

**BEFORE
THE PUBLIC UTILITIES COMMISSION OF OHIO**

In the Matter of the Application of Ohio)	
Power Company for Authority to)	
Establish a Standard Service Offer)	Case No. 13-2385-EL-SSO
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 Certain)	Case No. 13-2386-EL-AAM
Accounting Authority)	

PUBLIC VERSION

**DIRECT TESTIMONY
OF
JAMES F. WILSON**

On Behalf of
The Office of the Ohio Consumers' Counsel
10 West Broad Street, Suite 1800
Columbus, Ohio 43215-3485
(614) 466-8574

May 6, 2014

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1 **I. INTRODUCTION**

2

3 ***Q1. PLEASE STATE YOUR NAME, POSITION AND BUSINESS ADDRESS.***

4 ***A1.*** My name is James F. Wilson. I am an economist and principal of Wilson Energy
5 Economics. My business address is 4800 Hampden Lane Suite 200, Bethesda,
6 MD 20814.

7

8 ***Q2. PLEASE DESCRIBE YOUR EXPERIENCE AND QUALIFICATIONS.***

9 ***A2.*** I have thirty years of consulting experience to the electric power and natural gas
10 industries. Many of my past assignments have focused on the economic and
11 policy issues arising from the introduction of competition into these industries,
12 including restructuring policies, market design, and market power. Other
13 engagements have included contract litigation and damages; pipeline rate cases;
14 forecasting and market assessment; evaluating allegations of market
15 manipulation; probabilistic modeling of utility planning problems; and a wide
16 range of other issues arising in these industries. I also spent five years in Russia
17 in the early 1990s advising on the reform, restructuring, and development of the
18 Russian electricity and natural gas industries for the World Bank and other
19 clients. I have submitted affidavits and presented testimony in proceedings of the
20 Federal Energy Regulatory Commission, state regulatory agencies, and a U.S.
21 district court.

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1 I have been involved in electricity restructuring and wholesale market design for
2 over twenty years in PJM, New England, Ontario, California, Russia, and other
3 regions. With regard to the PJM system, I have been involved in a broad range of
4 market design, planning and capacity market issues over the past several years. I
5 hold a B.A. in Mathematics from Oberlin College and an M.S. in Engineering-
6 Economic Systems from Stanford University. My curriculum vitae, summarizing
7 my experience and listing past testimony, is Attachment JFW-1 attached hereto.

8
9 ***Q3. HAVE YOU PREVIOUSLY TESTIFIED BEFORE THE PUBLIC UTILITIES***
10 ***COMMISSION OF OHIO ("PUCO")?***

11 ***A3.*** Yes. I testified in Case No. 12-426-EL-SSO (the Application of The Dayton
12 Power and Light Company for approval of a Market Rate Offer); Case No. 12-
13 1230-EL-SSO (the application of The Ohio Edison Company, The Cleveland
14 Electric Illuminating Company, and The Toledo Edison Company for approval of
15 an Electric Security Plan); and Case No. 09-906-EL-SSO (the application of the
16 FirstEnergy Companies for approval of a Market Rate Offer).

17
18 ***Q4. WHAT IS THE PURPOSE AND SCOPE OF YOUR TESTIMONY?***

19 ***A4.*** In this proceeding AEP Ohio seeks approval of a new electric security plan
20 ("ESP") for the period June 1, 2015 through May 31, 2018 (the "ESP Period").
21 My assignment was to review AEP Ohio's application, supporting testimony,
22 workpapers and discovery in this proceeding, focusing on the proposed Power

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1 Purchase Agreement Rider ("PPA Rider"). Under that rider, AEP Ohio would
2 collect from customers the costs (net of market revenues) associated with its
3 contractual arrangement ("ICPA")¹ with the Ohio Valley Electric Corporation
4 ("OVEC"). I was asked to review AEP Ohio's estimate of the cost to customers
5 under the proposed PPA Rider; to evaluate its potential impact on customer price
6 stability; to evaluate the PPA Rider as a regulatory mechanism for collection of
7 these costs; and to make recommendations with respect to the proposed PPA
8 Rider and the treatment of OVEC costs.

9
10 **II. SUMMARY AND RECOMMENDATIONS**

11
12 ***Q5. PLEASE DESCRIBE THE OVEC ASSETS.***

13 ***A5.*** OVEC (together with a wholly-owned subsidiary) owns a transmission system
14 and two coal-fired power plants: the 1,086 MW Kyger Creek Plant at Cheshire,
15 Ohio, and the 1,204 MW Clifty Creek Plant located near Madison, Indiana.² Both
16 plants began operation in 1955.

17

¹ Amended and Restated Inter-Company Power Agreement ("ICPA"), OCC INT-1-10 attachment 3 pp. 36-89, available at <http://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=12594881>.

² OVEC Annual Report – 2012 p. 1, available at <http://www.ovec.com/AnnualReport-2012-signed.pdf>.

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1 **Q6. PLEASE DESCRIBE AEP OHIO'S RELATIONSHIP WITH OVEC.**

2 **A6.** Under the ICPA, AEP Ohio, as a "Sponsoring Company," is entitled to a share
3 (19.93%) of the capacity and energy provided by the OVEC plants, and is also
4 allocated this same portion of OVEC fixed and variable costs. In Case No. 12-
5 1126-EL-UNC, AEP Ohio requested and received the PUCO's approval to
6 transfer its existing generating units and contractual entitlements to its affiliate,
7 AEP Generating Resources, Inc. However, AEP Ohio was unable to obtain the
8 consent necessary from the other OVEC sponsoring companies to transfer the
9 OVEC entitlement to its affiliate.

