy price values for the 2015 fundamental forecast was because your responsibility is to put out the fundamental forecast with the best available data and a sensitivity analysis is not required, correct?

- A. Not required. But I'm happy to do that upon request.
- Q. The on-peak power prices in your 2015 fundamental forecast for the period of 2016 through 2024 --
  - A. Yes.

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- Q. -- the on-peak power prices from the 2015 fundamental forecast are lower than the corresponding years for the 2013 fundamental forecast for the years 2016 through 2024, correct?
  - A. Yes, I agree.
- Q. And if you redid the analysis to calculate the power prices for the 5 percent above and 5 percent lower load based on the 2015 fundamental forecast, generally speaking, those values would be less than the values you calculated based on the 2013 forecast, correct?
- A. Correct. And, generally speaking, they probably would be in about the same proportion, high and low. It's basically the same supply stack between 2013 and 2015, generally speaking.
- Q. So somewhere in your testimony you indicated that for the 2013 forecast the 5 percent above was maybe 19 percent higher and the 5 percent low was maybe 7 percent higher, so you would

Ohio Power Company Volume V 1497 expect -- you would expect -- whatever the 1 2 percentages are in your testimony in regards to the 3 2013 forecast, are you indicating that they would be 4 roughly, approximate, the same above and below for the 2015 forecast? 5 Obviously, subject to check, that would 6 7 be my judgment. You could use that as a conclusion. 8 MR. PRITCHARD: I have no further 9 questions and I do not have any confidential cross. 10 EXAMINER PARROT: Thank you, Mr. Pritchard. 11 12 Mr. Yurick? 13 MR. YURICK: Just a few. 14 CROSS-EXAMINATION 15 16 By Mr. Yurik: 17 Mr. Bletzacker, according to your Q. 18 testimony you joined AEP in 2005, correct? Α. That's correct. 19 2.0 Q. Do you remember what natural gas prices 2.1 in Ohio were like around 2005? 22 Generally I do. Α. 23 Q. What general area are we talking about in

terms of prices in 2005?

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A. We all remember, I hope we all remember

that Hurricane Katrina and Rita affected the Henry
Hub. Gas prices got up to \$14 per MMBtu at the Henry
Hub. The Henry Hub was even closed for a number of
days. Thankfully, January was one of the warmest
winter months in a hundred years which saved us to
some degree, and that volatility was just painful for
everybody.

- Q. So were you, in 2005, were you able to correctly forecast what gas prices would be currently per Mcf?
- A. In 2005 I was quite capable of assembling the best available data to put together a logical forecast.
  - Q. I understand.

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- A. Well, I'm not done answering.
- Q. Well -EXAMINER PARROT: Let him finish, please.
- A. I can't know the unknowable. I can't know what weather will do. Let's call Hurricane Katrina and Rita a force majeure event, if we can be that wide with it, but what I can do and what our standard is is we have to assemble the best available data to create that forecast and certain things are just unknowable with weather being number one.
  - Q. Right. That's sort of the point. You

would agree that certain things in the forecast are just not knowable, right?

A. Oh, I would agree.

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- Q. And in 2005 were you able to accurately predict -- well, let me ask you, do you remember what power prices were like back in 2005, roughly, per megawatt-hour? I'm sorry, what energy prices were.
- A. I would have to check, but I think an estimation of heat rate and gas prices would get you close.
- Q. Would you say that currently energy prices are lower than they were back in 2005?
  - A. Generally speaking, I would say that.
- Q. And were you able to correctly forecast what energy prices would be like in, here in 2015 back in 2005?
- A. I was able to assemble the best available data in 2005.
  - Q. Right.
  - A. I can't -- that is exactly -- and that's a great example of what's unknowable.
  - Q. Right. That's my point. Forecasts can't always be completely accurate because there are unknowable things, correct?
    - A. But you can do the, to the highest --

