

AEP OHIO EX. NO. \_\_\_\_\_

BEFORE  
THE PUBLIC UTILITIES COMMISSION OF OHIO

In the Matter of the Application of	)	
Ohio Power Company for Authority to	)	Case No. 13-2385-EL-SSO
Establish a Standard Service Offer	)	
Pursuant to §4928.143, Revised Code,	)	
in the Form of an Electric Security Plan	)	

In the Matter of the Application of	)	
Ohio Power Company for Approval of	)	Case No. 13-2386-EL-AAM
Certain Accounting Authority	)	

REBUTTAL TESTIMONY OF  
KARL A. MCDERMOTT, Ph.D.

Filed: June 23, 2014

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KARL A. MCDERMOTT, Ph.D.

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BEFORE  
THE PUBLIC UTILITIES COMMISSION OF OHIO  
REBUTTAL TESTIMONY OF  
KARL A. MCDERMOTT, Ph.D.  
ON BEHALF OF  
OHIO POWER COMPANY

1    **PERSONAL DATA**

2    **Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

3    A. My name is Karl A. McDermott. I am currently the Director of the Center for Business and  
4       Regulation and Ameren Distinguished Professor of Business and Government at the  
5       University of Illinois Springfield. I am also a Special Consultant to National Economic  
6       Research Associates, Inc. (“NERA”). My business address is 875 North Michigan Avenue,  
7       Suite 3650, Chicago, Illinois 60611.

8    **Q. WOULD YOU PLEASE DESCRIBE YOUR QUALIFICATIONS TO PROVIDE**  
9       **TESTIMONY IN THIS PROCEEDING?**

10   A. I have been working in the field of public utility regulation for over thirty years with  
11       experience in nearly every facet of the regulation of public utilities. Prior to my current  
12       academic appointment, I was a Vice-President at NERA where I directed projects in the  
13       electric and natural gas industries. From April of 1992 until May of 1998, I served as a  
14       Commissioner on the Illinois Commerce Commission (“ICC”).  
15       From 1986 to 1992, I co-founded and served as the President of the Center for Regulatory  
16       Studies (CRS), a not-for-profit regulatory policy institute located on the campus of Illinois  
17       State University. CRS was created to provide the Illinois regulatory environment with  
18       independent third-party research and education on issues affecting the regulation of public  
19       utilities.

1 Before co-founding the CRS, I worked in numerous capacities including positions on the  
2 staff of the ICC, the National Regulatory Research Institute at The Ohio State University,  
3 and Argonne National Laboratory.

4 I currently teach classes on the regulation of public utilities and I have also taught graduate  
5 and undergraduate level economics courses, including regulatory economics, at Illinois  
6 State University and undergraduate economics courses at the Ohio State University, the  
7 University of Illinois at Urbana-Champaign, and Parkland College. I am also on the faculty  
8 of the Institute for Public Utilities at Michigan State University where I am an invited  
9 lecturer at the Institute's annual Regulatory Studies Program ("Camp NARUC") as well as  
10 the annual Advanced Regulatory Studies Program.

11 I have testified before many state regulatory commissions as well as before the Federal  
12 Energy Regulatory Commission, the Federal Communications Commission, and the Iowa  
13 and Illinois General Assemblies, and in several civil cases on issues concerning public  
14 utility regulation and valuation of utility generation assets.

15 I received a B.A. in Economics from Indiana University of Pennsylvania, an M.A. in Public  
16 Utility Economics from the University of Wyoming, and a Ph.D. in Economics from the  
17 University of Illinois at Urbana-Champaign.

18 My current Curriculum Vitae, which more fully presents my academic and work  
19 experience, is attached as **Appendix A**.

20 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

21 A. The purpose of my testimony is to address certain issues raised by the parties to this case in  
22 their pre-filed testimony with respect to the Ohio Power Company ("AEP Ohio" or  
23 "Company") proposed PPA rider. In particular, I will address:

1 1. PUCO Staff (“Staff”) witness Dr. Choueiki’s assertion that staggered auctions and  
2 laddering products provide an effective approach to mitigating price volatility. (Choueiki,  
3 Pre-filed testimony, 10:7-11:3) I will also address Dr. Choueiki’s opinion on the effect of  
4 the OVEC PPA on the SSO auction and the insurance nature of the PPA. (Id., 13:19-  
5 14:17; Choueiki, Tr XII. At 2827, 2839, 2847, 2856, 2898, 2913-14, and 2938;).

6 2. Constellation Newenergy, Inc.-Exelon Generation Company LLC (“Exelon”)  
7 witness Mr. Campbell’s claims that the PPA rider is harmful to retail competition and is  
8 not needed because CRES providers offer fixed rate offers of one to two years in  
9 duration. (*See generally* Campbell, Dir., Section III, beginning at 11:8)

10 3. Industrial Energy Users Ohio (“IEU”) witness Mr. Murray’s claim, related to Mr.  
11 Campbell’s claim, that the PPA rider is anti-competitive. (Campbell Dir., 12:6-11; 12:12-  
12 22; 13:10-15; 14:5-17; Murray Dir., 16; 11-22)

13 **Q. PLEASE SUMMARIZE YOUR TESTIMONY.**

14 A. Competitive electricity markets exist for different products and different time frames from  
15 real-time to longer term markets. These markets serve to provide price signals for each  
16 product. Since both supply and demand tend to be relatively inelastic in the short-term,  
17 shorter term (*i.e.*, spot) markets tend to be more volatile than longer term markets. In most  
18 states that have restructured markets, utilities make contractual commitments on behalf of  
19 default service customers to hedge the spot market volatility. The term of these  
20 commitments tends to be one to three years. AEP Ohio has proposed an auction process that  
21 is consistent with how other jurisdictions have addressed the short-term volatility issue for  
22 customers taking default service. AEP Ohio is proposing – separate from default service – a  
23 longer term hedge tied to specific physical generation assets (*i.e.*, a physical hedge that is

1 settled financially). Unlike the PJM markets and the SSO auctions, this longer term hedge  
2 would provide *all customers* with access to the benefits of market revenue in excess of the  
3 costs of those physical generation facilities. (*See* Allen Dir.) In return, customers would pay  
4 for those costs that exceed the market price. This physical hedge, made on behalf of all  
5 customers, is independent of the procurement for default service customers and does not  
6 replace or modify it. Whether to accept the PPA Rider is not an auction design decision; it is  
7 a public policy decision. Contrary to the claims of Messrs. Campbell and Murray, the PPA  
8 rider is competitively neutral, meaning it will not distort customer decisions regarding  
9 whether to choose a third-party supplier or to choose the standard service offer made  
10 available by AEP Ohio. Moreover, as market prices change over time, the PPA Rider's  
11 forecasted element is expected to run counter to the change in market prices. This would  
12 provide a bill credit or charge which helps to offset changes in market prices. (*See e.g.*,  
13 Allen, Tr. 517-518) Contrary to Dr. Choueiki's claims, this cannot be achieved, since it is  
14 not designed to be achieved, by a staggered SSO auction schedule. Moreover, Dr. Choueiki  
15 discounts the fact that the PPA rider (including its potential expansion) provides an effective  
16 hedge for all customers, not just those customers purchasing from the SSO auction.