10

11 Other companies in the AEP family are also parties to the ICPA and Sponsoring
12 Companies; AEP's total share of OVEC output is 43.47 percent.³ In addition,
13 AEP companies own 43.47 percent of OVEC's stock.⁴

³ ICPA Article 1. In addition to AEP Ohio and its affiliates Appalachian Power Company and Indiana Michigan Power Company, the Sponsoring Companies under the ICPA are: Allegheny Energy Supply Company LLC, Buckeye Power Generating, The Dayton Power and Light Company, Duke Energy Ohio, Inc., FirstEnergy Generation, LLC, Kentucky Utilities Company, Louisville Gas and Electric Company, Monongahela Power Company, Peninsula Generation Cooperative, and Southern Indiana Gas and Electric Company. OVEC 2012 Annual Report, p. 1.

⁴ OCC INT-1-10 attachment 3 (FERC filing of Amended and Restated Inter-Company Power Agreement), p. 10 of 115, footnote 3, available at <http://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=12594881>.

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1 ***Q7. PLEASE EXPLAIN HOW AEP OHIO PROPOSES TO TREAT THE OVEC***
2 ***ENTITLEMENT UNDER THE PROPOSED ELECTRIC SECURITY PLAN.***

3 ***A7.*** AEP Ohio does not propose to use the OVEC output to serve the loads of non-
4 shopping customers who remain under the Standard Service Offer (“SSO”).
5 Instead, AEP Ohio plans to offer its share of the OVEC capacity and energy into
6 the PJM markets, consistent with the corporate separation plan approved in Case
7 No. 12-1126-EL-UNC.

8
9 Under the proposed PPA Rider, AEP Ohio would collect from customers, on a
10 non-bypassable basis, its portion of the OVEC costs net of the energy and
11 capacity market revenues earned from selling its share of the OVEC output in the
12 PJM markets. Thus, the PPA Rider could increase or decrease customer bills,
13 depending upon whether the OVEC costs turn out to be greater or less than the
14 associated market revenues.

15
16 ***Q8. WHAT DOES AEP OHIO STATE AS THE REASON FOR TREATING THE***
17 ***OVEC ENTITLEMENT IN THIS MANNER?***

18 ***A8.*** AEP Ohio witness Pablo A. Vegas states, “The Company is seeking to stabilize
19 customer rates by providing a hedge against market volatility.”⁵ AEP Ohio

⁵ Direct Testimony of Pablo A. Vegas in Support of AEP Ohio’s Electric Security Plan, p. 13.

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witness William A. Allen states that "the primary function of the PPA rider is to provide added price stability for customers through this ESP period."⁶

Q9. PLEASE SUMMARIZE YOUR CONCLUSIONS REGARDING THE POTENTIAL NET COST TO CUSTOMERS FROM THE PROPOSED POWER PURCHASE AGREEMENT RIDER.

A9. AEP Ohio provided an estimate of the monthly net cost to customers under the proposed PPA Rider through the ESP Period.⁷ Under AEP Ohio's estimate, the cumulative net cost over the ESP Period would be [REDACTED], or about [REDACTED] per month. AEP Ohio's estimate amounts to [REDACTED] of OVEC output during the ESP Period. That is, OVEC's cost would [REDACTED] on average, and AEP Ohio's share of this net cost would be collected from customers through the PPA Rider.

I reviewed AEP Ohio's estimate and identified three assumptions that are outdated or insufficiently supported. I revised these values to produce an estimate that I believe is likely to be much closer to the future outcome if the proposed PPA Rider is authorized by the PUCO. Specifically, I updated the projected Energy Market Prices based on recent futures prices; revised the projected

⁶ Direct Testimony of William A. Allen in Support of AEP Ohio's Electric Security Plan, p. 11.

⁷ IEU INT-2-001, Competitively-Sensitive Confidential Attachments 1, 2, and 3.

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1 Demand Charges to use the actual forecasts provided by OVEC; and revised the
2 projected OVEC plant generation to be more consistent with recent results.

3 Based on these adjustments I estimate the cost to customers under the PPA Rider
4 to be \$117 million over the ESP Period, [REDACTED]

5 [REDACTED]. Under these assumptions, the cost of the OVEC output exceeds its
6 market value by \$19.22 per MWh on average over the ESP Period.

7
8 ***Q10. PLEASE SUMMARIZE YOUR CONCLUSIONS REGARDING THE***
9 ***POTENTIAL IMPACT OF THE PPA RIDER ON THE STABILITY OF***
10 ***CUSTOMER RATES.***

11 ***A10.*** Customers under the proposed Standard Service Offer will be served under one-
12 and two-year full requirements contracts established through periodic auctions,
13 and, therefore, would not be exposed to substantial market price volatility.

14
15 The proposed PPA Rider would be updated on an annual basis, so the net cost
16 incurred in one year would appear in customers' bills the next year. Due to the
17 one-year lag, the PPA Rider could potentially move contrary to, or in the same
18 direction as, market prices. In any case, the OVEC entitlement corresponds to
19 about five percent of AEP Ohio's customer load, and generation is about half the
20 customers' bill, so to the extent the PPA Rider affects the trajectory of the rates
21 customers pay, it would be a very modest impact.

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1 Customers choosing competitive retail electric service would select among the
2 available offerings according to their preferences, and presumably would choose
3 offerings that hedge prices and provide greater stability to the extent that is
4 desired.

5
6 I conclude that the potential for the proposed PPA Rider to contribute to price
7 stability is directionally doubtful (due to the one-year lag), and insignificant in
8 magnitude.

9
10 ***Q11. PLEASE SUMMARIZE YOUR CONCLUSIONS REGARDING THE PPA***
11 ***RIDER AS A REGULATORY MECHANISM.***

12 ***A11.*** The proposed PPA Rider is an example of a “cost tracker” – a regulatory
13 mechanism through which the actual costs of a function performed or undertaken
14 by a utility are periodically passed through to customers, outside of a rate case.
15 State regulatory commissions typically approve cost trackers under extraordinary
16 circumstances, for costs that are largely outside the control of the utility and
17 unpredictable and volatile, such as fuel costs. However, AEP Ohio proposes to
18 recover all OVEC costs, including fixed costs and variable operations and
19 maintenance costs, net of market revenues, through the PPA Rider. This is not an
20 appropriate regulatory mechanism for such costs, which are neither outside utility
21 control, nor especially unpredictable.