Q. Well, you can explain but just -MR. CONWAY: Hold on. Let him finish his
answer.

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- A. What you can do is be held to the standard of having the best available data. That is the best that you can do.
- Q. I understand. I think my question was but some things in a forecast just aren't knowable. You can assemble the best available data, but in terms of an outcome, it's not always going to be spot on.
- A. Well, that's right. And I think that deserves to be expanded on from the standpoint of this band of credibility. If you go hang your hat on a forecast, and one part of a forecast, or you mix several forecasts, you are going to miss it more widely than just the best available data and not being able to know the unknowable.
- Q. Would you agree also that generally forecasts, in terms of being correct on outcomes, they would be sort of less accurate or less precise the further out you extrapolate the data?
- A. Yes. Let's draw a distinction between accuracy and precision. One thing that you can appreciate about a forecast at least is sometimes its

direction. You think that directionally prices will rise. We think that the value of the dollar will inflate.

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So if you can't come out with the precision of the second decimal point on a power price, at least appreciating the direction is a good idea.

- Q. Okay. So that leads sort of to my next point. Generally speaking, the point of your 2015 forecast is generally you expect gas prices to go up and also energy prices to go up over time, right?
- A. I'm very concerned about the collision between very low rig counts, a very fast down escalator of depletion, and what that new price will result in.
- Q. Would I be correct in saying generally your forecasts, based on, as you say, best available data show an increase both in the price of natural gas and, therefore, in the price of energy?
- A. If you give me a period, that would be more helpful. If you want to be very general, I can say that in the very out years on a nominal dollar basis it is a much lower forecast than other ones that you would see, particularly the EIA.
  - Q. Well, I'm just looking at I guess what's

been marked as Sierra Club No. 20 which I think is your forecast, in the years from 2016 to 2046 you show PJM AEP Gen Hub on-peak and off-peak prices going up over that period of time.

- A. I certainly see them rise from year to year.
- Q. Yeah.

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- A. I agree.
- Q. In fact, from 2016 to 2046 you have them going up close to a factor of four, right? From \$35, roughly, to \$121.
  - A. That's correct.
    - Q. And --
    - A. On a nominal dollar basis.
- Q. Right. And you would expect, again,
  natural gas prices to rise over that time period as
  well.
  - A. Yes. On a nominal dollar basis.
  - Q. Now, on page 12, line 9, and page 13, lines 1 through 2, you say that natural gas prices and coal prices are not co-related. I think that's the way you pronounce that word. Or correlated.
    - A. Correlated.
  - Q. Okay. And that means that coal prices and gas prices don't necessarily vary on a one-to-one

relationship. Is that accurate?

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- A. That's correct. And a better way to phrase that would be that the elasticity, how quickly price changes with natural gas compared to a change in demand, and that elasticity of coal are different numbers.
- Q. Right. So the increases in demand, the increases in demand are going to raise natural gas prices quicker than an increase in demand would raise coal prices, according to the best data you have.
  - A. That's a good generalization.
- Q. Doesn't that make coal generation plants more valuable?
- A. The low dollar per Btu value of coal and combined with a worse heat rate does yield coal generation at lower prices than other fuels as we see today.
- Q. But doesn't that mean, though, that AEP could make a lot of money by continuing to operate these coal plants over time?
- MR. OLIKER: Objection.
- MS. HENRY: Objection.
- MR. OLIKER: I believe that question is friendly cross.
- MR. YURICK: It's not at all.

1504 1 EXAMINER PARROT: Did you have anything 2 to add, Ms. Henry, or are you objecting on the same 3 basis? 4 MS. HENRY: On the same basis. 5 EXAMINER PARROT: Response? Are you finished, Mr. Yurick, with your response? I think 6 7 you just disagreed with them. Do you have anything 8 to add? 9 MR. YURICK: The objection was it's 10 friendly cross, so I don't know how much of a 11 response I really need to make I guess. 12 EXAMINER PARROT: I'm going to allow this 13 particular question. 14 THE WITNESS: I'll ask the question be 15 reread if you would be so kind. 16 (Record read.) 17 Α. That potential exists, yes. 18 When you say "potential," that means Ο. 19 there's a risk that they won't? 2.0 Α. There is a risk that they won't. 2.1 Ο. And under the PPA rider arrangement, 22 doesn't all that risk go to customers? 23 I'd like to help you there, but I'm not 24 that familiar with the PPA rider arrangement. I had 25 to put together this Long-term North American Energy

