BEFORE THE PUBLIC UTILITIES COMMISSION OF OHIO

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In the Matter of the Application Seeking Approval of Ohio Power Company's Proposal to Enter into an Affiliate Power Purchase Agreement for Inclusion in the Power Purchase Agreement Rider	:	Case NO. 14-1693-EL-RDR
In the Matter of the Application of Ohio Power Company for Approval of Certain Accounting Authority	:	Case No. 14-1694-EL-AAM

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DEPOSITION

of Karl R. Bletzacker, taken before me, Cynthia L. Cunningham, a Notary Public in and for the State of Ohio, at the offices of American Electric Power, 1 Riverside Plaza, 29th Floor Conference Room, Columbus, Ohio, on Friday, October 30, 2015, at 9:00 a.m.

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KARL R. BLETZACKER

being by me first duly sworn, as hereinafter certified, deposes and says as follows:

CROSS-EXAMINATION

By Mr. Bzdok:

Q. Good morning, Mr. Bletzacker.

A. Good morning.

Q. Thank you for taking the time. I only have a few questions for you today concerning your rebuttal testimony. I'd like to start on Page 4.

MR. CONWAY: Mr. Bzdok, could you pause for just a moment? I think I heard possibly someone else getting on the conference bridge.

MR. BZDOK: Certainly.

MR. CONWAY: Did someone just get on the bridge? Maybe it was somebody getting off the bridge. Thank you. Go ahead.

THE WITNESS: I'm on page 4, Mr. Bzdok.

Q. (By Mr. Bzdok) Thank you very much. So starting on Page 3 and turning over on to Page 4, you have some testimony generally about the role of futures, the futures market in capturing price spread; is that generally correct?

A. That's generally correct.

Q. I'm just trying to understand with my following couple of questions trying to better understand what you mean in some of the statements that you make on Page 4. So take a look at line 1 and 2. How does this spread between natural gas, propane and other natural gas liquids, which you call fractionation spread, illustrate the use of energy futures prices to justify the capital and operating costs of physical assets?

A. The purpose of this point was to identify that futures are used for other purposes.

Q. Sure.

A. One of which is to trade on spreads. And the final sentence I think sums it up well in that those participants which had price spreads between different time periods and between different commodities, as in your observation of fractionation spread and spark spread and dark spread, they just don't have any fundamental interest in the current or spot market price of the commodity, they're only interested in the spreads. So whether it's a $10 and a $10.50 price for gas, if a storage operator sees that 50 cent spread, they like that spread, that's what they'll react to.

Q. Sure. So I'm just trying to make sure that I understand the sentence correctly, or if the sentence needs to be clarified, I want to be able to do that. You've got a sentence in which you say, "Similarly, price spreads between..." and then you have three categories of spreads. And then you say that after listing the three categories, they "also illustrate this widely accepted use of the energy futures contract prices to justify the capital and operating costs of certain physical assets," correct?

A. That's correct.

Q. For each of them, I'm trying to understand how each of the ones you list do that starting with the first one.

MR. CONWAY: Mr. Bzdok, just a moment.

(Off the record.)

Q. (By Mr. Bzdok) I'm back.

A. I believe I've retained your question, and to respond, as we go through each of these three spreads, the purpose of these three spreads is that the people that would engage the energy futures market are doing so to justify their particular piece of equipment that they've made capital and operating cost commitments towards, these certain physical

assets as I say at the end of the sentence.

Certainly if you buy a fractionator, that piece of equipment to take out propane, butane and ethane from a natural gas stream, you need to know that those spreads between those two futures contracts are such that you can justify the ownership and justify the operating maintenance expense of that piece of equipment.

Similarly, with an electric generator, presumably an IPP, the spread between coal -- or natural gas and electricity certainly allows you to make a decision about whether you want to run that particular unit because the futures spreads say that it would make sense for you to do that.

And similarly, with coal and electricity, that dark spread, if that spread is such that you can justify the operating and maintenance expense of that piece of equipment or looking in the long run, the capital and operating costs -- or the capital costs of that equipment, that futures market will help you do that. Of course, that's an entirely different purpose than using those futures to predict future spot price.

Q. Thank you. And just for the record, IPP

is Independent Power Producer?

A. Yes, sir, that's correct.

Q. So that relates to your second category, the spark spread category?

A. Yes, sir, that's correct.

Q. In actual operation, do operators of coal units participate in the activity listed in your third category?

A. Well, I have no direct experience with the operation of coal units, but I can -- I can offer that despite that lack of direct experience, when a spread is seen between coal and power, that justifies a certain heat rate and you have a machine that can generate electricity at a better heat rate that would certainly be an encouraging sign for you to lock in those spreads, hedge those spreads and move forward. Same thing with obviously natural gas and fractionation. As to who does that and how many folks do that, I do not know.

Q. And the statement you just made as to who does that and how many do that, is that statement true of all three categories you list here, or was that specific to the coal unit operators?

A. Oh, that's specific to all three.

Q. Okay. So you don't know what quantity of futures market activity actually reflects these three categories of activity you list here?

A. No. I just know that it is an accepted tool.

Q. If we don't know how much of it, how much of this activity actually goes on, we don't know to what extent this activity shapes futures prices; is that fair?

A. No, I can give one example. As the vice president and chief operating officer of National Gas and Oil Company, which is a publicly traded natural gas utility and marketing company in eastern Ohio, we operated a fractionation unit, and it was my responsibility to hedge those spreads for that fractionation unit to remove propane out of the natural gas stream. So I have at least one example of one of those three -- one of those three points given in my testimony.

Q. Beyond that one example, do you have any knowledge as to the level of influence that these activities you've described here have on futures prices?

A. No.

Q. Next category of -- next bullet point in your rebuttal testimony here is about the lack of energy futures market liquidity being on the near term; is that correct?

A. That's correct.

Q. Now, in your first deposition, my question is not going to be a detailed -- I'm just going to preface my question by saying it's not a detailed citation to page and line number. My next question is just about your general memory.

Generally, is it consistent with your memory from your first deposition that you told me that you maintained some general awareness of futures, but it was not something that you spent a lot of time on in your position preparing long-term forecasts for AEP?

Is that consistent with your memory?

A. My general memory is that I do spend some amount of time looking at the futures. I can attest to that memory.

Q. Okay. Give me a second. When you say you do spend some amount of time, I'm not asking for a minute calculation; I'm just asking you to elaborate on that. What are you doing and for what

purpose?

A. I solicit information all the time. I'm constantly reading from all the sources that have been provided in discovery before, and that also includes the futures market. So you're right, I can't put a certain amount of time on it, but it's probably best to phrase it as futures information, and those values are not excluded from consideration, particularly in the extremely nearby.

Q. Define "extremely nearby."

A. My definition would be up until the next November, but I think to use it roundly, just in the next few months, next two or three months.

Q. When you said next November, were you making reference to the fact that it's October 30 today and so you were saying within the next year, or was there some other independent significance to the month of November in that answer?

A. There's some other significance, in that storage, speaking of natural gas futures in particular, storage is, we'll say, generally full on November 1st or about November 1st. Depending on weather, storage inventories can be compromised or they can be above average levels.

Then as you move through the summertime, those storage levels need to be replenished. And futures values can express the intensity at which and the price response associated with that need to refill. So the definition of the word "nearby" cannot for me extend beyond the next November. That's the maximum.

Q. Got it. You described today some time that you spent reviewing futures data as part of your job responsibilities. Other than reviewing the data, the outputs of those markets, what experience do you have or what steps have you taken to understand the operation of the NYMEX futures market?