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1 ***Q12. PLEASE SUMMARIZE YOUR RECOMMENDATIONS REGARDING THE***
2 ***PROPOSED PPA RIDER AND THE TREATMENT OF OVEC COSTS.***

3 ***A12.*** I recommend that the PPA Rider be rejected. The PPA Rider would impose the
4 net cost and risk associated with AEP Ohio's contractual relationship with OVEC
5 onto customers. This net cost could be considerable; by my estimate, \$117
6 million. In addition, to the extent this cost is passed through to customers, the
7 incentive to manage the costs is eliminated. And any incremental price stability
8 the arrangement might provide, which I consider very doubtful, would be
9 insignificant compared to the expected net cost, and risk of even higher cost.

10

11 If, instead, the PUCO chooses to approve the PPA Rider in some form, then I
12 recommend that it be modified to reduce the cost and risk to customers and
13 restore some incentive to control costs. This could be accomplished by setting a
14 benchmark for the PPA Rider net cost and using a sharing mechanism for net
15 costs or benefits relative to the benchmark, rather than collecting 100% of the net
16 cost from customers. I describe how such an incentive mechanism could be
17 designed in the last section of my testimony.

18

19 ***Q13. HOW IS THE REMAINDER OF YOUR TESTIMONY ORGANIZED?***

20 ***A13.*** The next section of my testimony develops an estimate of the net cost to
21 customers under the proposed PPA Rider, revising AEP Ohio's estimate. In
22 Section IV, I evaluate the AEP witnesses' claim that the proposed PPA Rider

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1 would contribute to customer price stability. Section V discusses the proposed
2 PPA Rider as an example of a cost tracker, and evaluates whether this is an
3 appropriate regulatory mechanism for the OVEC costs. The final section of my
4 testimony presents my recommendations for treatment of the OVEC costs.

5
6 **III. ESTIMATED COST TO CUSTOMERS OF THE PROPOSED PPA RIDER**

7
8 ***Q14. HAS AEP OHIO PREPARED AN ESTIMATE OF THE DOLLAR AMOUNTS***
9 ***THAT WOULD BE COLLECTED FROM CUSTOMERS UNDER THE***
10 ***PROPOSED PPA RIDER?***

11 ***A14.*** Yes. AEP Ohio provided an estimate of the monthly amounts under the proposed
12 PPA Rider for the ESP Period in its response to IEU INT-2-001, Competitively-
13 Sensitive Confidential Attachments 1, 2, and 3.

14
15 ***Q15. PLEASE DESCRIBE HOW AEP OHIO ESTIMATED THE PPA RIDER***
16 ***AMOUNTS.***

17 ***A15.*** IEU INT-2-001 Competitively-Sensitive Confidential Attachment 1 ("PPA Rider
18 Estimate") shows estimated OVEC cost, revenue, and net cost on a monthly basis,
19 reflecting amounts allocated to AEP Ohio. Specifically, the PPA Rider Estimate
20 includes the following on a monthly basis:

- 21 i. The OVEC MW capacity, and a forecast of capacity prices
22 and revenues based on PJM's Reliability Pricing Model
23 ("RPM") capacity construct;

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- 1 ii. The forecast OVEC Demand Charges;
- 2 iii. The forecast OVEC energy output;
- 3 iv. The forecast average Energy Market Prices earned for the
- 4 output;
- 5 v. The forecast OVEC Costs of generation, including fuel and
- 6 non-fuel costs;
- 7 vi. The resulting energy gross margin;
- 8 vii. The total PPA Rider, reflecting all revenues minus all costs.

9

10 ***Q16. WHAT IS THE COST TO CUSTOMERS FROM THE PPA RIDER UNDER***
11 ***AEP OHIO'S ESTIMATE?***

12 ***A16.*** The estimated [REDACTED]
13 [REDACTED]
14 [REDACTED]. Cumulatively, AEP Ohio estimates that the PPA Rider will cost
15 customers just over [REDACTED] during the 36 months of the ESP Period.

16

17 ***Q17. HAVE YOU REVIEWED THE ASSUMPTIONS AND CALCULATIONS AEP-***
18 ***OHIO USED IN THE PPA RIDER ESTIMATE?***

19 ***A17.*** Yes. I reviewed the assumptions and calculations underlying AEP Ohio's estimate
20 based on the PPA Rider Estimate and additional information provided in response
21 to data requests.

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1 ***Q18. BASED ON YOUR REVIEW, WHAT DO YOU CONCLUDE ABOUT AEP***
2 ***OHIO'S PPA RIDER ESTIMATE?***

3 ***A18.*** Most of the assumptions appear to be accurate and reliable. A few assumptions,
4 such as the capacity price forecast, could be updated but would have only a small
5 impact on the results. However, three important assumptions appear to be overly
6 optimistic and lead to substantially understating the likely cost of the PPA Rider
7 to customers. Specifically, the following three assumptions have large impacts on
8 the estimated cost, and do not appear to be sufficiently supported:

- 9 i. \$10 million in annual demand charge savings based on
10 "lean improvements/process optimization;"
- 11 ii. The Energy Market Price assumptions; and
- 12 iii. The OVEC Energy (generation) assumptions.

13

14 ***Q19. HAVE YOU PREPARED A PPA RIDER ESTIMATE BASED ON***
15 ***ALTERNATE VALUES FOR THESE ASSUMPTIONS?***

16 ***A19.*** Yes I have.

17

18 ***Q20. FIRST PLEASE DESCRIBE THE OVEC DEMAND CHARGES AND THE***
19 ***REDUCTION FOR "LEAN IMPROVEMENTS/PROCESS OPTIMIZATION".***

20 ***A20.*** OVEC's demand charges collect the fixed costs associated with OVEC's
21 generation and transmission assets and operations. OVEC provided AEP Ohio

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1 with projections of future demand charges based on such costs.⁸ However, AEP
2 Ohio did not use these projections in its PPA Rider Estimate; instead, AEP Ohio
3 reduced the OVEC demand charges by approximately \$10 million per year based
4 on assumed "lean improvements/ process optimization."