1505 1 Market Forecast. 2 MR. YURICK: No questions. 3 EXAMINER PARROT: Thank you, Mr. Yurick. 4 Mr. Boehm? 5 MR. K. BOEHM: No questions, your Honor. EXAMINER PARROT: Ms. Fleisher. 6 7 8 CROSS-EXAMINATION By Ms. Fleisher: 9 10 Mr. Bletzacker, in talking with Mr. Oliker I think you said that the AURORA model 11 12 includes renewables as one generation resource that it can select from? 13 That's correct. 14 Α. Okay. Does that include distributed 15 Q. 16 generation like rooftop solar, combined heat and 17 power? 18 Α. No. That distributed generation would be reflected in a different load forecast. So to the 19 2.0 extent that that infiltration is in the load forecast, it's included. 2.1 22 Okay. And would that -- I guess do you know what voltage optimization or VOLT/VAR is? 23 24 I have a general understanding, an Α.

engineering understanding.

- Q. Is it your understanding it's a form of improvement to the distribution system that can reduce line losses?
  - A. Yes. Very effective.
- Q. Is that a resource that's collected in your model?
- A. The model doesn't have an option to select that particularly as a resource but it has the opportunity just to react to different load forecasts. So it would be the input of the load forecast, it would be a function of what is within the load forecast that the model would react to. It doesn't select VOLT/VAR or any other thing like that to be on or off throughout the forecast.
- Q. And for your 5 percent load variation that you did present in your testimony, that wasn't based on actual historic load variation, correct?
- A. There was a connection to historic load variation, it was included in one of the interrogatories which identified the relationship between heating degree days, cooling degree days, and power dispatch, and a statistical analysis of how load would vary with plus and minus 10 percent or plus and minus one standard deviation of weather.

MS. FLEISHER: May I approach, your

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      Honor?
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                  EXAMINER PARROT: You may.
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                  MS. FLEISHER: Can I have this marked as
      ELPC Exhibit 14.
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                  EXAMINER PARROT: So marked.
                  (EXHIBIT MARKED FOR IDENTIFICATION.)
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 7
                  Mr. Bletzacker, is this the discovery
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      response that you were referring to?
                  That's correct.
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             Α.
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                  MS. FLEISHER: That's all I have, your
11
      Honor.
12
                  EXAMINER PARROT: Thank you,
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     Ms. Fleisher.
14
                  Mr. Settineri?
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                  MR. SETTINERI: No questions, your Honor.
16
      Thank you.
17
                  EXAMINER PARROT: At this point let's
18
     take a five-minute break and when we come back, we
      will see whether we have redirect.
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                  MR. CONWAY: Yes, I think we will have
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      some, your Honor.
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                  EXAMINER PARROT: Okay. Off the record.
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                  (Recess taken.)
24
                  EXAMINER PARROT: Let's go back on the
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      record.
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1 Mr. Conway, hold just for a moment.

I'm sorry, Mr. Beeler, I owe you an

apology. Do you have any questions?

MR. BEELER: No questions, your Honor.

5 Thank you.

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EXAMINER PARROT: All right. Mr. Conway.

MR. CONWAY: Thank you, your Honor.

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## REDIRECT EXAMINATION

By Mr. Conway:

- Q. Mr. Bletzacker, do you recall a series of questions from Mr. Oliker, IGS's counsel, that asked you about various aspects of the prices forecasted for natural gas by the Energy Information agency? I believe it was questions based on an exhibit that Mr. Oliker presented to you, IGS No. 2. Do you recall that?
  - A. I do recall that.
- Q. Are there any limitations, in your view, about the suitability or the usefulness of EIA projections, forecasts of natural gas prices as whether they're going to be -- turn out to be accurate?
- A. Well, let me just talk about the EIA forecast in general, and gas would certainly fall

within that. The EIA forecast 2013 and before starts off with a preface where it says that it's put together based on the assumption that current laws and regulations remain unchanged. So if you're looking for some reasonable assumption of the MATS rule back in the old days, or any other environmental mitigation, it's not in there.