A. Well, as listed in my direct testimony under my background, I have been involved in actively purchasing and selling natural gas futures since the natural gas contract came out in April of 1990. My direct experience, though, did fall off as I came to work for AEP approximately ten years ago.

So up to that point, I had been involved in using the NYMEX futures market for purposes of hedging customers' needs, the operation of the fractionation plant as we had talked before and other things. So I have considerable direct experience in

the natural gas futures market.

Q. Same answer for ICE?

A. No, not ICE. They're fundamentally similar, but I have not traded on ICE.

Q. How do you know they're fundamentally similar?

A. Well, that's my professional opinion and professional experience. I have had experience here with AEP as the folks that do trade on ICE have asked for my view of the fundamentals as they make those trades. So I've witnessed trades, although not done the trades specifically myself, directly myself.

Q. Okay. The answers you've given -- Well, the answer you gave as to NYMEX was couched in terms of natural gas futures, and then you indicated ICE is fundamentally similar. Do you have other experience or have you taken other steps toward understanding any other aspect of any energy futures trading specific to energy market futures?

A. Well, yes. I have many colleagues here that are engaged in the active purchase and sale of power futures and natural gas futures for the purpose of hedging off-systems sales. And being in a position to offer advice in that venue has me quite

comfortable with the -- that mechanism, that -- the functionality of being able to buy and sell those contracts.

Q. Tell me more about that. How do your colleagues at AEP use power futures to hedge off-system sales?

MR. CONWAY: At this point, Mr. Bzdok, I would just like to caution the witness that we'd be careful not to get into confidential or trade secret type information in the course of answering the question, and if at all possible to avoid that entirely. And if we need to get into a confidential record, we can consider that, but I would just caution Mr. Bletzacker to keep an ear open and a sensitive one open to that possibility.

MR. BZDOK: Sure. I mean, I'll stipulate. I'm only looking for his general understanding. This is a foundational question.

A. I can say with general understanding that because the purchase and sale of energy market futures is an activity that takes place at American Electric Power and that my understanding of the fundamentals, which perhaps provides incentive to hold or incentive to sell sooner or buy sooner, that

that gives me a lot of we'll call it passive experience in the purchase and sale of those contracts.

Q. Okay. Let me ask one more question on that, and I'm not looking for specific corporate strategies. My question is, can you give me an explanation suitable for a layperson of what it means to be engaged in the power futures market to hedge off-system sales?

A. Sure, Mr. Bzdok. If a generator, and we don't even need to say specifically American Electric Power, but if a generator finds that its ability to generate exceeds its need for native load, it can decide to operate its unit, obviously bid it into PJM if that's where they're located, bid that into PJM or sell it into the realtime market.

If they have used futures to hedge a spread between their cost of fuel and a futures price for electricity and their resulting heat rate makes sense to them or another -- the term would be really selling heat rate spreads, they may -- they may find that's something they wish to do.

Q. So that activity is as a seller on that market; am I understanding you correctly?

A. That example is as a seller.

Q. Is there an example you can give me of that type of activity as a buyer?

A. Well, certainly those folks that are CRES providers, those folks that are taking care of a particular, I'll say, industrial customer's need to the extent that that customer is happy and comfortable with a particular price moving forward, they can buy power futures as a hedge of that price to give that customer that assurance.

Q. In terms of general understanding without disclosing specific proprietary company strategy, do you have colleagues at AEP who engage in the energy futures market as buyers?

A. Yes.

Q. And generally, just tell me generally about what that activity entails.

A. Well, I think it's in line with what I mentioned earlier to the extent that they have the responsibility to match a wholesale load to a particular customer and that particular customer would like to see a fraction or all of it, typically a fraction, of their load locked in at a particular price, those futures are the mechanism to do that.

Q. Any other ways that you're aware of that your colleagues at AEP generally engage in the energy futures market as buyers besides what you've just described?

A. Well, that also includes the purchase of fuels. I would imagine that in an unregulated environment, the tools -- utilizing the tools necessary to hedge fuel prices could be an option that is -- that is taken from time to time.

In my position, I'm asked questions about the fundamentals forecast, I believe, to try to let folks have an understanding whether futures are -- in which direction futures prices are likely to move because they're not a representation of future spot prices.

MR. BZDOK: Okay. Could we go off the record?

MR. CONWAY: Yes.

(Off the record.)

Q. So we're on Page 4 of the witness' testimony, the first bullet point that fully appears starting at line 9. Mr. Bletzacker, in that discussion of energy futures market liquidity, you talk a little bit about level of open interest that

exists in NYMEX and ICE in different time periods, correct?

A. That's correct.

Q. What do you mean by "open interest"?

A. "Open interest," and I've defined that before, I believe, is the number of pairs in the futures market. There's a commitment to sell and a commitment to buy that have been -- that are open on the market that have been traded on the market that have -- that are, you might say, there for the record.

Q. Did you say there for the record?

A. Yeah. Let me clean that up and say that that identifies a number of pairs of contracts that have been traded to date.

Q. You make a statement in this section of testimony, you say -- I'm just paraphrasing now, but referring to the period beyond 2019, you indicate that the NYMEX and ICE data you have reviewed shows little or no open interest in the period after -- beyond 2019; is that correct?

A. That's correct.

Q. And I guess beyond 2018 for AEP Dayton Hub power futures, right?

A. That's correct.

Q. And then you make a statement that price propositions for that period do not reflect actual NYMEX or ICE transactions, correct?

A. Yes, that's correct.

Q. What do those price propositions for those periods reflect?

A. My understanding is those are surveys that are run by the respected exchanges of outside those exchange-traded futures transactions that have taken place. From my perspective, it's unaudited, and I don't have the availability to review the background of those price propositions.

Q. In your understanding from the familiarity with these markets that you've described today, what kind of outside transactions are those?

A. I don't know. I don't know what those include. I know that the exchange-traded markets engage in some sort of survey to create those prices. And how they -- what the process that they use, I do not know.

Q. Your understanding generally is that it is data reflecting some kind of reported actual transaction activity, though, right?

A. I don't know that I agree with the word "reported." It may be a survey where it's just simply a phone call, but again, I don't know.

Q. So are you telling me you don't know anything about what type of outside transactions are reflected in the price propositions for periods of no open interest?

A. I'm telling you I don't know the methodology that the exchange-traded futures use to develop those price propositions.

Q. So what is your understanding of what kinds of transactions, outside transactions, are occurring that are informing in some way or other those price propositions?

A. That's just my general understanding that a survey of some type, some solicitation of some type is used to fill in those price propositions. And, of course, open interest shows there really wasn't a buyer and seller that came together with those prices.

MR. BZDOK: Could I ask that the witness' last statement be read back.

(Record read.)

Q. There wasn't a buyer and seller that came

together at those prices within the futures market or at all?

A. Within the futures market; otherwise, the open interest wouldn't be zero, for example.

Q. What is your understanding of the type of transactions that occur for -- I guess we'll break it down. We'll talk about natural gas and we'll talk about energy. What is your understanding of the type of natural gas transactions that are occurring outside the futures market in the periods we've described that may have some role in informing via whatever methodology price propositions for those periods?

A. Parties can come together outside exchange-traded futures and come to an agreement to buy and sell a commodity for a particular future period. So I'm referring to nonexchange-traded transactions which I see no record of those.

Q. Would you agree that some of that activity is occurring directly between a buyer and a seller and some of it is occurring through some type of brokerage activity?

A. Certainly those activities can happen directly between a buyer and a seller, and they can

happen between -- with an intermediary, a broker of some kind, yes.

Q. As to natural gas, based on your experience that you've described, what is your general understanding of the level of those type of activities for periods three, four, five years out?