5
6 ***Q21. HOW DID AEP OHIO SUPPORT THE ASSUMED REDUCTION FOR LEAN***
7 ***IMPROVEMENTS/PROCESS OPTIMIZATION?***

8 ***A21.*** AEP Ohio did not support this reduction. In response to a data request and
9 request for production of documents, AEP Ohio was unable to produce any
10 documents describing the lean improvements or process optimization.⁹ Further,
11 AEP Ohio stated that neither it nor OVEC was committed to making these cost
12 reductions. Nor would AEP Ohio commit to reducing the PPA Rider by these
13 cost savings even if the savings were not accomplished.

14
15 I also note, as discussed in more detail later in this testimony, that to the extent
16 any such cost savings would be passed through the PPA Rider as AEP Ohio
17 proposes, neither AEP Ohio nor OVEC would realize any benefit from the
18 savings, and, therefore, neither AEP Ohio nor OVEC would have any incentive to
19 achieve the savings.

⁸ OCC INT-11-272 part a, attached hereto, with other non-confidential data responses, in Attachment JFW-2.

⁹ OCC INT-11-272, OCC RPD-11048 (Att. JFW-2).

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1 **Q22. WHAT VALUES DID YOU USE FOR THE OVEC DEMAND CHARGES IN**
2 **YOUR ESTIMATE OF THE COST TO CUSTOMERS OF THE PPA RIDER?**

3 **A22.** I used the demand charges that were provided by OVEC, eliminating the
4 reduction for "lean improvements/process optimization."
5

6 **Q23. PLEASE EXPLAIN THE SECOND ASSUMPTION YOU MENTIONED,**
7 **WHICH HAS TO DO WITH ENERGY MARKET PRICES.**

8 **A23.** The PPA Rider Estimate is based on monthly Energy Market Prices, which are
9 weighted averages based on hourly prices and a forecast of hourly OVEC
10 generation.¹⁰ AEP Ohio states that the hourly prices are based on forward prices
11 retrieved from "several different exchanges" in August 2013, and converted to
12 hourly prices using "proprietary algorithms."¹¹ AEP Ohio states that these prices
13 are intended to represent the "ADHUB" (AEP-Dayton Hub) delivery location.¹²
14 The hourly prices were provided in a data request.¹³ AEP Ohio states (in
15 responses dated April 2, 2014) that these values still represent AEP Ohio's
16 expectations of forward energy competitive prices.¹⁴ AEP Ohio further states (in

¹⁰ OCC INT-11-275 part d (Att. JFW-2).

¹¹ OCC INT-5-090 parts a, c (Att. JFW-2).

¹² OCC INT-5-090 part b (Att. JFW-2).

¹³ OEG INT-2-006 Competitively-Sensitive Confidential Attachment 1.

¹⁴ Direct Energy Services LLC INT-1-003.c (Att. JFW-2).

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1 responses dated April 21, 2014) that it has not updated its forecasts of OVEC
2 generation, costs, or revenues.¹⁵

3
4 ***Q24. DOES THE OUTPUT OF THE OVEC PLANTS EARN THE AD HUB***
5 ***PRICE?***

6 ***A24.*** No; OVEC is a separate pricing point in PJM, and the locational marginal prices
7 (“LMPs”) at the OVEC point are generally different from prices at other points,
8 due to differences in losses and congestion. In response to a data request, AEP
9 Ohio provided average monthly LMPs for the OVEC point and also for the AEP
10 Gen Hub.¹⁶ I accessed the underlying data directly from PJM for these points and
11 also for the AEP-Dayton Hub aggregate point, which is the basis for AD Hub
12 forward prices. Based on this data I was able to confirm the information provided
13 in the data response and also compare LMPs at the OVEC point to the AD Hub
14 values.

¹⁵ OEG INT-8-006, OEG INT-8-007, OEG INT-8-008 (Att. JFW-2).

¹⁶ OCC INT-5-107 Supplement Attachment 1 (Att. JFW-2).

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1 **Q25. HOW DO LMPS AT THE OVEC POINT COMPARE TO THE AD HUB**

2 **LMPS?**

3 **A25.** Over the past three years, LMPs at the OVEC point have averaged about
4 \$1.50/MWh lower than the AD Hub LMPs. The differential varies by month and
5 across peak and off-peak hours, as summarized in Table 1.
6

Table 1: Average LMP Differences, OVEC and AD Hub, 2011-2013						
	Peak Hours			Off-Peak Hours		
	AD Hub	OVEC	Difference	AD Hub	OVEC	Difference
January	37.00	35.34	1.67	32.53	31.19	1.34
February	34.92	33.19	1.73	30.92	29.63	1.29
March	37.21	35.70	1.51	31.00	29.81	1.19
April	37.85	36.50	1.35	30.95	30.00	0.95
May	41.32	39.49	1.83	31.14	29.86	1.29
June	43.04	40.22	2.82	29.23	27.59	1.64
July	54.23	50.37	3.86	34.89	32.75	2.14
August	39.11	36.96	2.15	29.42	28.05	1.37
September	36.84	34.71	2.13	29.15	27.76	1.39
October	37.22	35.69	1.53	31.42	30.22	1.20
November	37.56	35.99	1.57	31.96	30.76	1.20
December	35.89	34.22	1.67	30.74	29.54	1.20
Source: Hourly LMP data accessed using PJM DataMiner tool.						

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1 **Q26. HOW DO RECENT AD HUB ENERGY PRICES COMPARE TO THE**
2 **ENERGY MARKET PRICES USED IN THE PPA RIDER ESTIMATE?**

3 **A26. The Energy Market Prices in the PPA Rider Estimate are** [REDACTED]
4 [REDACTED] current AD Hub forward prices. I retrieved the
5 AD Hub forward prices for peak and off-peak hours during the ESP Period from
6 CME Group¹⁷ three times: on April 9, April 23, and May 6. I used the May 6
7 values because they resulted in greater total value for the OVEC output over the
8 ESP Period.