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In 2015 the Long-Term Annual Energy
Outlook, it says three or four paragraphs down the
same, basically the same language, and even says
specifically "This excludes the impacts of the Clean
Power Plan."

So when you unwind the EIA forecast, you're missing a very big price mover when that forecast is put together under the assumption that current laws and regulations remain unchanged. A prudent forecast will include those things.

MR. OLIKER: Your Honor, I object and move to strike the completely nonresponsive answer.

I believe I heard the witness describe a 2013 EIA forecast and a 2015 annual long-term forecast. Those are not the documents I placed in front of the witness and there was no reference to that during my cross-examination.

What has been presented to the witness is

the EIA Short-Term Energy Outlook which was released on September 9th, 2015, which contains no such statements, and I would move to strike his answer which is completely not responsive to any form of cross-examination that occurred today.

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MR. CONWAY: Your Honor, the question that I posed to him was in reference to the EIA forecast that Mr. Oliker presented to him. I asked him whether he viewed the reliability of forecasts from EIA, including, as he mentioned, the 2015 Energy Outlook Forecast, but another EIA forecast, I asked him what does he think about the reliability of using forecasts from that organization for purposes of predicting future prices. I think Mr. Oliker was using his version of the EIA forecast for the exact same purpose.

And the point of -- the questions to Mr. Bletzacker were to find out from him whether in general he thought there were limitations on the use of the EIA forecast, and he explained in his answer what he thought the limitations were and he applied his explanation to other forecasts from EIA, but it applies to the one that Mr. Oliker presented to him in the first instance.

So I think it's within the range of my --

1511 it's responsive to my question. It keys off directly 1 from Mr. Oliker's line of cross-examination. 2 3 MR. OLIKER: Proves my point. 4 EXAMINER PARROT: I agree, Mr. Conway. 5 Your motion to strike is denied, Mr. Oliker. 6 By Mr. Conway: 7 8 Just to be clear, the 2015 Energy Outlook Ο. that you mentioned, that is a forecast from the EIA, 9 10 correct? MR. OLIKER: Objection. Vaque. 11 12 referring to the 2015 Long-Term Annual Energy Outlook 13 which is not contained in any of the exhibits that I 14 presented to the witness? 15 MR. CONWAY: Your Honor, I was just 16 clarifying for the record to make clear that that 17 forecast he was referring to was an EIA forecast. 18 That was the purpose of the question. 19 MR. OLIKER: My objection still stands, 2.0 though. 2.1 EXAMINER PARROT: The objection is 22 overruled.

MR. OLIKER: Can I have a clarification, your Honor, of which document he's referring to?

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MR. CONWAY: It's the document referred

to in Mr. Bletzacker's answer. The 2015, and correct me if I didn't get it right, Energy Outlook, the 2015 Energy Outlook.

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MR. OLIKER: And are you referring to the Long-Term Energy Outlook?

EXAMINER PARROT: Let's let the witness clarify what he was referring to.

THE WITNESS: I was referring to a product from the EIA, that's true.

- Q. (By Mr. Conway) Mr. Bletzacker,
  Mr. Oliker also asked a series of questions of you in
  which he inquired about the purchase and sale or
  agreements to purchase and sell natural gas into the
  future -- in the future for a particular price, and
  what kind of a transaction was he referring to when
  he was inquiring of that subject matter area?
- A. I believe he was referring to the purchase and sales of natural gas futures contracts.
- Q. And are those also sometimes referred to as forwards contracts?
  - A. Yes, they are.
- Q. And what's your view about the suitability of using forwards contracts arrangements pricing as a basis for forecasting future spot prices?