A. I have no knowledge of activity where exchange-traded futures -- whether exchange-traded futures market exists in the nearby. Well, let me rephrase that as a three, four, five years out. Typically if you're looking for a longer deal than exchange-traded futures would offer, say, a 30-year natural gas deal, you have to go to outside markets or outside connections to make those things happen, but I have no knowledge of the volume that takes place, either nearby or over that long-term.

Q. Okay. Are your answers the same for energy futures?

A. Yes. Energy, meaning electricity?

Q. Yes. Power, I think you called it, right?

A. Correct.

Q. Based on your lack of knowledge of the methodology and your lack of knowledge of the volume

of activity about which information is being collected, is it fair to say you have no knowledge upon which to doubt the voracity of the data being relied on for those out-year price propositions?

A. I am saying that there is an exchange-trade vehicle from which a buyer and seller can come together, and they've chosen not to come together, and, therefore, a zero open interest appears. And I don't have knowledge of what volume takes place beyond that because that's unknowable to me, and it's unknowable to the general public; therefore, I don't agree.

Q. When you say you don't agree, don't agree with what?

A. That a lack of knowledge of those transactions would imply that there's a lack of knowledge as to the volume that would maybe substantiate those prices that are filled in by those exchange-traded futures based on the unaudited surveys that they apparently do.

Q. You make a statement in the same section of testimony that, "Should any attempt be made to purchase natural gas or power futures in this period, it would greatly increase demand and run up prices,"

correct?

A. That's correct.

Q. Run up prices in what period?

A. Well, it would be in the period that there is little or no open interest where there could be very large bid ask spreads. And depending on the amount of volume that you wish to hedge, it's quite common to be squeezed during those periods.

Q. What do you mean by that?

A. If you're looking to buy and the number of sellers is limited, your price will be run up. In market terms, that's called a short squeeze.

Q. I think you've described, as you've described it, an open interest data point reflects both a buyer and a seller, correct?

A. That's correct.

Q. And as you've just described it to me, the basis for your belief that an attempt to purchase in a period of low open interest would run up prices is that you would have an increase of demand, so to speak, in a time frame for which there's very little supply being offered; is that fair?

A. That's fair.

Q. How do we know from open interest data

how much supply is being offered or do we know that some other way?

A. Well, one way to get an indication is to look at the bid versus the ask spread. If that spread is very wide, it indicates certainly a difference in value from the eyes of the purchaser or the seller. If there is no bid or ask listed, which is the case in most of those out years, then you don't know what the opposing or equalizing contract -- potential contract holder views as a price in which they would be willing to sell in this example.

Q. Got it. I want to move to Page 8 of your direct testimony -- or your rebuttal testimony. And really starting on Page 7, there's a question and then there's a long answer that begins at the end of Page 7, then carries on to Page 8. Are you there?

A. Yes, I am.

Q. You make a statement on Page 8, lines 3 and 4, that "46.3 billion cubic feet per day of natural gas liquefaction for export to Free Trade Agreement countries has been proposed to the U.S. Department of Energy," correct?

A. That's correct.

Q. Do you know how from your general awareness and your general responsibilities preparing the fundamentals forecast how many liquid natural gas export facilities are in current operation in the U.S.?

A. I know generally, but I would need to check.

Q. What's your general knowledge?

A. Well, certainly since 1968, the Kenai, K-E-N-A-I, plant has been in operation liquefying natural gas in Alaska and selling it basically to Japan.

Q. Any others?

A. Others are under construction and may be to certain stages of completion. I am not aware.

Q. You're not aware of any others that are in operation other than Kenai?

A. Not that I can quote specifically.

Q. Do you know how many are proposed currently?

A. To Free Trade Agreement countries, 46.3 bcf is proposed. To non-Free Trade Agreement countries, which is not in this testimony, it's about another 43.

Q. What's the significance of that distinction?

A. A Free Trade Agreement country has less barriers to the approval process than does non-Free Trade Agreement countries. You could extrapolate some greater ease for the approval process to a Free Trade Agreement country than a non-Free Trade Agreement country.

Q. What's your knowledge of what those facilities are or how many there are or what stages of the process they're in?

A. Well, the Department of Energy has a very good summary of all of that. I would have to refer to that, so I can't do that from memory, but they are in all stages of completion to -- just like the electric generation being proposed, but we need to refer to that Department of Energy document.

Q. Is that a document that you reviewed in the process of preparing this testimony from which you got that 46.3 number?

A. Actually, it's part of the suite of documents that I review constantly. Certainly threats to the upside of natural gas prices is very important to us and to this forecast, and that is

certainly one.

Q. What Department of Energy document are you referring to as part of the suite of documents you review constantly?

A. Well, I don't know that I have a particular name for the document, but I know that it's readily accessible in searches when you go to the Department of Energy, specifically the Energy Information Administration, just proposed LNG export. And there is a very detailed summary of everything that's been proposed and what stage of completion they're in.

Q. So it's an EIA document?

A. Yes.

Q. Listing proposed LNG export amounts and a detailed summary of what makes that up; am I understanding correctly?

A. Yes, and, of course, the EIA is a division of the U.S. Department of Energy.

Q. Does the document provide facility specific information or some other type of information in terms of detailed summary?

A. My recollection is it provides facilities specific information certainly by operator.

Q. Anything else you can tell me about it that you can think of?

A. Not at this time.

Q. So if I worked for you and you said, you know, "I need you to pull up that document," how would you tell me to find it?

A. Do a Google search or go to the Department of Energy EIA and do their search to look for natural gas liquefaction proposals.

Q. To your knowledge, does EIA's natural gas price projections assume that these facilities get built and operate?

A. To my knowledge, they do assume some small level, yes.

Q. What do you mean "some small level"?

A. As I remember, it's less than 10 bcf a day is what they anticipate in the next 10, 15 years.

Q. What's the source of your knowledge of that?

A. The EIA forecast.

Q. So EIA makes a lot of forecasts. Can you be more specific?

A. Let's call it the AEO 2013, 2014, or '15. Of course, AEO stands for Annual Energy Outlook.

Q. You prepared a fundamentals forecast that has been admitted into evidence in this case from October of 2013; is that correct?

A. That's correct.

Q. What assumptions, if any, does that forecast make about the building and operation of LNG export facilities?

A. It assumes about 8 bcf a day, and that takes place -- that's a number that is around 2025. So my recollection is 8 bcf a day in 2025.

Q. You also prepared a fundamental forecast from sometime in 2015 that's been admitted into evidence in this case, correct?

A. That's correct.

Q. What assumptions, if any, does that 2015 fundamentals forecast make about LNG export facilities?

A. Same as 2013.

Q. What's your understanding about EIA's point of view about the potential impact of these export terminals on gas prices?

A. I can't recall specifically what EIA's point of view is, but generally you would have to conclude that the less -- the greater the demand, the

higher the price and, of course, LNG exports should be considered a demand of domestic natural gas supply.

Q. How does the industry's capacity increase production play into that, if at all?

A. Well, ultimately supply has to equal demand, so an increase of production would be necessary if there's an increase in demand. And depending on these things that just definitely need to be monitored such as the use for transportation, LNG exports, imports from Canada being less supply, exports to Mexico being more demand, the normal supply/demand price relationships hold.

Q. What type of impact on price does your 2013 fundamentals forecast attribute to the 8 bcf of exports that that forecast assumes?

A. I don't recall specifically.

Q. Is it a significant -- I mean, I'm just looking generally. Is it a big factor? Is it a small factor?

A. I think you could conclude or you should conclude that natural gas supply is relatively elastic in that as demand increases, supply can respond. It certainly isn't at the same price that

supply was made available in prior years, but generally speaking, there is ample supply but at an increased price according to standard -- or not standard but demand supply elasticities.