17 I conclude from a review of this testimony that the PPA rider can be an effective tool for the  
18 Public Utility Commission of Ohio ("PUCO" or "Commission") to provide all customers  
19 with a degree of price certainty without materially affecting competitive outcomes.

20 **Q. HOW IS YOUR TESTIMONY ORGANIZED?**

21 A. I begin with a review of the AEP Ohio proposal and I then address Staff's concerns and  
22 finally I address Messrs. Campbell's and Murray's concerns together, along with Dr.  
23 Choueiki's concerns about the nature of the proposed PPA.

1 **AEP OHIO'S PROPOSAL**

2 **Q. WOULD YOU PLEASE DESCRIBE YOUR UNDERSTANDING OF AEP OHIO'S**  
3 **PROPOSAL IN THIS PROCEEDING?**

4 A. I understand that AEP Ohio has requested that the Company be provided the ability to  
5 petition the PUCO to allow the inclusion of additional PPAs (or similar products) in the  
6 PPA rider throughout the ESP III term, beyond its current OVEC entitlement. These  
7 additional PPAs would be similar to the OVEC entitlement that was requested in the current  
8 ESP in that they would be cost based PPAs with products liquidated in the relevant PJM  
9 markets.

10 **RESPONSE TO STAFF WITNESS DR. CHOUEIKI REGARDING ELECTRICITY**  
11 **MARKET PRICE VOLATILITY AND THE EFFECT OF THE PPA AND ASSOCIATED**  
12 **PPA RIDER**

13 **Q. WHAT IS DR. CHOUEIKI'S VIEW OF THE CLAIM THAT THE PPA RIDER**  
14 **WILL PROVIDE A HEDGE AGAINST MARKET PRICE VOLATILITY?**

15 A. While Dr. Choueiki agrees that market prices have been quite volatile recently, Staff's  
16 opinion is that the current short-term hedging approach using staggered, laddering of short-  
17 term procurement is a "more effective" method of mitigating price volatility relative to the  
18 proposed PPA rider. (Choueiki, pre-filed testimony, 10:9-11:3)

19 **Q. DO YOU AGREE WITH DR. CHOUEIKI'S VIEW THAT MARKET PRICES**  
20 **HAVE BEEN VOLATILE RECENTLY?**

21 A. Yes, but this volatility is not just a recent phenomenon nor should we expect it to dissipate  
22 in the future as short-term electricity markets are inherently volatile.

23 **Q. WHY ARE SHORT-TERM ELECTRICITY MARKETS INHERENTLY VOLATILE?**

1 A. Short-term commodity markets, such as PJM's spot and forwards electricity markets, tend  
2 to be volatile due to the rapid incorporation of the factors affecting supply and demand into  
3 the commodity's price. For example, short-term electricity demand tends to be very  
4 sensitive to short-term factors such as weather. Further, the supply of electricity, in the  
5 short-run, tends to be highly inelastic (i.e., not sensitive to price changes) since building  
6 new power plants often takes years. In any given hour limits on the available supply can  
7 cause dramatic changes in prices as demand shifts with changing weather patterns.  
8 Moreover, even futures markets for electricity tend to be inherently volatile because  
9 electricity is difficult to store.

10 **Q. HAVE YOU EXAMINED SHORT-TERM PRICES FOR AEP?**

11 A. Yes. Figure 1 in the Appendix to this testimony presents the day ahead and real-time prices  
12 for the AEP zone in PJM. From Figure 1, one can easily see the volatility of the price over  
13 time. The day ahead prices (which represent a short-term futures market) are slightly more  
14 volatile than the hourly real time prices.

15 **Q. DO ELECTRICITY PRICES TEND TO BE VOLATILE SIMILAR TO PRICES OF**  
16 **OTHER ENERGY COMMODITIES?**

17 A. Yes. Table 1 below and Figure 2 in the Appendix to this testimony presents the AEP zone  
18 prices from above along with the prices of coal, natural gas, and oil. Again, one can see that  
19 electricity prices are volatile on a daily basis.



Table 1

Price Volatility		
Wholesale Products		
Commodity	Volatility <sup>1</sup>	Measurement Period
PJM AEP Zone Real-Time Average Peak Prices <sup>2</sup>	21.7%	2006-2013
PJM AEP Zone Day Ahead Average Peak Prices <sup>2</sup>	22.8%	2006-2013
WTI Cushing Crude Oil <sup>3</sup>	26.3%	2006-2013
Henry Hub <sup>3</sup>	39.2%	2006-2013
Powder River Basin Coal <sup>3</sup>	30.8%	2006-2013
Capacity Auction - PJM RTO <sup>4</sup>	103.7%	2007-2014

Notes:

1. Volatility is calculated as the standard deviation of the average annual prices over the 2006-2013 time period. Commodities with a higher percentage volatility indicate greater variance over the period.

2. Load weighted average. Loads source: AEP Ohio SSO auction website, Prices source: Bloomberg, L.P., data accessed April 24, 2014

3. Source: Bloomberg Financial, L.P., data accessed April 24, 2014

4. Base Residual Auction Clearing Prices for RTO, source: PJM website

**Q. DR. CHOUEIKI CITES VOLATILITY IN THE CAPACITY MARKET AS EVIDENCE OF RECENT MARKET PRICE VOLATILITY. (CHOUEIKI, PRE-FILED TESTIMONY, 10:10-13) HOW DO YOU VIEW THE CAPACITY MARKET IN THE CONTEXT OF CONSIDERING THE PPA?**

A. I agree with Dr. Choueiki that the capacity markets have been quite volatile, though for a slightly different reason than the commodity markets discussed above. (See Table 1) Nearly all analysts agree that the medium-term capacity market (e.g., 3 years) should trend toward the lowest cost of building new capacity. (Indeed, PJM has incorporated this concept into its pricing model for capacity and calls this long-run price the net Cost of New Entry or net CONE.) For the capacity market to price at the net CONE, however, the market must be in long-run equilibrium. As I note below, this has not occurred to date in the PJM capacity markets applicable to AEP Ohio's service territory. There are a variety of reasons why the capacity market may not be in long-run equilibrium, such as, unexpected decreases in