9
10 The average monthly prices used by AEP Ohio in the PPA Rider Estimate, and
11 average monthly prices recalculated based on the recent AD Hub futures prices,
12 are summarized in Exhibit No. JFW-1. The price patterns shown in Exhibit No.
13 JFW-1 reflect weighted average monthly values based on AEP Ohio's forecast of
14 OVEC hourly generation quantities.

15
16 The monthly average prices based on recent AD Hub prices are generally [REDACTED]
17 [REDACTED]
18 [REDACTED]

¹⁷ CME Group is the world's leading and most diverse derivatives marketplace. The AD Hub futures prices accessed were PJM AEP Dayton Hub Day-Ahead Calendar-Month 5 MW Futures, Peak and Off-Peak (contracts D7 and R7), available at http://www.cmegroup.com/trading/energy/electricity/pjm-aep-dayton-hub-off-peak-calendar-month-day-ahead-lmp-swap-futures_contract_specifications.html and http://www.cmegroup.com/trading/energy/electricity/pjm-aep-dayton-hub-peak-calendar-month-day-ahead-lmp-swap-futures_contract_specifications.html.

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1 The AD Hub prices for the months of January and February over the coming
2 years reflect a much larger differential to the prices in adjacent months than they
3 have in the past, likely reflecting the events of the last winter, when cold weather
4 and natural gas pipeline constraints contributed to very high energy prices on
5 some winter days.

6
7 ***Q27. WHAT ENERGY MARKET PRICES DID YOU USE TO ESTIMATE THE***
8 ***COST TO CUSTOMERS UNDER THE PPA RIDER?***

9 ***A27.*** I used the May 6 AD Hub prices, adjusted based on the typical LMP differentials
10 to the OVEC point shown in Table 1 above. These are prices at which the OVEC
11 output could be sold forward at the present time, and they are a reasonable
12 estimate of the future prices OVEC could achieve for its output.

13
14 ***Q28. CAN THE OVEC PLANTS EARN REVENUES IN ADDITIONAL PJM***
15 ***MARKETS, OTHER THAN THE CAPACITY AND ENERGY MARKETS?***

16 ***A28.*** Some plants can sell various ancillary services, such as operating reserves and
17 regulation. However, older coal plants generally do not have the flexible
18 operating characteristics required to offer such services. The OVEC plants earned
19 no ancillary services revenues in 2012 or 2013,¹⁸ and no estimate of such
20 revenues was included in the PPA Rider Estimate.

¹⁸ IEU INT-2-014, IEU INT-2-015 (Att. JFW-2).

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1 **Q29. YOU HAVE UPDATED THE ENERGY MARKET PRICE ASSUMPTION**
2 **BASED ON RECENT FORWARD PRICES FOR AD HUB; WHAT OTHER**
3 **PRICES GO INTO THE PPA RIDER ESTIMATE, AND DID YOU UPDATE**
4 **THEM?**

5 **A29.** The other prices that enter into the estimate are 1) capacity prices and 2) coal
6 prices, which determine the OVEC generation costs. I did not update these other
7 prices as they are reasonably accurate and any update would make only a small
8 difference.

9
10 Capacity prices have already been established for the first two years of the ESP
11 Period, so the values in the PPA Rider Estimate are correct. The value for the
12 third year (2017/18) will be established in an RPM auction to be held in May,
13 2014 with the results announced May 23. AEP Ohio's estimate for this price –

14 [REDACTED]
15 For example, UBS expects \$80/MW-day for the applicable region.¹⁹ Updating
16 the assumed capacity price for 2017/18 [REDACTED]

17 [REDACTED],
18 however I have not included this adjustment in my estimate. I understand that I

¹⁹ UBS Global Research, US Electric Utilities & IPPs: *Flattening our PJM Capacity Price Forecast*, April 22, 2014 (stating expectations of \$80/MW-day for the RTO region), and *Re-Thinking the Capacity Downside Case in PJM*, April 28, 2014 (stating the same expectations).

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1 may be asked to update my estimate of the cost to customers of the proposed PPA
2 Rider based on the actual capacity price for 2017/18 when it becomes available.

3
4 I have also not updated the coal prices used in the PPA Rider Estimate. The
5 market assumptions used in the PPA Rider Estimate were established in August,
6 2013.²⁰ Coal prices are much more stable than electric energy or natural gas
7 prices, and have not changed much since last August. I reviewed the coal cost
8 assumptions and recent coal forward prices, and concluded there was no need to
9 update the coal cost assumptions.

10
11 [REDACTED]
12 [REDACTED]
13 [REDACTED]
14 [REDACTED]. Futures contracts have been defined for a few different standard
15 coals, but there is no futures contract for Illinois Basin coal. However, coal
16 prices, including Illinois Basin spot coal prices, have been quite stable in recent
17 years and months,²² so any update to the assumptions set in August 2013 would
18 likely result in only a very small change. [REDACTED]

²⁰ OCC-INT-5-90 (Att. JFW-2).

²¹ OCC-RPD-5-035, Competitively-Sensitive Confidential Attachments 1 and 2, Article V.