Q. Can you elaborate on that?

A. Well, I can say that the -- as supply increases to meet demand, that that comes -- that is made available at a price that is related to the slope of the supply curve at that particular point of intersection, and that that's the principle that's involved.

Q. So am I understanding you correctly that because of elasticity of supply, the relative elasticity of supply, the increase in demand posed by an 8 bcf LNG export scenario, price is going to be responding to a lesser extent than -- Is what you're saying is that the elasticity of supply is going to have a dampening effect on the increase in price attributable to an increase in demand?

A. I'm saying that the elasticity of supply defines what the price increase will be related to an increase in demand.

Q. So a high elasticity of supply relatively results in a relatively lower increase in price due

to increase in demand, all other things being equal?

A. That is correct.

Q. That's your outlook for this particular subject, correct?

A. That's correct.

Q. I think you said today that the 2015 fundamentals forecast makes the same assumption relative to LNG exports as the 2013 fundamentals forecast, correct?

A. That's correct.

Q. And the 2015 fundamentals forecast just generally projects in an overall sense lower natural gas prices than the 2013 fundamentals forecast; is that generally true?

A. That's generally true.

Q. So that the lower natural gas prices projected in the 2015 forecast are being driven by factors independent of this LNG export issue, correct?

MR. CONWAY: At this point, Chris, you're now I think getting pretty far afield from the rebuttal testimony itself, in particular, the point that's being made at Page 8. So I think you're now going back to plowing territory that we've already

been through during the direct case. So I'm going to tell him -- very quickly I'm going to instruct the witness not to answer questions that are outside the scope of the rebuttal testimony.

So you can go ahead and answer the one question pending, but if there's any more progression along this line, I'll instruct him not to answer because it's outside the scope of his rebuttal.

THE WITNESS: Would you care to rephrase, Mr. Bzdok?

MR. BZDOK: Could the court reporter read the question back.

(Record read.)

THE WITNESS: I can answer that question, and the answer is correct.

Q. (By Mr. Bzdok) Given Mr. Conway's objection, I'm going to say that my next question is probably the last one on this topic, and he can decide what he wants to do, but it's driven by factors of greater magnitude on natural gas prices than the LNG export issue, correct?

MR. CONWAY: I'll just at this point, I'll instruct the witness to not answer. You're now getting back into the 2015 fundamentals forecast

purely and exclusively, so I don't think it has anything to do with rebuttal testimony.

MR. BZDOK: For the record, he's talking about others prematurely dismissing credible threats to U.S. natural gas prices, and so I'm asking him questions about the significance on prices of one of the threats that he's elaborating on, so I think we're squarely within the rebuttal testimony. And I'm not from Ohio, but I'm unfamiliar with the idea that you can instruct someone not to answer a deposition question based on relevance or scope.

MR. CONWAY: The purpose of the deposition for the rebuttal testimony, Mr. Bzdok, is to give you an opportunity to understand his rebuttal testimony. It's not permitted, it's not a common practice to reopen discovery either by agreement or otherwise, during the rebuttal phase. And so you're on a short leash, much shorter than you would be if we were actually in discovery which we're actually technically not.

MR. BZDOK: For the reasons I stated, I think we're exploring the relative magnitude of one of these credible upside threats he's asserting compared to other factors, so I think we're squarely

within the rebuttal.

MR. CONWAY: And I disagree.

MR. OLIKER: Dan, this is Joe, if you continue to go down this path the other way, you can always call the Attorney-Examiners if you're going to instruct him not to answer because that's not proper unless you can call for a limiting instruction from the Attorney-Examiner.

MR. CONWAY: If you have questions, if you can connect up to his rebuttal testimony, then that's perfectly fine, we're willing to go forward. So go ahead and try.

MR. OLIKER: The burden is on you, Dan. The burden is on you to obtain a protective order. So it's on you to call her if you want to; otherwise, let him answer the question.

MR. CONWAY: Well, if we can get past it with one more Q and A, then so be it.

MR. BZDOK: This was my last question, so I'd ask to have it read back and get the witness' answer.

(Record read.)

A. That's correct.

MR. BZDOK: Thank you. That concludes my

questions for you. If others have questions, would it be appropriate to take a five-minute break before we continue?

MR. CONWAY: Does anyone else have any questions?

MR. OLIKER: I do but not many.

MR. CONWAY: Okay.

MR. PRITCHARD: Matt Pritchard. I might have one or two follow-up questions, but I'll let Joe go.

MR. BZDOK: Do you mind if we took a quick five?

MR. OLIKER: That would be great.

MR. BZDOK: I've got 10:04; we can just start at 10:09.

MR. CONWAY: Or thereabouts, that would be fine.

(Recess taken.)

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CROSS-EXAMINATION

By Mr. Oliker:

Q. Mr. Bletzacker, good to get a chance to talk to you again.

A. Yes, pleasure. Thank you.

Q. I want to turn to the statement where you're talking about, it says, "Open interest (or the total number of open futures contracts of a given commodity) is extremely low, or zero, for NYMEX and ICE natural gas futures beyond 2019 and PJM AEP Dayton Hub power futures contracts beyond 2018." In this sentence, how do you define "extremely low"?

A. Well, I don't know that I have an exact definition, but I can give some examples. Certainly zero is very low, so I think there would be no discussion about that. Given that ICE power futures are for one megawatt and the CME group or NYMEX power futures are for 5 megawatts and that in those periods of illiquidity, there is very little trading. In ICE, for example, there may be only at most -- I won't say at most, but from time to time 100 megawatts or so or less of trading or so of trading. That is certainly de minimus with respect to the total generation that is available in PJM AEP Dayton Hub.

Q. Okay. Let's stick to natural gas. What's the low amount of open interest on, for example, ICE?

A. I don't know that there's a bright line

between what's low and not low, but one level of measure would be does it represent -- what percentage does it represent of national demand.

Q. Okay. Would you agree that ICE is more liquid than CME when you go out past two years?

A. I would have to look at the data, but subject to check, I would agree.

Q. And typically that's because ICE is where the transactions are occurring on that platform, the further out you go as opposed to CME?

A. Well, that kind of felt like the same question to me, Joe, but yes, subject to check, if there are more transactions on ICE a few years out, that's an objective thing, so I would just have to check and see.

Q. Would you agree that you can see observable transactions occurring on ICE out to 2026 for natural gas?

A. To the extent that there's any open interest that would be an observable transaction. So the point there's any open interest, I would agree to whatever date. It's subject to check as far as 2026.

Q. Okay. And moving back to -- Did you look at CME for natural gas over the past week?

A. Yes, I have.

Q. Well, would you agree that prices for this winter and next winter are trading below $3 for MMBtu?

A. Future prices, yes, subject to check, I would.

Q. And would you agree that -- You talked about hedging for physical assets; do you remember that discussion with Mr. Bzdok?

A. I do.

Q. And natural gas combined cycle is an example of one of those physical assets that may hedge using futures, correct?

A. That's correct.

Q. Would you agree that given the current low natural gas prices in the futures market, there are likely natural gas combined cycle power plants that are locking in at least a slice of their natural gas requirements for the next several years?

A. I would agree that if you were to look at the power price along with the gas price, which plays into that point I made about spreads, that if that spread is such that it is better than the heat rate that you have of your particular unit, you may be

inclined.

Q. Okay. So what's a typical heat rate for a natural gas combined cycle power plant?

A. For ease of math, let's say 7, or 7,000, however you choose to do the math.

Q. So do you know what the variable dispatch cost of a natural gas power plant is at $3 per MMBtu for natural gas?

A. Well, on heat rate alone, that would be $21, but there are other variable O&M costs that are unique to each individual plant.