1 demand from a major economic recession, lumpy capital investments in capacity, demand  
2 side competition, among other factors. This disequilibrium can cause prices to be quite  
3 volatile. Indeed, the capacity prices in recent years have been more volatile than even the  
4 spot prices. (See Table 1) What is also important to understand is that when the medium-  
5 term (e.g., three years) capacity market is out of equilibrium, capacity prices can stay well  
6 below the long-run equilibrium price for extended periods until equilibrium is reestablished.  
7 This is the classic tension between short-run and long-run marginal cost. In the analysis of  
8 the most recent auction for medium-term capacity, the PJM Market Monitor noted that the  
9 auction prices were less than the net CONE for every locational delivery area in PJM.<sup>1</sup> This  
10 has been the case since the inception of the RPM capacity markets in PJM in 2007.<sup>2</sup> For the  
11 most recent auction, the Independent Market Monitor for PJM presented the data on  
12 clearing prices and net CONE for the 2016/2017 RPM Base Residual Auction. I have  
13 reproduced the Market Monitor's data in Table 2. The PPA Rider, and its potential  
14 expansion, provide a mitigation mechanism for the price volatility that consumers would  
15 otherwise experience. Company witness Mr. Allen illustrates this effect by comparing the  
16 expected PPA price changes with the expected market outcomes. However, and this is true  
17 of any hedged product, the PPA rider also mitigates the effect of price volatility on the  
18 seller. To the extent that the product is designed such that these factors are offsetting, as Mr.  
19 Allen shows, this creates room for producers and consumers to benefit from the transaction.

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<sup>1</sup> "Analysis of the 2016/2017 RPM Base Residual Auction," The Independent Market Monitor for PJM, April 18, 2014, p. 7

<sup>2</sup> A review of the PJM Reliability Pricing Model (RPM) auction results shows that the CONE for any locational deliverability area has been consistently higher than the capacity clearing price. <http://www.pjm.com/markets-and-operations/rpm/rpm-auction-user-info.aspx>

**Table 2**

Locational Delivery Area	Annual Clearing Price (\$ per MW-Day)	Net CONE (\$ per MW-Day)	Annual Clearing Price to Net CONE
RTO	\$59.37	\$330.53	18.0%
MAAC	\$119.13	\$276.90	43.0%
EMAAC	\$119.13	\$329.94	36.1%
SWMAAC	\$119.13	\$276.90	43.0%
PSEG	\$219.00	\$329.94	66.4%
PSEG North	\$219.00	\$329.94	66.4%
DPL South	\$119.13	\$329.94	36.1%
Pepco	\$119.13	\$276.90	43.0%
ATSI	\$114.23	\$362.42	31.5%
ATSI Cleveland	\$114.23	\$362.64	31.5%

Source: Table 1: Clearing prices and net CONE: 2016/2017 RPM Base Residual Auction *supra* note 1

**Q. HOW HAVE UTILITIES ADDRESSED MARKET PRICE VOLATILITY?**

A. There are many ways utilities can address market price volatility ranging from ignoring it altogether and relying solely on extremely short-term markets to buying long-term positions in power plants. California took the former approach, which ultimately came back to hurt customers when the Western Energy Crisis hit. The latter approach is generally taken by states that exercise traditional economic regulation over integrated-utility rates and do not permit customer choice. In states that have restructured their retail electricity markets to allow for customer choice, many have taken a position between these two extremes. This is often referred to as a portfolio approach which diversifies the short-term market volatility by using a product or range of products with different degrees of volatility (implying different structures, that is, differing time periods for the procurement events and contracts). The use of the auction product for customers on AEP Ohio's standard service offer and products of similar duration for customers who take service directly from third-party suppliers, taken together with the long-term PPAs that flow through the PPA rider, will diversify the portfolio for all customers. This is akin to the fuel diversity portfolio approach

1 that has long been recognized by utility regulatory commissions as a valuable procurement  
2 method. It is my understanding that the immediate question in this case is whether the  
3 Commission should accept a financial hedge of approximately five percent, an admittedly  
4 modest hedge. However, approving the PPA rider now for OVEC would enable the  
5 Commission to entertain subsequent proposals to expand the PPA rider by including other  
6 PPAs if the Commission were so inclined to do so. Of course, the proper amount of hedging  
7 is related to the risk tolerance of the entity purchasing the hedge. In this case, the  
8 Commission would have to decide how important rate stability is for retail customers and  
9 whether to keep the option open to buy additional price certainty for consumers. (That is,  
10 the expansion of the PPA Rider to include other PPAs is not a foregone conclusion, the  
11 Commission would have complete control over the potential future expansion.) Yet if the  
12 Commission were to deny the PPA rider now, it could be precluding that potential  
13 flexibility in the future.

14 **Q. DO MOST JURISDICTIONS RELY SOLELY ON SHORT-TERM MARKET**  
15 **PURCHASES?**

16 A. No, primarily because, as I showed above, the spot and other short-term markets are  
17 exceedingly volatile and most regulators wish to avoid that type of extreme price volatility.  
18 The reason is that most electricity customers do not have the equipment which would enable  
19 a response to volatile prices. Indeed, there was little reason to install such equipment during  
20 periods of low volatility, and rate structures even today, with the exception of those few

1 customers participating in demand-response programs, generally do not reward sensitivity  
2 to volatile prices.<sup>3</sup>

3 **Q. CAN THE VOLATILITY BE MANAGED THROUGH DEFAULT SERVICE**  
4 **PROCUREMENT?**

5 A. Not entirely. Default service procurement can limit the volatility that customers face in  
6 retail generation rates. Such procurements, however, only affect default service customers  
7 and typically cover shorter term periods than the PPA that AEP Ohio is proposing to  
8 include in the PPA Rider.

9 **Q. DO YOU AGREE WITH DR. CHOUEIKI THAT THE SSO AUCTION DESIGN IS**  
10 **MORE EFFECTIVE AT MITIGATING PRICE VOLATILITY?**

11 A. I agree that the SSO auction is an effective method of mitigating price volatility in the  
12 shorter term electricity markets and the SSO auction design can benefit customers by  
13 mitigating those shorter term price fluctuations. There is, however, no basis to conclude  
14 that the SSO auction mitigates longer term market changes. The SSO auctions are not  
15 designed to provide price protection from longer-term market trends like the physical hedge  
16 found in the PPA. Moreover, the SSO auctions apply only to non-shopping customers. Even  
17 the limited protection from short-term volatility achieved by the auction design is not  
18 applicable to shopping customers or those being served by governmental aggregation. We  
19 should evaluate the PPA Rider's potential effect on volatility based on its own merits quite  
20 apart from the SSO auction design questions.

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<sup>3</sup> Falk, Jonathan, Noah Kaufman, and Stephen Buryk, "The Effective Use of Demand Side Resources: The Continued Need for Availability Payments, 23 October 2013. pp 16-17.