²² See, for instance, U.S. Energy Information Administration, *Coal News and Markets Archive*, available at http://www.eia.gov/coal/news_markets/archive/

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1 [REDACTED]
2 [REDACTED]²³ and prices for Appalachian coals have also been stable
3 recently. Consequently, the coal prices estimates used in the PPA Rider Estimate
4 likely would not change much if revisited at this time.
5

6 ***Q30. PLEASE EXPLAIN THE THIRD ASSUMPTION YOU MENTIONED: THE***
7 ***OVEC GENERATION FORECAST.***

8 ***A30.*** The PPA Rider Estimate uses a forecast of hourly OVEC generation over the ESP
9 Period, which determines the energy market earnings (price times quantity). The
10 forecast of hourly OVEC generation was provided in response to a data request.²⁴
11 The forecast [REDACTED]
12 [REDACTED] Specifically, while the OVEC plants' output allocated to
13 AEP-Ohio (based on its 19.93% share of OVEC output²⁵) was 1,952,385 MWh
14 and 1,985,352 MWh in 2012 and 2013, respectively,²⁶ AEP Ohio forecasts
15 [REDACTED]
16 [REDACTED]
17 [REDACTED]

²³ OCC-RPD-5-035, Competitively-Sensitive Confidential Attachment 3, Article V.

²⁴ OCC INT-11-275 Competitively Sensitive Confidential attachment in response to part f.

²⁵ IEU INT-2-003 (Att. JFW-2).

²⁶ IEU INT-2-020, IEU INT-2-021 (Att. JFW-2).

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1 **Q31. HOW DOES AEP OHIO EXPLAIN THE [REDACTED] OVEC GENERATION**
2 **FORECAST?**

3 **A31.** With respect to the summer months, AEP Ohio states that the [REDACTED] generation
4 forecast reflects higher expected energy market prices, while costs increase to a
5 much lesser extent.²⁷

6
7 **Q32. DO YOU ACCEPT THIS EXPLANATION?**

8 **A32.** No. As explained above, AEP Ohio's assumed Energy Market Prices, which are a
9 key determinant of the generation quantities, [REDACTED]
10 [REDACTED] AEP Ohio's models would likely forecast [REDACTED]
11 [REDACTED] if updated with the latest AD Hub prices.

12
13 Exhibit JFW-2 shows the monthly Energy Market Price, OVEC Cost (per MWh),
14 and generation, from the PPA Rider Estimate. It shows that even using AEP's
15 estimated Energy Market Prices [REDACTED]

16 [REDACTED]
17 [REDACTED]
18 [REDACTED]
19 [REDACTED]
20 [REDACTED]

²⁷ OCC INT-6-114 (Att. JFW-2).

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1

2

3

4

5 ***Q33. WHAT VALUES DID YOU USE FOR THE OVEC GENERATION?***

6 ***A33.*** To adjust the assumed OVEC generation to be more consistent with historical
7 values, I reduced the forecast OVEC generation in 2016 to 2018 by 20% in peak
8 hours and 40% in off-peak hours. I made no adjustment to the forecast 2015
9 values, [REDACTED]. The
10 OVEC generation in the PPA Rider Estimate, and the reduced values I used, are
11 illustrated in Exhibit No. JFW-3.

12

13 This adjustment still results in annual OVEC generation in excess of the recent
14 historical values, as shown in Table 2.

15

16 Note also that changing the OVEC generation also changes the weighted-average
17 monthly prices based on the updated AD Hub values; because I have reduced off-
18 peak generation more than on-peak generation, the monthly weighted average
19 prices are somewhat higher. This price pattern was also shown in Exhibit No.
20 JFW-1.

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Table 2: OVEC Historical and Forecast Generation (MWh; showing values allocated to AEP Ohio)			
	OVEC Actual Generation	AEP Ohio's Forecast of OVEC Generation	OVEC Forecast, 2016-2018 values reduced 20% in peak hours, 40% in off-peak hours
2012	1,952,385		
2013	1,985,352		
2014	n.a.	n.a.	n.a.
2015 (7 mo.)			
2016			
2017			
2018			
Sources: IEU INT-2-020, IEU INT-2-021, OCC INT-11-275 Competitively Sensitive Confidential attachment in response to part f.			

1

2

3 **Q34. WHY DID YOU REDUCE THE OVEC GENERATION IN THIS MANNER?**

4 **A34.** This reduction results in forecast generation in 2016 of about [REDACTED] MWh
5 allocated to AEP Ohio (higher than in either 2012 or 2013), and even higher
6 values in 2017 and 2018, as shown in Table 2. I reduced off-peak hours more
7 than peak hours because generation in off-peak hours is at more risk due to lower
8 energy prices. Because energy earnings are lower in off-peak hours, reducing off-
9 peak generation has less impact on revenues and the PPA Rider estimate than
10 reducing peak period generation. Reducing peak hours by 20% and off-peak
11 hours by 40% results in use factors in both peak and off-peak hours during 2016,
12 2017 and 2018 that are [REDACTED] than the PPA Rider Estimate forecasts [REDACTED]
13 [REDACTED].

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1 **Q35. PLEASE PRESENT YOUR ESTIMATE OF THE COST TO CUSTOMERS**
2 **FROM THE PPA RIDER BASED ON THE ALTERNATIVE ASSUMPTIONS**
3 **YOU HAVE DESCRIBED.**

4 **A35.** The results are presented in Table 3. My updated estimate of the cost to
5 customers of the PPA Rider over the ESP Period is just under \$117 million,

6 [REDACTED]

7

8 Eliminating the lean improvements/process optimization increased the estimated
9 cost to customers of the PPA Rider by \$30 million. Updating the Energy Market

10 Prices based on recent AD Hub prices increased the estimate by approximately

11 [REDACTED]. The third updated assumption, lower OVEC generation, increased

12 the estimate by another [REDACTED]. The three adjustments taken together

13 increased the estimated cost to customers from [REDACTED] to close to \$117

14 million.

15

Table 3: Estimated Cost to Customers from the PPA Rider [REDACTED]					
PPA Rider: Annual Results [REDACTED]	Total ESP	2015*	2016	2017	2018*
AEP Ohio's Estimate (IEU INT-2-001)	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Updated estimate (demand charge, AD Hub prices, generation quantities)	116.7	20.2	39.0	41.0	16.5
Impact of updated demand charge	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Impact of updated AD Hub prices	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Impact of updated generation quantities	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
* The ESP Period includes the last 7 months of 2015 and first 5 months of 2018.					