Q. Would you agree that at $3 per MMBtu, natural gas combined cycle power plants could be competitive in the peak and off peak hours at the AEP Gen Hub?

A. No, Joe, I don't.

Q. Why is that?

A. Because you've included off peak, and off peak may be set by coal.

Q. Now, looking at your 2013 forecast, your 2016 off peak price at the AEP Gen Hub, isn't that about $34?

A. I don't have that in front of me, Joe, but subject to check, I'll accept that.

Q. And what are the non-fuel variable dispatch costs of a natural gas combined cycle power plant, if you know?

A. Generally speaking, it's operation and maintenance charges.

Q. Which you agree it's in the range of $3 to $5, somewhere around there?

A. Certainly subject to check. I don't think it's unreasonable to make that assumption.

Q. So assuming $3 per MMBtu gas, would you agree that that's about $10 below if you assume the other variable dispatch costs for off peak that you've assumed in 2013 forecasts?

A. Okay, I need to work through the mathematics. It appears as if we're working towards some sort of heat rate spread. Please rephrase that for me.

Q. Okay. Let me come at it this way: If you've assumed in 2016 that the off peak price is $34.10 per megawatt hour, if there's $3 per MMBtu gas available for a natural gas combined cycle power plant, $3 to $5 per megawatt hour non-fuel variable dispatch cost, doesn't it look like there's about $9 or $10 of heat rate spread between your off peak

forecast and what a natural gas combined cycle power plant could currently lock in for fuel?

MR. CONWAY: At this point, Joe, could you explain what the connection is between the line of questions and the rebuttal testimony?

MR. OLIKER: Dan, he's talking about the ability of a physical asset to lock in a futures contract. I'm exploring that.

MR. CONWAY: Which part of the testimony are you -- You're referring to Page 4, lines -- Which lines are you -- Are you on the first bullet starting on Page 3 or the second bullet on Page 4?

MR. OLIKER: I think I'm on Page 3 as one of the places, "Capturing price spreads between time periods and between different commodities."

MR. CONWAY: All right.

Q. (By Mr. Oliker) So did you get all that, Mr. Bletzacker?

A. I'm close, but I would like to ask, the 34.10, of course, is a fundamentals forecast off peak power price, and you're walking me through calculations that include futures prices; is that generally correct?

Q. Yes. I'm saying what if we had a natural

gas combined cycle generator that was relying on your off peak power price forecast, that's how they would do the heat rate spread calculation, right?

A. Generally, yes.

Q. Okay. And if that were the case and they locked in their natural gas at $3 per MMBtu, then if the Henry Hub goes someplace else and they don't buy at the spot, they're not going to be affected, right?

A. That's correct.

Q. And it also turns out because they're not affected, they could be the marginal unit and set the LNP price at $25 instead of the $34 you predicted, correct?

A. If the market is such that $25 is the marginal unit, yes, that will be the marginal price.

Q. Okay.

A. It won't be because of their single action.

Q. Why not? If they're the marginal unit, why wouldn't they be the single factor that sets the price?

A. Well, certainly everyone would be in line with that same price. Everyone else would have done the same thing to end up with, say, $25 being the

marginal price. So the unit to the left of them is just a little bit cheaper; the unit to the right of them is just a little more expensive.

So they all had the same line of thinking. So it was a group effort as opposed to just one guy could make that happen. If he's the marginal unit, he's the marginal unit, but it would take everyone to the left and to the right of him to do the same thing.

Q. Okay. And are you involved at all in the hedging activity or any of the natural gas purchases at the Lawrenceburg facility?

A. Not directly, no.

Q. How are you indirectly involved?

A. I'm asked generally for information about the fundamentals forecast. And my understanding is that would be -- give some indication as to the desire to hedge now or at a later date or not at all.

Q. Okay. So the discussion that we just had about heat rate spreads, that's something that AEP Generation Resources considers, correct?

A. And many others, I'm sure.

Q. Okay. And would your answer be the same if I asked you about the Waterford or Darby

facilities?

A. Again, not having a direct experience with their fuel procurement, I have to believe that that is a consideration, if not a strong consideration.

Q. And given the current low price environment for natural gas, you would agree that AEP Generation Resources is making decisions on whether to hedge forward for several years?

A. Oh, I'm sure that they are looking at all of their options, that's correct.

Q. Just like every other natural gas combined cycle power plant in PJM?

A. I would imagine. That would be my guess, yes.

Q. Okay. Turning to the discussion of heating degree days and storage levels which I think starts on Page 6. First you have a cross reference to your direct testimony, and that's on line 23 of Page 6 where you reference Figure 2.

A. If that's a question, that's correct, Mr. Oliker.

Q. And that refers to the graph that shows the relationship as you describe it between the

storage deviation from the five-year average and its impact on prices, correct?

A. Yes, we call that the storage yield curve.

Q. Okay. The one thing in 2014 or 2013, would you agree that natural gas prices never actually reached $16 per MMBtu at the Columbia Gas Transmission Appalachian Index?

A. I don't have that graph in front of me. I'd have to check that information. If my graph shows it, then that is a proper number, but I'd have to check.

Q. Mr. Bletzacker, could you check that number? Because I understand that Mr. Conway may have concerns, but you cross-referenced it in your testimony, and I can't find that $16 number that's on your Figure 2 graph, and I would just like you to double check that one.

A. Okay. So we're looking for my direct testimony? Do you have that?

Q. The graph you cross-reference on Page 23 from your direct testimony, and you don't have to do it now, I understand you don't have it in front of you, but could you please check that $16 number?

A. Sure.

MR. CONWAY: Joe, where's the $16 value you're referring to? I'm sorry to belabor the point.

THE WITNESS: It's in the direct testimony.

MR. OLIKER: Yeah, he cross-references a graph in his direct testimony that wasn't terribly relevant to me at the time, but it is now that he's cross-referenced it.

MR. CONWAY: And your question is?

MR. OLIKER: Can he double check his number?

MR. CONWAY: We don't have the direct testimony or the work papers for that with us today.

MR. OLIKER: He couldn't do that anyway now. I just want to go back to that Appalachian Index and double check it.

MR. CONWAY: And then do what? Get back to you at a later point about it?

MR. OLIKER: It might be relevant at the hearing.

MR. CONWAY: Okay. All right.

Q. (By Mr. Oliker) Understanding you don't have that information in front of you now, we'll move

along. The Figure 2 in your rebuttal testimony, you talk about storage levels. You would agree that in 2015, this past winter, the colder weather that occurred was throughout February, correct?

A. Well, I'm not offering in this rebuttal testimony any comment about when the colder weather occurred.

Q. But you agree the storage levels in February of 2015 were below the five-year average? And that's reflected on Figure 2 as the red line.

A. Yes, but I also note that "February 15th is the point where further storage inventory decline is of less concern because the chance of a peak day diminishes exponentially." So there could be reasons other than cold weather that storage inventory would decline in February because winter is almost done.

Q. Are you aware of any of the challenges that LDC has had managing their storage this past winter?

A. Not directly or not significantly.

Q. Are you familiar with any of the concerns that Duke Energy Ohio raised regarding having to make large amounts of purchase in the spot market in February and March?

A. I am not aware of that, Mr. Oliker.

Q. And are you aware of any issues that happened in Michigan regarding difficulty managing their storage levels and having to purchase gas on the spot market in the consumers' territory?

A. No, I am unaware of that. And I assume you're talking for this recent winter, correct?

Q. Yes.

A. The answer is the same.

Q. But the principle you're discussing is that when storage levels decrease, it increases demand in the spot market; is that correct?