**Q. HOW DO LONGER-TERM PHYSICAL CONTRACTS (SUCH AS THE PPA) BENEFIT CUSTOMERS?**

A. First, the longer-term physical contract assures customers of access to the plants that have been operated by a known entity for many years. To the extent the Commission and stakeholders are comfortable that this entity has operated, and will continue to operate, these plants in a cost-effective manner, this provides some assurance that reliable sources of power will be there for the long-term. Second, this provides customers with access to a relatively known cost stream (opposed say to the cost stream in the market place over the next twenty years). Though I will leave the question of OVEC costs as compared to expected market prices to AEP Ohio witness Mr. Allen. Third, limiting long-term volatility helps protect customer-side investments to the extent that those capital investment choices based on the expectation that prices, which have historically had relatively low volatility, will continue accordingly into the future. If the incentives inherent in current capacity markets lead to much higher price volatility in the future, some of these customer-side investments could become stranded. Providing customers with a longer time frame to respond to price volatility through the more stabilized rates helps limit this potentially negative customer side effect. While such costs do not show up in utility rates, to the extent they exist, customers will ultimately have to bear these costs.

**RESPONSE TO EXELON WITNESS MR. CAMPBELL, IEU WITNESS MR. MURRAY,  
AND STAFF WITNESS DR. CHOUEIKI REGARDING COMPETITIVE ISSUES WITH  
THE PROPOSED PPA RIDER**

**Q. WOULD YOU PLEASE SUMMARIZE THE ISSUES RAISED BY MR. CAMPBELL  
AND MR. MURRAY THAT YOU WILL ADDRESS IN THIS SECTION OF YOUR  
TESTIMONY?**

A. Yes. Mr. Campbell claims that the PPA, and by extension, any future modifications to the PPA Rider to include new PPAs is deleterious to retail competition for various reasons. (Campbell Dir. 12:6-11; 12:12-22; 13:10-15; 14:5-17). Mr. Murray claims that the PPA represents a subsidy that is either paid to or paid from AEP Ohio retail customers and is therefore anti-competitive. (Murray Dir., 16:11-22)

**Q. DO YOU AGREE THAT THE RETAIL MARKETS ARE UNDULY INFLUENCED  
BY THIS PROPOSAL?**

A. No. First, Mr. Campbell's argument that shopping customers will double pay for generation services and therefore distort their decisions is incorrect because the PPA Rider is designed to be non-bypassable. Suppose a shopping customer wishes to switch because they think they can save 10 percent. That 10 percent savings accrues regardless of the existence or non-existence of a PPA Rider. Moreover, Mr. Murray's claim that because the price of the hedge is fixed at cost of service there must be a subsidy following from it. If that is true, then there is a subsidy following to (or from) every fixed price contract since, by definition, the contract is fixed and the market will move up and down during the pendency of the contract. Indeed, this is the very nature of a hedged product: the parties wish to limit their exposure to the ups and downs of the market and have agreed to forgo any benefits (or

costs) that might be associated with those fluctuations. Any entity providing such price assurance must price the cost of the risk associated with the assurance in its product. This is equally true of providers in the SSO auction or retail offerings by third parties. Finally, it must be understood that this product (the PPA and its associated recovery mechanism) does not entail the sale of energy to retail customers. The energy (and any other products) are sold into the PJM markets which can then be used by third party suppliers, or any other entity procuring such products from PJM, as part of their portfolio. In a related topic, Dr. Choueiki raises the issue of whether or not the loss of 438 MW from the SSO auction represents a distortion to that market. (Choueiki, 13:19-14:17) It is important to remember that the OVEC units will be dispatched by PJM in the same manner with or without the PPA Rider. Setting aside the obvious issue that 438 MW is a relatively small amount of capacity, the key point is that the physical supply of energy will not be removed from the PJM market and therefore will be available to support contracts in the SSO auction. Whether or not the PUCO ultimately decides to allow AEP Ohio to purchase this hedge is a policy decision, but the decision should not be confused with claims of anti-competitive influence.

**Q. DR. CHOUEIKI REPEATEDLY CLAIMS THAT THE PPA AND ASSOCIATED PPA RIDER ARE INSURANCE PRODUCTS NOT PHYSICAL PRODUCTS. (CHOUEIKI TR. XII. At 2827, 2839, 2847, 2856, 2898, 2913-14, AND 2938). DOES THIS DISTINCTION DR. CHOUEIKI IS MAKING CHANGE YOUR OPINION IN ANY WAY?**

**A.** No. First, let us be clear the only physical energy market that exists is the PJM real-time energy market – all other markets are a financial derivative of that market. Second, I think



1 AEP Ohio has been clear that the PPA Rider and its associated PPA (or future PPAs) are in  
2 fact a type of insurance product (as are all financial contracts) purchased to help mitigate  
3 price volatility. However, this contract is a physical hedge because it is backed by a  
4 particular generation unit or units. Finally, the real question before the Commission is not  
5 what we call the contract--hedge, insurance, or whatever--it is whether or not the PPA Rider  
6 should be approved for OVEC costs and provide the option to expand the rider in the future.

7 **Q. MR. CAMPBELL ALSO NOTES THAT EXELON DOES NOT WANT OR NEED A**  
8 **LONGER TERM HEDGE. (CAMPBELL, DIR., 15:10-20) IS THIS SUFFICIENT**  
9 **GROUND TO REJECT THE PPA OR POTENTIAL FUTURE EXPANSION OF**  
10 **THE PPA RIDER?**

11 A. No. This is interesting because Mr. Campbell acknowledged that his company does not  
12 offer longer term hedged products for residential customers. (Tr. 1590:8-9) Whether Exelon  
13 wishes to have longer term hedged products is beside the point, if the Commission wishes to  
14 provide longer term hedges for all customers it appears that the PPA is the only method  
15 currently proposed in AEP Ohio's service territory to do so. Further, as I explain below,  
16 some regulators have determined that longer term hedges do serve the public interest and all  
17 customers, including those that have chosen to hedge their short-term risk using contracts  
18 from competitive suppliers, should benefit, and pay for, those longer term hedges. Mr.  
19 Campbell's argument that the PPA, almost by definition, is anti-competitive seems to fly in  
20 the face of decisions these regulators have made that longer term hedges serve the public  
21 interest.