A. A natural gas futures contract is not intended to be and there are no -- there's no one who's rewarded for predicting the future spot price of natural gas, for instance.

What it does do is provides a willing buyer and seller with a price certain that they can buy and sell that commodity. It is very well suited for spreads between products, time intervals, for hedging purposes of various sorts, but it is not a suitable product for predicting -- forecasting future spot prices.

- Q. And does your opinion regarding use of forwards in that context apply in other contexts where types of forwards for commodities are being used?
- A. Well, it applies to all natural gas, it applies to power, certainly applies to grains and other futures markets commodities.
- Q. Do you recall from time to time questions from various of the counsel for intervenors regarding your 2015 fundamentals forecast?
  - A. Yes.

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Q. And do you recall in the course of your conversations with counsel for the intervenors your reference to the reason that you undertook to create

a new forecast due to changes in natural gas markets?

Do you remember that?

A. I do.

Q. Could you explain for us, what is the reason for -- what is that reason that you had for preparing that most recent iteration of the fundamentals forecast, and then could you also tell us what you think the future holds for the next forecast after that.

A. Well, certainly --

MR. BZDOK: I'm going to object to the compound question because the second part of that compound question may be objectionable on a stand-alone basis. I wouldn't object if you rephrased to do the questions in two separate ones so we can deal with that second one on its merits if the time comes.

MR. CONWAY: Your Honor, to me they're an integrated pair of questions and I think if the witness is able to respond, he should be allowed to give it a shot.

MR. PRITCHARD: I don't believe anyone asked him about his future forecast --

MR. BZDOK: That's the issue.

MR. PRITCHARD: -- in cross-examination.

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EXAMINER PARROT: I agree. Let's take them one at a time, Mr. Conway.

By Mr. Conway:

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- Q. Do you recall the first part of the question, Mr. Bletzacker, or would you like me to restate it?
  - A. I believe I do, Mr. Conway.

And my answer is that there is a -- oil prices have been held at around a hundred dollars for several years. The oil prices being held at a hundred dollars has allowed the United States oil and gas exploration and production companies to develop ways to extract oil and the natural gas that comes up with oil, called associated gas, as well as go after those very valuable liquids, liquids of course are propane, butane, and ethane, and the Utica in Eastern Ohio is a good example of where that is taking place.

Natural gas comes out as a, we can almost even call it a by-product of that exploration, but as oil prices have dropped to, let's just say nominally \$50, the commissioning of the rigs to drill new wells has dropped incredibly and that drop certainly puts a squeeze on the amount of natural gas that comes with associated oil and that comes to the surface associated with liquids production.

So it really stands to reason that we need to monitor production as -- well, rig count as it levels out, it's dropped quite a bit, production as it works through hedge positions that are in place, and currently natural gas production is leveling, at best, and maybe even dropping, and oil production is clearly dropping from EIA data. And we need to see how price begins to react as the continued depletion of those wells could put a squeeze on natural gas prices in the future.

So I'm very concerned about the cyclical nature of our business due to natural gas price drilling rig counts and how quickly that will rebound which could put a further upward squeeze on natural gas prices.

## O. And so --

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MS. FLEISHER: Objection. Move to strike as nonresponsive. I thought the question first was why he had prepared the 2015 forecast. I guess he clarified that was meant to explain that.

MR. CONWAY: That's not what the question was. The record will reflect what the question was. It was what was the reason for the need to, in his view, conduct the most recent fundamentals forecast, what events led him to do that. He just gave a

summary of the reasons behind that. So I disagree with the objection. It was responsive to my question.

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MR. OLIKER: In his answer he's trying to also provide something in the second question that counsel's probably not going to be able to ask.

MS. FLEISHER: Yeah. I'm happy to -- I can withdraw my objection as long as it's clear that that was meant to be the answer, the rationale, for why he prepared the 2015 forecast.

MR. BZDOK: He answered both questions even though there was an instruction of breakdown.

MR. OLIKER: I think that's the point.