16

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1 **Q36. BASED ON THIS ANALYSIS, WHAT DO YOU CONSIDER TO BE A**
2 **REASONABLE ESTIMATE OF THE COST TO AEP OHIO'S CUSTOMERS**
3 **FROM THE PROPOSED PPA RIDER?**

4 **A36.** I consider a reasonable estimate of cost of the PPA Rider to customers to be
5 approximately \$117 million over the ESP Period, as shown in Table 3. This
6 estimate uses the OVEC demand charge forecast, removing the lean
7 improvements/process optimization measures, for which there are no plans or
8 commitments; uses recent AD Hub prices adjusted to the OVEC LMP point; and
9 reduces the OVEC generation to values that are more consistent with (but still in
10 excess of) recent annual results.

11
12 Under these assumptions, the OVEC energy over the ESP Period costs on average
13 [REDACTED]/MWh, of which [REDACTED] MWh represents the market value of the energy
14 and capacity, and the remaining [REDACTED] MWh would be collected from customers
15 through the proposed PPA Rider.

16
17 **Q37. ACCORDING TO YOUR ESTIMATE, [REDACTED]**
18 **THE OVEC ENTITLEMENT RESULTS IN A NET COST TO CUSTOMERS.**
19 **DOES THIS SUGGEST THAT THE OVEC PLANTS MAY NO LONGER BE**
20 **ECONOMIC TO OPERATE?**

21 **A37.** Yes. While this analysis extends only to May of 2018, it does call into question
22 whether the OVEC plants are economic, and suggests that perhaps the plants (or

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1 some units) should instead be retired or repowered. Of the two plants, Clifty
2 Creek has a [REDACTED]²⁸ and uses [REDACTED] coal,²⁹
3 resulting in a generation cost over [REDACTED] in 2016, according to AEP Ohio's
4 forecasts. [REDACTED]

5 [REDACTED]

6 [REDACTED]

7 [REDACTED].

8
9 ***Q38. YOU HAVE PRESENTED AN ALTERNATIVE FORECAST OF THE***
10 ***IMPACT OF THE PPA RIDER. ISN'T THERE A FAIR AMOUNT OF***
11 ***UNCERTAINTY ABOUT THE ASSUMPTIONS UNDERLYING THESE***
12 ***CALCULATIONS?***

13 ***A38.*** Yes there is. These PPA Rider forecasts are based on multiple uncertain elements
14 that could substantially change the outcomes for customers. The cost to
15 customers of the PPA Rider could be much less than, or much more than, either
16 the AEP Ohio estimate or my updated estimate. However, I consider my estimate
17 to be conservative, and more likely to understate than overstate the cost to
18 customers under the PPA Rider.

²⁸ IEU-INT-2-030 Confidential Attachment 1.

²⁹ IEU-INT-2-027 Competitively-Sensitive Confidential Attachment 1.

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1 ***Q39. PLEASE IDENTIFY THE ASSUMPTIONS THAT ARE LIKELY TO HAVE***
2 ***THE LARGEST IMPACT ON PPA RIDER OUTCOMES.***

3 ***A39.*** Assumptions with the most significant uncertainty include:

- 4 i. Energy prices, which are related to natural gas prices,
5 demand, weather, and many other factors.
- 6 ii. The amount of other generation competing with the OVEC
7 plants, including existing coal generation (some plants are
8 retiring), new gas-fired capacity, and new wind capacity,
9 among others.
- 10 iii. OVEC plant performance and availability, and other
11 uncertainties related to the operation of the OVEC plants,
12 including the decisions of other OVEC sponsors to take or
13 not take output.
- 14 iv. New environmental or safety regulations pertaining to
15 emissions or coal mining.
- 16 v. OVEC fixed costs.
- 17 vi. Other uncertainties affecting the estimate include future
18 capacity prices, which have been quite variable (however,
19 capacity prices have already been established for all but the
20 last year of the ESP), and coal prices, which have been
21 relatively stable.

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1 **IV. POTENTIAL IMPACT OF THE PROPOSED PPA RIDER ON THE**
2 **STABILITY OF CUSTOMERS' RATES**

3

4 ***Q40. YOU NOTED EARLIER THAT AEP OHIO'S WITNESSES ALLEN AND***
5 ***VEGAS SUGGEST THAT THE PPA RIDER WILL STABILIZE CUSTOMER***
6 ***RATES AND PROVIDE A HEDGE AGAINST MARKET VOLATILITY. DID***
7 ***AEP OHIO PROVIDE ANY EXAMPLES OR ESTIMATES OF THE***
8 ***POTENTIAL IMPACT OF THE PPA RIDER ON THE STABILITY OF***
9 ***CUSTOMERS' RATES?***

10 ***A40.*** No.

11

12 ***Q41. WOULD THE PPA RIDER TEND TO STABILIZE STANDARD SERVICE***
13 ***OFFER CUSTOMERS' RATES?***

14 ***A41.*** No, it would not have this effect. Under the ESP, SSO customers will be served
15 by one- and two-year full requirements contracts resulting from competitive
16 auctions. As a result of this process, the rates SSO customers will pay will be
17 established through blending the results of multiple auctions held months or years
18 in advance of delivery. The rate resulting from each auction will tend to reflect
19 forward prices at the time of the auction plus a markup. Forward prices for
20 delivery periods several months or a few years out tend to be fairly stable.
21 Consequently, the rates paid by SSO customers will tend to be fairly stable over

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1 time. This has been seen in the auctions held over the past several years to serve
2 other Ohio utilities' SSO customers.

3
4 By contrast, the OVEC net cost will reflect potentially relatively volatile PJM
5 market revenues, netted from relatively stable OVEC plant costs. AEP Ohio
6 states that the OVEC output would generally be offered into the PJM day-ahead
7 market.³⁰ Unlike forward prices for delivery periods months or years in advance,
8 day-ahead market prices can reflect extreme weather, unexpected plant outages,
9 and various other unanticipated circumstances, as has occurred over the past year.
10 The PPA Rider amounts will potentially reflect this volatility, although they will
11 be cumulated over an annual period, and they will also be "upside down" because
12 the revenues will be netted from OVEC costs. Consequently, the PPA Rider
13 would add a relatively volatile component to the SSO customers' rates that
14 otherwise do not include any such volatile components.