22 **Q. CAN YOU POINT TO OTHER RESTRUCTURED STATES THAT HAVE USED**  
23 **PRODUCTS SIMILAR TO THE PPA PROPOSED BY AEP OHIO?**

1 A. Yes. Restructured states have relied upon a variety of approaches to building portfolios.  
2 Utilities in several restructured states have entered into long-term hedges on behalf of all  
3 customers, independently from their default service procurement process. For example,  
4 Connecticut used a long-term capacity contract to hedge long-term price risks for all  
5 customers, while also relying on medium-term products for default service customers. In  
6 order to reduce the impact of congestion in southern New England, Connecticut solicited  
7 these new capacity resources in 2006.<sup>4</sup> In addition, Maine, Massachusetts, and Delaware<sup>5</sup>  
8 have relied upon long-term contracts with wind generation facility owners to supplement  
9 their supply portfolio. Maine's Public Utility Commission directed the utilities to enter into  
10 long-term contracts for energy and capacity.<sup>6</sup> All customers pay the costs regardless of  
11 whether they are receiving the standard offer service or are being supplied by another  
12 retailer. The Massachusetts Department of Public Utilities also acknowledged a desire to  
13 "reduce the volatility of fossil fuel prices" in its decision to sign a long-term capacity  
14 contract with Cape Wind.<sup>7</sup>

15 **Q. IS THE AEP OHIO APPROACH CONSISTENT WITH THIS EXPERIENCE IN**  
16 **RETAIL ACCESS STATES?**

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<sup>4</sup> DPUC Investigation of Measures to Reduce Federally Mandated Congestion Charges (Long Term Measures), Docket No. 05-07-14PH02

<sup>5</sup> Delmarva Power and Light Company signed a PPA with Bluewater Wind Delaware LLC on June 23, 2008, however the project was later abandoned after Bluewater's purchase by NRG. It is important to note that Order 7440 authorizing the PPA (PSC Docket No. 06-241), states that the Bluewater PPA resolves certain concerns, including ensuring "fairness to SOS customers through the non-bypassable surcharge..."

<sup>6</sup> Order Directing Utility to Enter into Long-Term Contract, Docket No. 2012-00504

<sup>7</sup> Massachusetts Department of Public Utilities, <http://www.mass.gov/eea/energy-utilities-clean-tech/renewable-energy/cape-wind.html>

1 A. Yes, it is. Like those states that have grafted on long-term hedges to supplement their short-  
2 term supply portfolios, AEP Ohio's proposal is to recover the net costs or benefits from *all*  
3 customers. This is important to assuring that the hedge does not distort the retail market and  
4 tracks how other states have dealt with such contracts.

5 **Q. MR. CAMPBELL AND MR. MURRAY ADDRESS COMPETITIVE ISSUES, BUT**  
6 **HAVE REGULATORS CONSIDERED OTHER ISSUES IN DEVELOPING**  
7 **PORTFOLIOS?**

8 A. Yes. Two issues often come to the forefront in these discussions. First, regulatory models—  
9 whether market-based, cost of service, or some hybrid—are generally tasked with assuring  
10 that the proper investment occurs such that resources will be there in the future to meet  
11 consumer demand through adequate supply. I have been advised by counsel that the  
12 Commission has responsibility for reliability of electric supply under Ohio regulatory laws  
13 and can approve affiliate purchased power agreements, new-build generation projects for  
14 electric distribution utilities, or other financial stabilization charges as part of an ESP.  
15 Second, most models also strive to provide a healthy environment for investment by  
16 customers that allow for demand-response as well as promote economic development. In  
17 this regard, I am also advised by counsel that statutory peak demand-response mandates  
18 specifically, and codified energy policies more generally, direct the Commission to  
19 encourage demand-response in Ohio and to facilitate the state's effectiveness in the global  
20 economy.

21 **Q. DOES THE PPA RIDER PROPOSED BY AEP OHIO ADDRESS THESE ISSUES?**

22 A. Yes. The PPA at issue in this proposal is with power plants sited in Ohio that provide  
23 capacity and energy to the Ohio market through the PJM markets. This energy and capacity,

1 while only a small fraction of the total PJM resources, nevertheless help support the  
2 competitive markets for electricity in the state and region. Further, the PPAs (and the  
3 proposed Rider PPA) provide a mechanism through which the state, via the PUCO, could  
4 maintain a healthy investment environment. While none of us has a crystal ball, it appears at  
5 this time that the PPA Rider would benefit consumers financially while at the same time  
6 potentially providing incentives to maintain existing generating units, especially if an  
7 expanded PPA is preserved in this case and accepted in a future case. Moreover, this is  
8 especially true to the extent that additional PPAs and the PPA rider provide some price  
9 assurances going forward that allows customers—both large and small—to make their  
10 investment decisions with more certainty.

11 **Q. DO YOU BELIEVE THAT THE COMMISSION SHOULD APPROVE THE PPA**  
12 **RIDER PROPOSED BY AEP OHIO IN THIS CASE?**

13 A. Yes. As I've described, the PPA rider including the Company's OVEC entitlement, appears  
14 to provide a financial benefit to customers while at the same time providing some degree of  
15 price stability. This initial element of the PPA rider provides clear customer benefits and  
16 should be approved by the Commission. The second element of the PPA rider simply  
17 provides the Company the option to petition the Commission to include additional PPAs in  
18 the PPA rider in the future. Under the Company's proposal, the Commission will still have  
19 the ability to review these additional PPAs prior to their inclusion in the PPA rider. The  
20 Commission should approve the proposal and keep the option open to include additional  
21 PPAs beyond OVEC.

22 **Q. DOES THIS CONCLUDE YOUR PRE-FILED REBUTTAL TESTIMONY?**

23 A. Yes, it does.

# NERA

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## Education

### University of Illinois at Urbana-Champaign

Ph.D., Economics, 1990

Major Fields: Monetary theory and Policy, Macroeconomic Theory, and History of Economic Thought

### University of Wyoming

M.A., Public Utility Economics, 1978

Major Fields: Public Utility Economics and Industrial Organization Theory

### Indiana University of Pennsylvania

B.A., Economics, 1976

## Teaching Experience

- |           |   |
|-----------|---|
| 2008-     | <b>University of Illinois Springfield</b><br>Ameren Distinguished Professor of Business and Government<br>Classes taught: Regulation and the American Economy, Economics of Public Utility<br>Regulation, macro-economics   |
| 2001-     | <b>Michigan State University, Institute for Public Utilities</b><br>Faculty<br>Invited lecturer at Regulatory Studies Program (“Camp NARUC”) held in East Lansing, Michigan. Lecture topics include performance-based regulation, rate-of-return regulation, infrastructure regulation for developing countries, and gas wholesale markets. |
| 1986-1992 | <b>Illinois State University, Department of Economics</b><br>Lecturer in Economics<br>Taught both graduate and undergraduate public utility courses, Money and Banking, as well as introductory courses.  |
| 1984-1991 | <b>Parkland Community College, Champaign, Illinois</b><br>Instructor in Economics<br>Taught both Principles of Economics I and II.  |



Fall 1979      **The Ohio State University, Department of Economics**  
Lecturer in Economics  
Taught Macroeconomic Principles.