MR. CONWAY: So am I still allowed to ask my next question?

EXAMINER PARROT: I'm hearing an objection but he's already, I mean, are you moving to strike his answer? Is that really what you're doing here?

MS. FLEISHER: Yeah, move to strike as nonresponsive to the question asked which is why he prepared the 2015 --

MR. CONWAY: It was responsive, your

Honor, for the reason that I just mentioned. If

you'd like me to make the argument again, I will, but

1 | it was responsive to my question.

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EXAMINER PARROT: I'm going to deny the motion to strike and allow the answer to stand.

By Mr. Conway:

- Q. Do you recall in the course of cross-examination with several of the intervenors' counsel, Mr. Bletzacker, that in the course of providing responses to the questions you point out that the process of preparing these fundamental forecasts is a continuous one and that the next forecast may even be in some stage of consideration at this point, at least as far as you're becoming aware of events that may contribute to the need to do another one?
- 15 MR. BZDOK: Objection. Very, very leading.
  - Q. Do you recall that?
    - A. I do recall that.
- MR. DARR: There's an objection pending, your Honor.
- 21 THE WITNESS: Understood.
- MR. CONWAY: Your Honor, just trying to
  get through this. I have like one more question and
  I'm finished.
- MR. DARR: Doesn't change that there was

an objection pending, your Honor.

EXAMINER PARROT: I'm going to ask you to rephrase, Mr. Conway.

By Mr. Conway:

- Q. Do you recall in the course of your conversations with several of the intervenors' counsel, by my count, Mr. Bletzacker, that the process that of -- that you reported that the process of preparing fundamentals forecasts is an ongoing one?
- A. T do.
- Q. And what would you -- what do you believe are the prospects that in the future the next or some subsequent forecast will reflect some of the cyclical changes and the completion of those cyclical changes that you mentioned to the current most recent forecast?

MR. OLIKER: Objection.

MR. PRITCHARD: I would object on two grounds.

21 EXAMINER PARROT: One at a time, please.

MR. PRITCHARD: One, I don't believe that, again, we asked about his future forecast and, two, the leading question calls for him to speculate about what the results of his future forecasts are

1520 going to be. 1 2 EXAMINER PARROT: Anybody else? 3 MR. BZDOK: Lack of foundation. 4 MR. OLIKER: Yeah. I would also add to that that he indicated he has to consider all the 5 information available to him at the time and he 6 7 hasn't identified when that forecast may be 8 completed, what information he may consider. There's 9 a vast amount of speculation involved in this. 10 MR. CONWAY: Your Honor, first of all, 11 there was conversation -- questioning by the 12 intervenors' counsel which touched on this subject 13 matter of the continuous nature of the preparations 14 of his fundamentals forecast; that's the first point. 15 And then the second point is that he is 16 the expert on the preparation of fundamentals 17 forecasts, so his opinion about what might be upcoming in future forecasts that would drive them to 18 19 be conducted I think is within his ability to testify 2.0 about. 2.1 EXAMINER PARROT: Anything else, 22 Mr. Conway? 23 MR. CONWAY: No. 2.4 EXAMINER PARROT: I'm going sustain the

multiple objections on this one.

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1521 1 Anything else, Mr. Conway? 2 MR. CONWAY: No, your Honor. Thank you. 3 EXAMINER PARROT: Mr. Bzdok? 4 MR. BZDOK: No redirect. No recross. 5 Excuse me. EXAMINER PARROT: Mr. Ghiloni? 6 7 MS. GHILONI: No recross. 8 EXAMINER PARROT: We'll jump out of order 9 a little, Ms. Fleisher, since you're siting there. 10 MS. FLEISHER: No questions. EXAMINER PARROT: Ms. Bair? 11 12 MS. BAIR: No questions. 13 EXAMINER PARROT: Mr. Oliker. 14 MR. OLIKER: Just very briefly. 15 16 RECROSS-EXAMINATION 17 By Mr. Oliker: 18 Mr. Bletzacker, you would agree that the 19 IGS Exhibit 3 relates to a short-term Energy Outlook 20 which is not the documents that Mr. Conway and you 2.1 were discussing? Correct? 22 MR. CONWAY: I was referring to IGS No. 2 23 I believe, Mr. Oliker. If I misspoke, that's what I 24 was referring to. 25 Q. I'm sorry. To clarify, it's IGS Exhibit