A. It's more complicated than that, Mr. Oliker.

Q. How is it more complicated?

A. I try to define that in my rebuttal testimony and certainly in my direct testimony. But to provide a quick summary, storage has to provide deliverability. So mcf or bcf a day, as well as just volume, bcf or mcf, natural gas and storage fields has a base gas or a cushion gas or a spring that allows the gas to come out quickly or not as quick depending on the level of deviation from normal levels, or level of depletion, we'll call it. So,

it's -- there's more to storage than just the volume that's there. It's the deliverability as well as the volume.

Q. So at what level is deliverability limited or not possible anymore? Would you agree it's got to be less than 1,400?

A. Could you define the units on the 1,400?

Q. BCF has to be significantly below that amount.

A. What I can say is that when storage levels are below normal, or in this graph on Figure 2 below a hundred percent, both deliverability would be affected as well as remaining volume, so a 1,400 number would have to be tied to a period of time.

Q. What period of time would you use to make 1,400 a relevant number?

A. I'd have to look to see to do that research, Mr. Oliker, but generally speaking, you can conclude that when storage levels for any given week, they're posted by week, as you know so well, when those storages levels are below 100 percent or below normal, you can expect the deliverability, as well as the remaining volume, to be compromised. And those levels depend on what part of the season we're in.

We're very full on November the 1st, and I'll just generally say very empty on March 31st.

Q. Okay. Would you agree that for the winter, January of 2015, we were below the five-year average?

A. Yes, nationally.

Q. And we were below the five-year average in every single storage projection report except for February 13th of 2015?

A. I think that your question could be verified. I would agree by the red line I presented in Figure 2.

Q. And February 27th, we were actually close -- in 2015, we were actually close to 90 percent of the five-year average?

A. I agree with that observation.

Q. And on March 6th of 2015, we were actually close to 85 percent of the five-year average?

A. I would agree with that observation.

Q. Okay. And yet at all times in February and March of 2015, the Henry Hub is trading below $3; is that correct?

A. I would need to check. I assume that

you're referring to futures and not spot prices.

Q. Futures and spot. Is your answer different for both of those two things?

A. Yes.

Q. Explain how it's different.

A. Well, certainly, the March contract expired at the end of February. The February contract would have expired at the end of January, and those are for equal deliveries throughout those months. Spot prices at the Henry Hub typically reported by Platts Gas Daily would reflect that daily value. I'm sure it makes perfect sense why those would be different numbers.

Q. But were they all above $3 per Btu?

A. I would have to check. I don't know.

Q. Switching gears to the LNG discussion you had with Mr. Bzdok, you indicated, I believe, that in 2025, the 2013 forecast assumed that there would be 8 bcf a day of LNG exports in 2025?

A. Yes.

Q. Is that the United States or the United States and Canada?

A. That's the U.S.

Q. And what level of LNG exportation did the

model assume would exist in 2020?

A. I don't recall.

Q. And that number wasn't in the fundamentals forecast workpaper, was it?

A. No.

Q. Okay. And would you agree that the price of LNG in global markets is typically tied to the price of oil?

A. I know that some contracts are oil linked, yes.

Q. Especially in the Asian markets?

A. I would agree that some level of those contracts are tied to oil in Asian contracts.

Q. Okay. What were the locations that you assumed LNG would be exported to in that 8 bcf number you provided me?

A. I don't know that we go to the detail of identifying what the ultimate destination is. We are weighting, W-E-I-G-H-T, all of the proposals, the 46.3 Free Trade Agreement countries and the other 43 of currently non-Free Trade Agreement countries, risk-weighting the likelihood of they're just being exports in general. Where they go to doesn't play into that number.

Q. Okay. And I believe you indicated to Mr. Bzdok you don't know how many LNG export facilities are currently under construction; is that true?

A. Not -- I don't have them committed to memory at this point.

Q. Do you know how many there are?

A. How many total facilities that are under construction now?

Q. Yes, in the United States.

A. Not specifically.

Q. And would you agree that you also don't know how many facilities have been proposed to the Department of Energy for approval; is that correct?

A. Yes, I also know they're just one click away.

Q. Would you agree that analysts predict that any LNG export facility in the United States that's not currently under production -- sorry, under construction, that it won't be built largely due to the price of oil?

A. I am not surprised to hear that an analyst could come to that conclusion, but I can't specifically recite that I've read something to that

exact conclusion.

Q. How close do you follow the LNG markets?

A. I follow them as close as the energy consultancies that provide us information -- provide information about LNG markets. And LNG exports is a component of demand into the future, so I would say I have -- I monitor them.

Q. You indicated that you did a weighting of the total amount of bcf per day attributed to the facilities that have been proposed. How did you do the weighting?

A. I would call that a consensus understanding of the EIA's view of the likelihood of those exports and the quantity of those exports and the timing of those exports, along with other consultants that express an opinion about those numbers.

Q. At the time you did the weighting, was the price of oil much higher?

A. In the 2013 forecast, yes.

Q. And you indicated you didn't adjust the LNG for the 2015 forecast; is that correct?

A. That's correct.

Q. And why didn't you adjust it when the

price of oil went down?

A. LNG facilities construction is certainly a long-term asset, and oil prices being low currently is likely a cyclical activity. They will return to some other structural level. And it doesn't have that great of an influence on that investment decision long-term nearby prices.

Q. So as I understand your answer, you assumed that the price of oil would go back up in the future?

A. That is correct.

Q. And am I correct that in coming to your 8 bcf LNG forecast number, you didn't take into account for shale gas production that may occur in foreign markets such as China?

A. Well, I have to believe that that is included because the -- I guess in total, we could call it some -- some 90 bcf a day of proposals on this long-life asset -- this long-life liquefaction asset, that those proposals have to include some threat that shale gas will be developed in other countries and at prices that don't justify the transportation costs from the United States to those other countries.

Q. So this is another way to come at it: Is it because you assume that the consultancies that provide projections of LNG exports considered the possibility of shale being developed in foreign countries, therefore, you assumed it?

A. Well, I think you can assume it because the EIA has come to that same conclusion, that those resources will be developed in a much longer time frame than other countries.

Q. And are you familiar with the level -- the term "technically recoverable reserve"?

A. Yes, I am.

Q. And you would agree that the largest amount of shale gas in the world of any country exists in China?

A. Subject to check, I put them in the top three.

Q. What are the other two?

A. Russia and South America.

Q. By South America, you mean Argentina?

A. I don't know that I can go to that specificity but generally South America. I wasn't talking about a country. Kind of thinking of it in terms of regions.

Q. You also discussed, and I just want to make sure I understand what you're saying when you're discussing LNG as a long-haul trucking transportation fuel, and this is on Page 8, lines 9 and 10, the 9 bcf per day potential you discussed, did your model assume any level of LNG for long-haul trucking?

A. No. The amount would have been de minimis. It would have been less than half of bcf a day.

Q. And would you agree that LNG for long-haul trucking has largely been shale due to the current price of oil?

A. I would agree that in the nearby, that's correct, but this is a long-term forecast stretching out to 2030, 2040 and beyond.

Q. Would you agree that LNG is not suitable for long-haul trucking so long as oil is below $65 a barrel?

A. I'm sure there are many variables in that analysis, but I would agree that there is a breakeven point somewhere to make those decisions to utilize LNG for long-haul trucking.

Q. And switching gears to I believe you talked about CNG as well?

A. You'll have to help me there.

Q. Let me see. Let me give you a reference.

A. Oh, I do --

Q. Just above it.

A. Line 8, I see it, yes.

Q. You talk about compressed natural gas as well as the transportation fuel. What level of CNG does your model assume in the U.S. in 2020?