## Professional Experience

2008-            **NERA Economic Consulting**  
Special Consultant

1999-2008      Vice President  
Directs projects in the energy and telecommunications fields. Conducts research in the design and review of performance-based regulation mechanisms. Provides strategic regulatory advice to international and domestic clients. Advises on competitive issues facing regulated firms, including regulatory policy, unbundling, corporate structure, and tariff design.

1992-1998      **Illinois Commerce Commission**  
Commissioner  
*Domestic:* Served as Chairman of both the Telecommunications Policy Committee and Electricity Policy Committee. Served on the National Association of Regulatory Utility Commissioners (NARUC) Energy Resources and Environment Committee as the Chairman of its environmental subcommittee. Also served as NARUC representative on the President's Global Climate Change Task Force, the Federal Energy Regulatory Commission's Pipeline Competition Task Force, the National Coal Research council, and as a member of the Harvard Electric Policy Group.

*International:* Served as part of the United States Energy Association and USAID educational effort in Eastern Europe. Lectured in Argentina, the Czech Republic, Latvia, Poland, Romania, Russia, and Slovakia and participated in two joint USEA/USAID and World Bank seminars in Vienna providing advanced regulatory training.

## Representative Publications, Conference Papers, and Reports

"The Home (as a power plant) and its Role in Electric Policy: Past, Present, and Future," forthcoming in *The Electricity Journal*.

"The Illinois Commerce Commission's Pro Forma Adjustment Rule: An Event Study of Regulatory Decision-Making," forthcoming in *Advances in Business Research*. (with C. Peterson)

"Rethinking the Implementation of the Prudent Cost Standard," in *The Line in the Sand: The Shifting Boundary Between Markets and Regulation in Network Industries*, S. Voll and M. King (eds), 2007. (with C. Peterson and R. Hemphill).

"Mergers and Acquisitions in the US Electric Industry: State Regulatory Policies for Reviewing Today's Deals," *The Electricity Journal*, 20(1), pp. 8-25, 2007 reprinted in *The Line in the Sand: The Shifting Boundary Between Markets and Regulation in Network Industries*, S. Voll and M. King (eds), 2007 (with C. Peterson).

“Critical Issues in the Regulation of Electric Utilities in Wisconsin,” *Wisconsin Policy Research Institute Report*, 19(3), pp. 1-69, 2006 (with C. Peterson and R. Hemphill).

“The Anatomy of Institutional and Organizational Failure,” in *Obtaining the Best from Regulation and Competition*, M. Crew and M. Spiegel (eds.), Kluwer Academic Publishers, London, UK, 2005, pp. 65-92 (with C. Peterson).

“Is There a Rational Path to Salvaging Competition?” *The Electricity Journal*, 15(2), 2002, pp. 15-30 (with C. Peterson).

“The Essential Role of Earnings Sharing in the Design of Successful Performance-base Regulation Programs,” in *Electricity Pricing in Transition*, A. Faruqui and K. Eakin (eds.), Kluwer Academic Publishers, London, UK, 2002, pp. 315-328 (with C. Peterson).

*Essential Facilities, Economic Efficiency, and a Mandate to Share: A Policy Premier*, Edison Electric Institute, January 2000 (with K. Gordon, W. Taylor, and A. Ros).

*The Determinants of Electric Utility Capital Structure: Re-Examining the Turbulent 1980s*, presented at Center for Research in Regulated Industries, Rutgers University, Annual Western Advanced Regulatory Conference, Monterey, CA, June 2011. (with C. Peterson)

*The Determinants of Commission Revenue Requirement Decisions: A Case Study of Illinois Energy Utilities*, presented at Center for Research in Regulated Industries, Rutgers University, Annual Western Advanced Regulatory Conference, Monterey, CA, June 2011. (with C. Peterson and A. Everette)

*Prudence: The Regulators Strike Back: A Prequel to the Revenge of the Regulator*, presented at Center for Research in Regulated Industries, Rutgers University, conference held in San Diego, CA, June 2005.

*The Anatomy of Institutional and Organizational Failure: Economic Reform and the Search for Institutional Equilibrium in Regulated Network Industries*, preliminary draft presented at Research Seminar on Public Utilities, Center for Research in Regulated Industries, Rutgers University, October 2003 (with C. Peterson).

*Distributed Resource Investment in Albania: Regulatory Options for Introducing Commercial Incentives and Promoting Solutions to Meeting Electricity Demand*, white paper prepared for the law firm of Pierce Atwood under contract with United States Agency for International Development, January 2003 (with C. Peterson).

*Restructuring Options for the Electric Sector in Macedonia*, Report 1 and 2; prepared for the law firm of Pierce Atwood under contract with United States Agency for International Development, 2002 (with C. Peterson and R. Zarumba; report is proprietary).

## **Representative Testimony**

Regulatory Commission of Alaska, In the Matter of the Revenue Requirement and Transmission Tariff Designated as TA364-8 Filed by CHUGACH ELECTRIC ASSOCIATION, INC. Case U-13-007, 2013. Expert testimony filed on behalf of Chugach Electric on pricing transmission services.

Virginia Corporation Commission, Application of Appalachian Power Company For approval of transactions to acquire interests in the Amos and Mitchell generation plants and to merge with Wheeling Power Company Case No. PUE-2012-00141, direct and rebuttal testimony on economic evaluation of the transfer of generation assets to affiliated utility on behalf of Appalachian Power Company. 2013

Illinois Commerce Commission, Rock Island Clean Line LLC Petition for an Order granting Rock Island Clean Line a Certificate of Public Convenience and Necessity pursuant to Section 8-406 of the Public Utilities Act as a Transmission Public Utility and to Construct, Operate and Maintain an Electric Transmission Line and Authorizing and Directing Rock Island Clean Line pursuant to Section 8-503 of the Public Utilities Act to Construct an Electric Transmission Line, Docket No. 12-0560, expert direct, rebuttal, and sur-rebuttal testimony concerning the effect on electric competition of a proposed transmission line from Iowa to Illinois, 2013.

Indiana Utility Regulatory Commission, Cause No. 44339, expert rebuttal testimony on behalf of Indianapolis Power and Light concerning regulatory policy toward alternative cost recovery. 2013.

West Virginia Public Service Commission, Petition for the Commission's consent and approval of Appalachian Power Company consummating an arrangement for the transfer to it of 1647 MW of generating capacity presently owned by Ohio Power Company, an affiliate, pursuant to W. Va. Code, 924-2-12, and associated agreements, Case Nos. 11-1775-E-P and 12-1655-E-PC direct and rebuttal testimony on economic evaluation of the transfer of generation assets to affiliated utility on behalf of Appalachian Power Company. 2013

Alabama Public Service Commission, In Re: Alabama Gas Company ("Alagasco"): Public Proceeding Regarding Rate RSE, Docket Nos. 18046 and 18328. Oral testimony before the Commission on behalf of Alagasco concerning regulatory policy toward alternative rate treatment.