- 2 is the Short-Term Energy Outlook; is that correct?
- A. I have in front of me IGS Exhibit 2 and it refers to the September 9th release of the U.S.
- 4 Energy Information Administration's STEO, Short-Term
- 5 Energy Outlook.

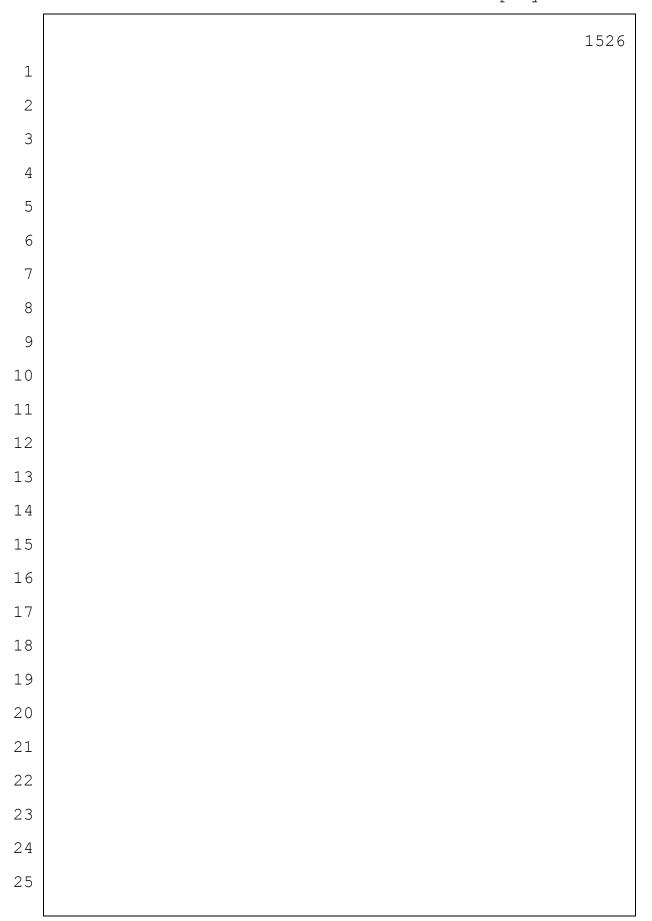
1

- 6 Q. Just for clarity of the record, this is
- 7 not the document that you were discussing with
- 8 Mr. Conway, the Long-Term Energy Outlook of 2013 or
- 9 | 2015, correct?
- 10 A. I was describing the EIA which includes
- 11 | the Long-Term Energy Outlook.
- 12 Q. Okay. And you would agree that the
- 13 Short-Term Energy Outlook pertains to 2016, and not
- 14 beyond?
- 15 A. I do.
- 16 Q. And you would agree the Clean Power Plan
- doesn't go into effect until 2022.
- 18 A. I would agree.
- 19 Q. Okay. And, lastly, if you could turn to
- 20 page 4 of what's been marked as IGS Exhibit 2, you
- 21 | would agree that that U.S. natural gas price graph
- 22 relates to the Henry Hub spot price predicted through
- 23 2016.
- 24 A. Yes.
- MR. OLIKER: Thank you. No more