A. I don't recall specifically for 2020, but it's going to be even less than LNG for long-haul trucking, so we'll say less than half a bcf a day.

Q. What about 2025?

A. I don't know.

Q. Okay. And are you familiar with the Class 8 truck?

A. No.

Q. Okay. Do you know how much it costs to convert a long-haul truck to CNG?

A. No, I don't.

Q. Do you know how much it costs to build a commercial grade compressed natural gas filling station?

A. No, not at this time.

Q. Do you know how many CNG filling stations

there are in Ohio?

A. No.

Q. And just to clarify your answer about LNG and CNG assumptions in your model, were you referring to the 2013 forecast?

A. Yes.

Q. Would your answer change for the 2015 forecast?

A. No.

Q. And there's a statement toward the end, the very last statement in your testimony, "AEPSC does monitor and recognize these developments and others for inclusion in its fundamentals forecasts." Now, are any of the items that you've identified on Page 8 included in your 2015 forecasts that aren't included in your 2013 forecasts?

A. No.

Q. So I guess what is the purpose of offering this statement on Lines 12 and 13 of your testimony? Is it just to identify that things can change?

A. The major purpose is that that monitoring and recognizing threats to the upside, because those do change, is important as you develop fundamentals

forecasts, and that there are others than just these that are listed that also need to be monitored.

Q. And that it's important to use the best possible available information; is that correct?

A. That's correct.

Q. I think we've covered this, but the 2015 forecasts is the best possible information that AEP currently has; is that correct?

MR. CONWAY: Objection. This is now -- You're now getting off the rebuttal testimony, Joe. This is the same territory you plowed during the direct case. Let's move on. It has nothing to do with his rebuttal points that he's making here.

Q. (By Mr. Oliker) Well, let's turn to where you say the best available information. This is on Page 1, okay. You say, "The appropriate method or manner to forecast long-term energy prices is to capture the best available information regarding all aspects of the long-term energy markets and to employ comprehensive and reliable electricity market forecasting models such as AuroraXMP."

Mr. Bletzacker, you would agree that your 2013 forecast does not account for the best available information?

MR. CONWAY: Objection. And at this point, Joe, you're now back in -- you're clearly off the rebuttal and you're into the direct case, and we're not going to go over that ground again. You had plenty of opportunity to do it already.

So the point of this, the rebuttal testimony, in the deposition here is to understand and develop whatever you like about his specific criticisms of the use of the futures by the intervenor Witnesses Wilson, Chernick and Leanza, as well as to address one of Mr. Leanza's criticisms of the storage levels and their impact on prices during the recent winters, then finally to deal with the need to pay attention to upside threats in the course of preparing long-term forecasts.

It's not to go back and re-litigate the points that we've already litigated thoroughly in the direct case. So if that's where you're going with this, then we're done with your examination.

MR. OLIKER: Dan, this is a really broad statement he's got in his rebuttal testimony.

MR. CONWAY: It is absolutely in connection with -- it's simply a set-up to the rebuttal points he makes. That's all that it is.

It's not a loophole to get back and re-litigate the rest of this case that was already litigated on direct. So we're not going to do it.

MR. OLIKER: Definitely I'm going to ask him what part of his own testimony he's referring to with this.

Q. (By Mr. Oliker) I'll ask you plainly, Mr. Bletzacker, does this statement right here on Page 1, lines 16 through 19, do you believe -- First of all, Mr. Bletzacker, you realize that Mr. Leanza criticized your 2013 forecast?

A. Yes, I realize that.

Q. Now, do you believe this statement that you have in lines 16 through 19, does that apply to your 2013 forecast?

A. This is a general statement that is a set-up for the points I'm going to make further which is that futures prices are not an adequate surrogate for a long-term fundamentals forecast.

Q. So you're not offering this statement in support of your 2013 forecast?

A. No.

Q. Okay. Just one minute. Going to Page 3, line 18 and 19.

A. Okay. I'm there.

Q. And you indicate under No. 4, "...the glaring exclusion of the reasonably known Clean Power Plan Final Rule." Now, would you agree that transactions that are currently happening on CME or ICE after 2022 would have to have assumptions regarding the Clean Power Plan?

A. Restate that, Mr. Oliker, please.

Q. Well, let's take it one step at a time. The futures contracts that are taking place on either CME or ICE, those are transactions between willing buyers and sellable sellers on a price that they've negotiated, correct?

A. To the extent than there's an open interest, that's correct.

Q. And if there's a transaction that occurs after 2022, there's a meeting of the minds between those two parties that that is the price that will be paid at that time, correct?

A. That's correct, that that is the price that will be paid.

Q. So there's no renegotiation in 2022 or 2023 around that price, correct?

A. That's correct.

Q. And, therefore, each party had to make some sort of assumptions about what impact the Clean Power Plan may have on market conditions at that time, correct?

A. I don't think that that's correct. They would have to make assumptions that they are happy selling at that price and believe it's good for them and someone is happy buying at that price. How prices may actually turn out with a Clean Power Plan is of no interest to them.

Q. But they would consider the Clean Power Plan in their negotiations; would they not?

A. Since I can't be in their minds, the only thing I can say is that they had come to the conclusion that that price was acceptable on both sides for their ultimate purpose, whatever that would be.

Q. And knowing that the Clean Power Plan will likely exist, correct?

A. Again, I can't get into the thought process of those participants, but what I can say is here in testimony, and that is that the Clean Power Plan would imply that there would be more spreads -- a greater spread between those time periods than what

is seen.

Q. Turning to Figure 1.

A. Yes, on Page 5.

Q. Am I correct that the futures lines that you have provided, those are the dates those futures were recorded?

MR. CONWAY: Are you referring, Mr. Oliker, to the dates that are beside each of the colored references to the lines down at the bottom of the graph?

MR. OLIKER: Yes, that's correct.

MR. CONWAY: Your question again is? Could you restate it or rephrase it?

Q. (By Mr. Oliker) Yeah. The lines that you've charted on the graph, that reflects futures prices that were entered in the month that is next to the line?

A. No, but to be specific in anticipation of your next question, to be specific, those prices on that particular date represent the settled price or the last price of all the futures contracts going forward.

Q. Okay. So I noticed you don't have anything for 1-1-2014 or 1-6-2014; is that correct?

A. Yes, that's correct.

Q. And that's when the Polar Vortex occurred, specifically January 6th through January 8th of 2014, correct?

A. Yes.

Q. And what did futures prices look like on those dates, if you remember?

A. I do remember that the nearby was very high, and there was some backwardation getting onward to the rest of the futures contracts.

Q. Could you define "backwardation," please?

A. "Backwardation" is where futures contracts drop for some period of time and it's the opposite of Contango where futures prices increase over a period of time.

Q. And that's because the market had confidence that the price of gas would decrease in the future, correct, relative to the levels during the Polar Vortex?

A. Or you could say it had a lack of confidence that the extreme high prices nearby would sustain, but it doesn't take away from the fact that nearby futures values and future-future values are tethered to spot prices.

Q. The near term high prices in the futures market recorded during the Polar Vortex was limited to only the following month, correct?

A. Well, I'm struggling to digest that. I can say that the -- the prices, the spot prices during the Polar Vortex as discussed before were high and futures prices were high very nearby and then return to some level that I don't recall now, but I would imagine that they're very much in line with this widespread that you see in Figure 1.

Q. Would you agree that they were not over $5 in any month outside of the one month where prices were above that in the Polar Vortex?