Kentucky Public Service Commission, Application of Kentucky Power Company In Connection With The Transfer Of An Undivided Fifty Percent Interest In The Mitchell Generating Station And Certain Related Relief, Case No. 2012-00578, direct and rebuttal testimony on economic evaluation of the transfer of generation assets to affiliated utility on behalf of Kentucky Power Company. 2013

In the Circuit Court of Cook County, Illinois, County Department, Law Division, *The People of the State of Illinois ex rel. Leon A. Greenblatt III, v. Commonwealth Edison Company*, Case No. 2007 L 004293. Expert testimony concerning the application of regulatory principles to avoided cost pricing of purchases by an electric utility from solid waste generation facilities in Illinois. 2012

Illinois Commerce Commission, American Transmission Company LLC Application for a Certificate of Public Convenience and Necessity, pursuant to Section 8-406.1 of the Illinois Public Utilities Act as a Transmission Public Utility to construct, operate, and maintain a new 345,000 volt electric transmission line in Lake County, Illinois, Docket No. 11-0661, expert testimony concerning the effect on electric competition of a proposed transmission line from Wisconsin to Illinois, Fall 2011.

Missouri Public Service Commission, *Proposed General Increase in Rates*, Missouri-American Water Company, Docket Nos. WR-2011-0337 and SR-201-0338, Testimony on standard tariff pricing of water services. June 2011.

Illinois Commerce Commission, *Proposed General Increase in Rates*, Commonwealth Edison Company, Docket No. 10-0527, Expert testimony on behalf of the National Resources Defense Council regarding electric decoupling. November 2010.



Indiana Utility Regulatory Commission, Rate case, Vectren Energy Delivery of Indiana, Cause No. 43839. Expert testimony on electric decoupling mechanisms. 2010.

Wyoming Public Service Commission, *In the Matter of the Application of Rocky Mountain Power for Approval of its Proposed Energy Cost Adjustment Mechanism*, Docket No. 20000-368-EA-10, Expert testimony on public interest standard for fuel adjustment mechanism, 2010.

Regulatory Commission of Alaska, *In the Matter of the Petition filed by Chugach Electric Association, Inc. for Advance Determination of Prudence for Southcentral Power Project*, U-10-41, June 2010. Expert testimony regarding preapproval of generation investment by state public utility commissions in the United States.

Utah Public Service Commission, *In the Matter of the Application of Rocky Mountain Power for Approval of its Proposed Energy Cost Adjustment Mechanism*, Docket No. 09-035-15, *Phase I and Phase II*. Expert testimony on public interest standard for fuel adjustment mechanism, 2009.

Illinois Commerce Commission, *In Re: Enbridge Pipeline (Illinois) L.L.C.* Expert testimony on the proper test for issuing a certificate of public convenience and necessity for an oil common carrier by pipeline. January 2008.

United States District Court for the Western District of Missouri, Western Division, *Travelers Property Casualty Co. v. National Union Insurance Co*, Case No. 4:06-CV-00946-REL. Expert report and testimony on behalf of Kansas City Power and Light Company calculating damages from transformer failure.

Wyoming Public Service Commission, Docket No. 20000-277-ER-07, Direct Testimony on behalf of Rocky Mountain Power on merits of utilizing marginal cost for pricing electric service to new large load customers, June 2007.

North Dakota Public Service Commission, Case No. PU-06-525, Direct and Rebuttal Testimony on behalf of Northern States Power d/b/a Xcel Energy Inc. on reasonable cost of equity for North Dakota natural gas operations, 2006-7.

Circuit court of Jackson County Missouri, *Kansas City Power and Light Company v. Bibb Associates, et. al.* Case No. 01CV207987. Expert report and testimony on behalf of Kansas City Power and Light Company calculating the damages from the explosion of its Hawthorn 5 coal-fired generation unit, 2003-2004.

Public Service Commission of Wisconsin, Docket No. 05-CE-130, Direct, Rebuttal and Surrebuttal Testimony on behalf of Wisconsin Electric Power Company regarding energy efficiency and power plant construction, 2003.

Federal Energy Regulatory Commission, Docket No. EL99-90-000, *City of Wichita, Kansas v. Western Resources, Inc.* Direct testimony on behalf of the City of Topeka, Kansas focusing on cost causation issues and rate parity, September 2000.

California Public Utilities Commission, Application A.00-06-032, Direct and rebuttal testimony on behalf of Southern California Gas Company regarding the appropriateness of peaking rate for gas services, Fall 2000.

Kentucky Public Service Commission, Case No. 2000-095, Testimony on behalf of LG&E Corp. regarding approval of a merger, March 15, 2000.

South Dakota Public Utilities Commission, Docket No. NG98-010, Testimony on behalf of MidAmerican Energy Company for continuation of its incentive gas supply procurement program, June 1999.

Iowa Utilities Board, Docket No. RPU-94-3, Request for Confidential Treatment on behalf of MidAmerican Energy Company, April 7, 1999.

Federal Communications Commission, CC Docket No. 99-24, Affidavit and Reply Affidavit of Karl McDermott and William E. Taylor on behalf of Bell Atlantic Telephone Companies for forbearance from regulation as dominant carriers in Delaware, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Washington, DC, Vermont, and Virginia, January 20, 1999 and April 8, 1999.

Dr. McDermott's full CV is available upon request.