1523 questions, your Honor, Mr. Bletzacker. 1 2 EXAMINER PARROT: Mr. Pritchard? 3 MR. PRITCHARD: No cross-examination. 4 Recross-examination, your Honor. 5 EXAMINER PARROT: Mr. Yurick? MR. YURICK: No questions. Thank you, 6 7 your Honor. 8 EXAMINER PARROT: Mr. Boehm? 9 MR. K. BOEHM: No questions, your Honor. 10 EXAMINER PARROT: Mr. Settineri. 11 MR. SETTINERI: No questions, your Honor. 12 EXAMINER PARROT: And, finally, 13 Mr. Beeler. 14 MR. BEELER: No questions. Thank you. 15 EXAMINER PARROT: I believe, Mr. Conway, 16 you have already moved for the admission of Company 17 Exhibit No. 6. 18 Are there any objections to its admission? 19 2.0 (No response.) 2.1 EXAMINER PARROT: Hearing none, Company 22 Exhibit 6 is admitted. 23 (EXHIBIT ADMITTED INTO EVIDENCE.) 24 EXAMINER PARROT: Thank you very much, 25 Mr. Bletzacker.

1 THE WITNESS: Thank you. 2 EXAMINER PARROT: Mr. Bzdok. 3 MR. BZDOK: Thank you, your Honor. At 4 this time I would move for the admission of Sierra 5 Club Exhibits 18, 19, 20, 21, and 22, and I would make the clarification that as to 22 I am including 6 7 the color versions of those pages that I offered, 8 distributed, and that the witness examined during his 9 cross. 10 EXAMINER PARROT: Okay. Thank you. Are there any objections to the admission 11 12 of Sierra Exhibits 18 through 22? 13 MR. CONWAY: No, your Honor. 14 EXAMINER PARROT: Hearing none, Sierra Exhibits 18 through 22 are admitted. 15 16 (EXHIBITS ADMITTED INTO EVIDENCE.) 17 EXAMINER PARROT: Mr. Oliker. 18 MR. OLIKER: I would move for the admission of IGS Exhibit 2, 3, and 4, and I'd like to 19 2.0 double-check to make sure I gave the court reporter 2.1 the color exhibits that I presented to the witness 22 which is in Exhibit 2 and 3. EXAMINER PARROT: It doesn't matter. 23 24 MR. OLIKER: Okay. 25 EXAMINER PARROT: It gets docketed in

1525 1 black and white. 2 MR. OLIKER: Does it? So unfortunate. 3 EXAMINER PARROT: Are there any 4 objections to the admission of IGS Exhibits 2 through 4? 5 MR. CONWAY: No, your Honor. 6 7 EXAMINER PARROT: Hearing none, IGS 8 Exhibits 2 through 4 are admitted. 9 (EXHIBITS ADMITTED INTO EVIDENCE.) 10 EXAMINER PARROT: Finally, Ms. Fleisher. 11 MS. FLEISHER: Your Honor, I'd move for 12 the admission of ELPC Exhibit 14. EXAMINER PARROT: Any objections? 13 14 MR. CONWAY: No. 15 EXAMINER PARROT: All right. Very good. 16 ELPC Exhibit 14 is admitted into the record. 17 (EXHIBIT ADMITTED INTO EVIDENCE.) 18 EXAMINER PARROT: Thank you, everyone, for hanging in with us this evening. We will see you 19 2.0 all on Monday, 9 a.m., and we will pick up with 2.1 Company Witness Bradish. Thank you. 22 (The hearing adjourned at 6:04 p.m.) 23 24 25



1527 1 CERTIFICATE 2 I do hereby certify that the foregoing is 3 a true and correct transcript of the proceedings 4 taken by me in this matter on Friday, October 2, 5 2015, and carefully compared with my original 6 stenographic notes. 7 8 Maria DiPaolo Jones, Registered Diplomate Reporter and CRR and 9 Notary Public in and for the State of Ohio. 10 11 My commission expires June 19, 2016. 12 13 14 Rosemary Foster Anderson, 15 Professional Reporter and Notary Public in and for the State of 16 Ohio. 17 My commission expires April 5, 2019. 18 19 (79418-mdj/rfa)2.0 21 22 23 24 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 10/02/15 - Volume V electronically filed by Mr. Ken Spencer on behalf of Armstrong & Okey, Inc. and Anderson, Rosemary Foster Mrs.