A. I would have to check, but it's a very objective item.

Q. So, in other words, during the Polar Vortex, this is another way of saying it, would you agree that we would have seen a line very similar to -- at least through 2018 similar to the type grouping that we have here on your figure 1, and that excludes the futures that were taken on April 1st, 2018?

A. I'd just be speculating what that would look like, but my point still remains is that they

are synchronized to the -- synchronized or tethered to the current spot month.

Q. Okay. If we take out the futures line on April 1st of 2015, would you agree that the deviation that we've seen in pricing is less than 50 cents per MMBtu through 2018?

A. How do you define deviation in pricing? Is that between other futures contracts or do you mean the summer/winter spreads that you see there?

Q. I'm referring to both, actually. If you look at I believe the lowest line through 2018 is the futures contracts recorded on November 1st of 2013; is that correct?

A. I don't think it is, Mr. Oliker. Could you repeat it so I can answer correctly?

Q. I'm focusing on the typed grouping that looks relatively close through 2018, and I'm excluding the futures from April 1st of 2015. And would you agree if we compare the futures taken on March 15 of 2013 and November 1st of 2013, that it looks like there's only about a 50-cent difference between the futures contracts in each month, and that takes into account the seasonal differential?

A. Subject to check, I would generally agree

and you could find that specifically in my work papers.

Q. Okay.

MR. OLIKER: Thank you, Mr. Bletzacker, I believe those are all the questions I have.

MR. CONWAY: Mr. Pritchard.

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CROSS-EXAMINATION

By Mr. Pritchard:

Q. Yes, thank you. Just a few questions. Mr. Bletzacker, you've traded -- you indicated earlier that you've traded on NYMEX; is that correct?

A. That's correct.

Q. You also entered into futures contracts that weren't on NYMEX, correct?

A. That's correct.

Q. And those contracts that weren't through NYMEX, you've entered into contracts ten years or longer, correct?

A. That is correct.

Q. What's the longest you've entered into?

A. I can say that that is in excess of ten years and was tied to the life of certain producing assets, so it was like a life of wells contract is

what that price was fixed to.

Q. And are you aware of whether other entities enter into long-term futures arrangements in excess of ten years?

A. I'm aware that that does take place.

Q. And when you're looking into a future contract, you indicated one thing that you would look at is modeling of future prices, for example, your fundamentals forecasts when considering whether you would want to enter into a futures contract, correct?

A. If you're referring to the history or my experience with using natural gas futures in particular, that was specifically tied into a customer's desire to fix the price for their needs, and that direct experience did not include -- their decision did not revolve around at all the use of -- or the inclination of a particular long-term forecast.

Q. Okay. Let me break it up into two parts. Before you joined AEP, when considering whether to enter into a futures contract, what pricing would you look at to determine whether the futures contract was a reasonable price?

A. Generally speaking, those were

industrials that needed to make a decision either for budgetary certainty, that alone can be a reason, or budgetary certainty and the comfort that the product that they were going to sell would yield them margins that were acceptable to them.

Q. In actually deciding on the final contract price with some market seller, what would you have looked at in your role of entering into the contract on the industrial customer to determine the reasonableness of that futures contracts price?

A. Well, that answer is that the customer would tell me if it was reasonable for them. They had the futures as a hedging tool. And to the extent that the price as being offered met their needs, they would make their -- they would then make a decision.

Q. So -- I'm sorry, go ahead.

A. Actually, I'm finished. Please go ahead.

Q. So a customer might not need to either look at the out-year prices on NYMEX or their own fundamentals forecasts to determine whether a futures contract price is reasonable for them, correct?

A. That's correct.

Q. And switching over to AEP, generally speaking, when AEP looks at whether it wants to enter

into a futures contract, whether that's through NYMEX or some off-market bilateral agreement, one of the inputs you discussed earlier with Mr. Bzdok that AEP would look at is your fundamentals forecast, correct?

A. That's correct, but qualified by I'm sure they look at many things, but the way I get involved is to identify our fundamental view on a particular future period. They would then make a decision whether the futures offering was -- matched their need, whatever that would be.

Q. And what other things are you aware of that AEP might look at to determine whether to enter into that futures contract? I'm talking more specifically about just the price element.

A. Well, the only thing that I would offer would be that while it may be -- you may be inclined to hedge or lock in a price today or tomorrow, the next question you have to ask yourself is is whether will that somehow get better or get worse as time goes by.

So I would imagine that -- and I don't do this job at AEP, but those that do have to understand or have to consider the likelihood of the spreads or these values becoming better or worse from their

perspective, not just what they are today.

Q. And so, for example, if in your fundamentals forecast you indicate that you think power prices over some period more than three or four years are going to be significantly higher than what are the price propositions listed on NYMEX or ICE, in those instances, would that be a prime situation for AEP to enter into a future contract?

A. It would be a consideration. I can't say whether it's prime in their mind.

Q. Fair enough. But the larger the spread between whether it's a gas future or power future, the larger spread between the price propositions indicated on ICE or NYMEX in your fundamentals forecast, that would provide -- to the extent your fundamentals forecast was correct and NYMEX is correct, that spread would provide a larger profit margin to AEP if they entered into a future contract, correct?

A. Yes, that's a correct conclusion.

Q. And if a customer or AEP entered into a future contract, that future contract will determine the actual price the customer or AEP would pay for -- Let me strike that.

Assuming that a future contract is for physical delivery, that future contract would determine the actual price that the customer or AEP would pay for that product at the future delivery period, correct?

A. Yes, that's generally correct.

Q. So if a customer today wanted to predict what the price of power was going to be in ten years, they could enter into a future contract for a hundred percent of their supply and that would be the price they pay for delivery ten years out, correct?

A. That's correct.

Q. And AEP could do the same thing for power or natural gas or the other spreads you list here starting at the bottom of Page 3 and top of Page 4, correct?

A. That's generally correct.

MR. PRITCHARD: That's all of the questions I have. Thank you.

THE WITNESS: Thank you.

MR. CONWAY: Anybody else?

MS. BOJKO: No. Thank you.

MR. CONWAY: We will not waive signature. Thank you, everybody, for your time.(Concluded at 11:15)

State of Ohio :
: SS:
County of _____ :

I, Karl R. Bletzacker, do hereby certify that I have read the foregoing transcript of my deposition given on Friday, October 30, 2015; that together with the correction page attached hereto noting changes in form or substance, if any, it is true and correct.

_____
Karl R. Bletzacker

I do hereby certify that the foregoing transcript of the deposition of Karl R. Bletzacker was submitted to the witness for reading and signing; that after he had stated to the undersigned Notary Public that he had read and examined his deposition, he signed the same in my presence on the _____ day of _____, 2015.

_____
Notary Public

My commission expires _____, _____.

- - -

CERTIFICATE

State of Ohio :
: SS:
County of Franklin :

I, Cynthia L. Cunningham, Notary Public in and for the State of Ohio, duly commissioned and qualified, certify that the within named Karl R. Bletzacker was by me duly sworn to testify to the whole truth in the cause aforesaid; that the testimony was taken down by me in stenotypy in the presence of said witness, afterwards transcribed upon a computer; that the foregoing is a true and correct transcript of the testimony given by said witness taken at the time and place in the foregoing caption specified and completed without adjournment.

I certify that I am not a relative, employee, or attorney of any of the parties hereto, or of any attorney or counsel employed by the parties, or financially interested in the action.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my seal of office at Columbus, Ohio, on this 30th day of October, 2015.

_____
Cynthia L. Cunningham,
Notary Public in and for the State of Ohio.

My commission expires November 8, 2019.

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Summary: Deposition of Karl R. Bletzacker, Vol. II, electronically filed by Mr. Tony G. Mendoza on behalf of Sierra Club