## Appendix B

Figure 1

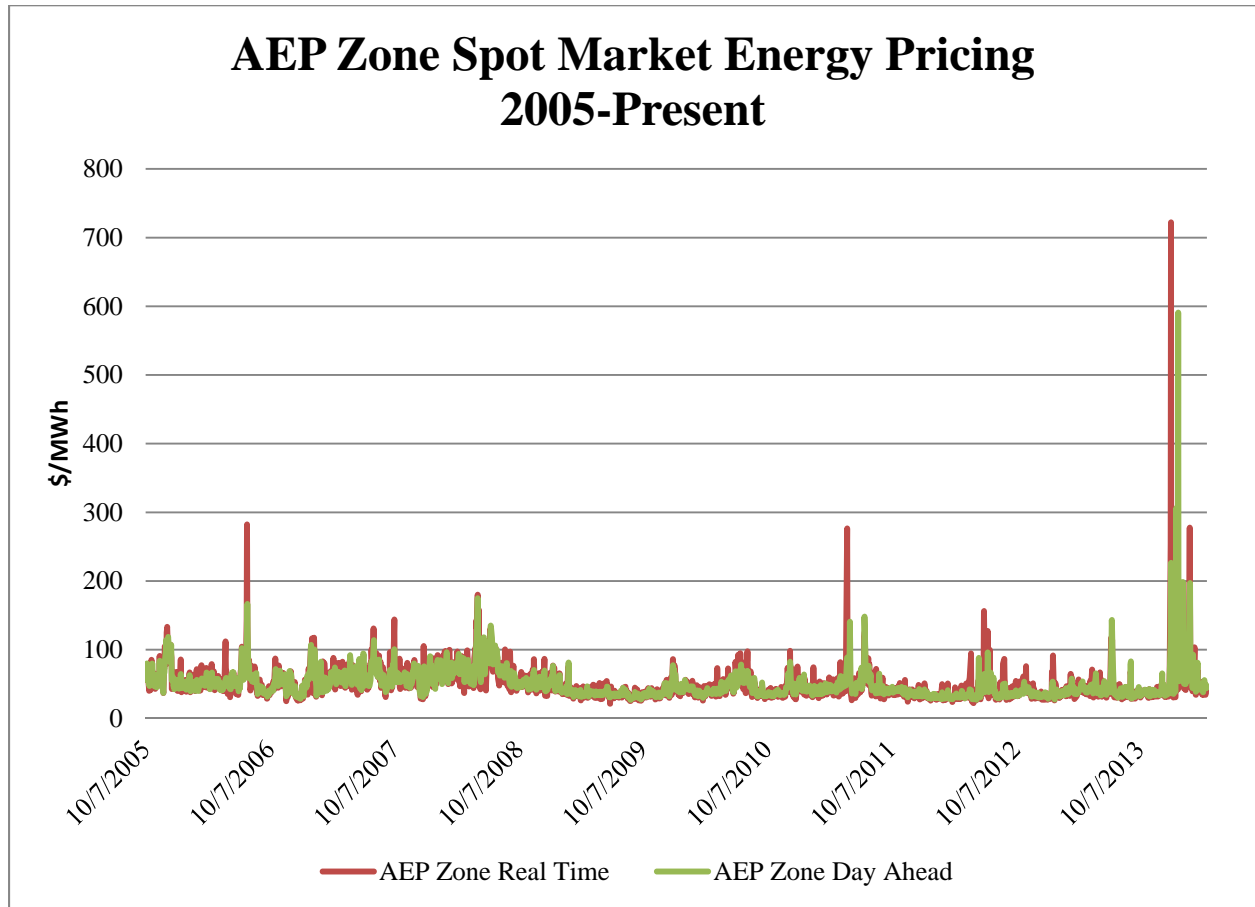
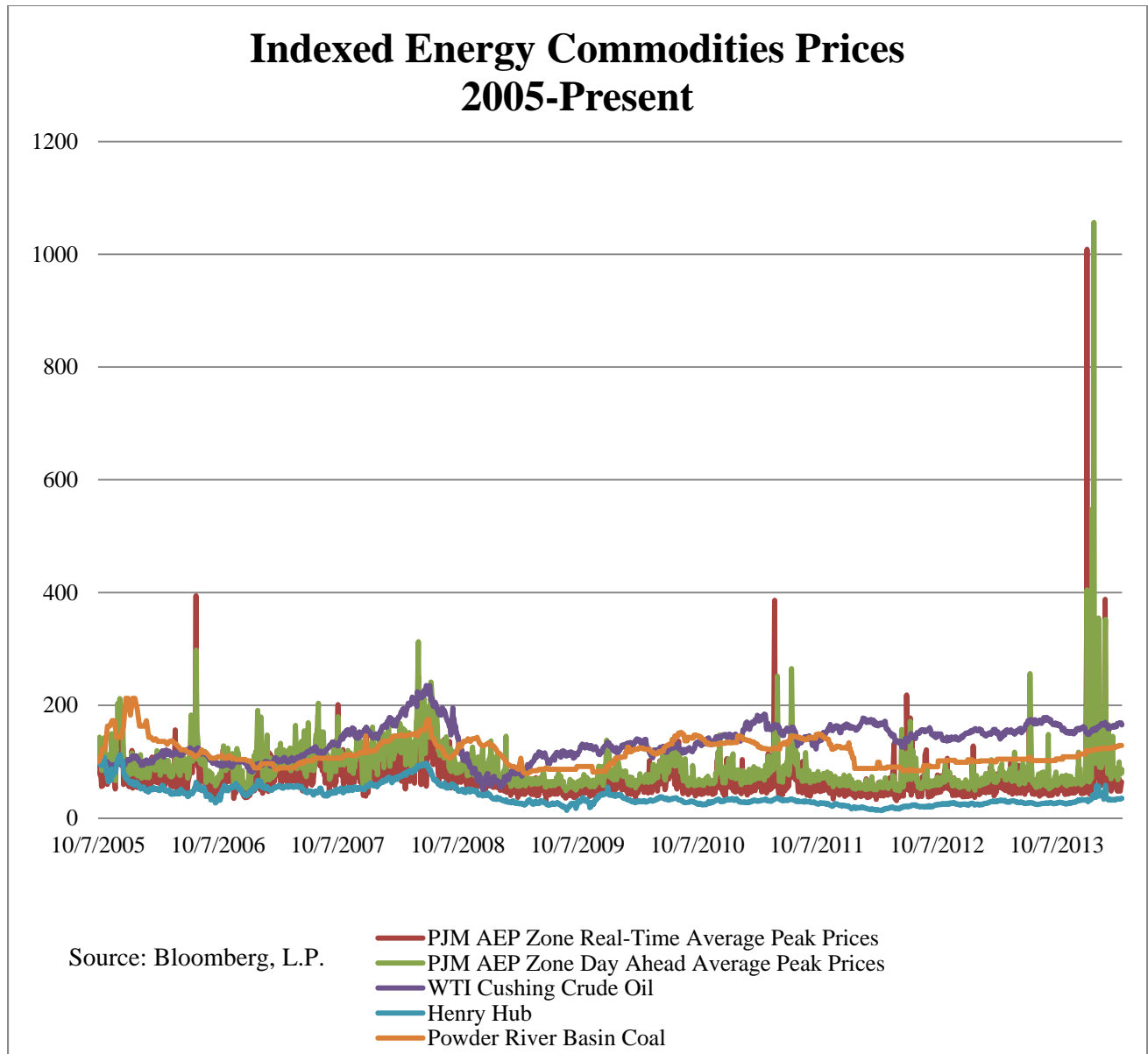


Figure 2



## **CERTIFICATE OF SERVICE**

I hereby certify that a true and accurate copy of the Rebuttal Testimony of Karl A. McDermott, Ph.D. was served by electronic mail upon the individuals listed below this 23<sup>rd</sup> day of June, 2014.

/s// Steven T. Nourse

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Summary: Testimony (Rebuttal)of Karl A. McDermott Ph.D. electronically filed by Mr. Steven T Nourse on behalf of Ohio Power Company