15
16 In addition, the PPA Rider amounts will be lagged one year, because the PPA
17 Rider will be calculated annually. As a result, the PPA Rider amounts to be
18 collected from customers in one year will tend to be positive [negative] when
19 PJM market prices were low [high] in the *prior* year, which would generally
20 occur due to the peculiar weather and other conditions of that year. Thus, as SSO

³⁰ OCC INT-5-111 part a (Att. JFW-2).

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1 customers' rates change from year to year reflecting movements in forward
2 prices, the changes in the relatively volatile PPA Rider amounts are perhaps about
3 as likely to move the same direction as the opposite direction. It cannot be
4 assumed, therefore, that the PPA Rider will tend to "stabilize" SSO customers
5 rates.

6
7 However the PPA Rider component might move relative to the SSO customers'
8 supply cost, the impact on the customers' bill will be very small. AEP's
9 entitlement under the ICPA has resulted in less than two million MWh of
10 generation per year in recent years, compared to total end use consumption by
11 AEP Ohio's customers of over 40 million MWh per year. Thus, the OVEC
12 entitlement corresponds to only about five percent of AEP Ohio's customers' total
13 load, and the PPA Rider can be understood to, in effect, re-price five percent of
14 each customer's total supply cost. In addition, generation supply is only about
15 half of the customers' bill. So however the PPA Rider amounts move over time
16 relative to the rest of the customer's bill, the effect on the bill will be very small.

17
18 ***Q42. FOR CUSTOMERS WHO ARE SUPPLIED BY COMPETITIVE RETAIL***
19 ***SUPPLIERS, WOULD THE PPA RIDER TEND TO STABILIZE THEIR***
20 ***RATES?***

21 ***A42.*** Customers who are instead served by competitive retail suppliers may be exposed
22 to market price fluctuations, or may pay fairly stable rates, depending upon the

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1 choices they make that reflect their preferences. The potential impact of the
2 proposed PPA Rider on the trajectory of such customer's rates would also depend
3 on the extent to which the OVEC net costs in one year are uncorrelated or anti-
4 correlated with the costs at which the customer will be supplied in the following
5 year, when the OVEC net costs will be collected through the PPA Rider. To the
6 extent the PPA Rider amounts might be uncorrelated with market price
7 fluctuations and tend to stabilize some customers' bills, they would do so
8 primarily for those customers who have by their choices indicated a preference for
9 market-based rather than stable prices.

10
11 In addition, natural gas and coal price movements tend to be correlated due to
12 inter-fuel competition, and energy prices tend to be correlated with fuel prices
13 because they are set by marginal generation costs. In western PJM, energy prices
14 are set by the marginal cost of coal generation in many hours. Accordingly,
15 OVEC's coal generation provides only a partial hedge of market electric energy
16 costs.

17
18 Again, the PPA Rider is lagged one year, and corresponds to only about five
19 percent of the AEP Ohio load. Consequently, to the extent the PPA Rider
20 provides some shopping customers some price stability despite the lag, the impact
21 would be very small.

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1 **V. EVALUATION OF THE PROPOSED PPA RIDER AS A REGULATORY**
2 **MECHANISM**

3
4 ***Q43. WHAT TYPE OF REGULATORY MECHANISM IS THE PROPOSED PPA***
5 ***RIDER?***

6 ***A43.*** The proposed PPA Rider is an example of a cost tracker – a regulatory
7 mechanism through which the actual costs of a utility function are periodically
8 passed through to customers, outside of a rate case. Under the proposed PPA
9 Rider, the net OVEC costs (all costs net of energy and capacity revenues) each
10 year would be passed through to customers in their rates the following year.

11
12 ***Q44. FOR WHAT TYPES OF COSTS ARE COST TRACKERS CONSIDERED AN***
13 ***APPROPRIATE REGULATORY MECHANISM FOR THEIR COLLECTION***
14 ***FROM CUSTOMERS?***

15 ***A44.*** Under traditional regulation, the collection of costs from customers is subject to
16 regulatory review through periodic rate cases. As noted in a recent report by the
17 National Regulatory Research Institute (“NRRI Report”),³¹ state regulatory
18 commissions typically approve cost trackers under extraordinary circumstances,
19 for costs that are 1) largely outside the control of the utility, and 2) unpredictable

³¹ Costello, Ken, *How Should Regulators View Cost Trackers*, National Regulatory Research Institute Report No. 09-13, September, 2009.

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1 and volatile.³² The NRRI Report notes that regulatory commissions often, but not
2 always, also consider whether the costs are substantial and recurring.

3
4 ***Q45. WHY DO REGULATORY COMMISSIONS USE COST TRACKERS ONLY***
5 ***UNDER THESE CIRCUMSTANCES?***

6 ***A45.*** Regulatory commissions use cost trackers for costs that are unpredictable,
7 substantial, and outside utility control primarily to protect a utility from
8 potentially severe financial consequences that are not a result of utility
9 performance. Compared to traditional regulation, a cost tracker provides revenues
10 that adjust more rapidly and fully to increases or decreases in cost. When the
11 costs are largely outside of the utility's control, there is little purpose to regulatory
12 oversight of them. However, by providing for the collection of costs from
13 customers without the traditional regulatory process, a cost tracker also further
14 reduces the weak incentives for cost control provided by traditional regulation.

15
16 ***Q46. CAN YOU PROVIDE AN EXAMPLE OF COSTS THAT MAY BE***
17 ***APPROPRIATE FOR COLLECTION FROM CUSTOMERS THROUGH A***
18 ***COST TRACKER?***

19 ***A46.*** A common example of a cost tracker is the fuel adjustment clause, under which a
20 utility passes through the actual cost of fuel purchased for electric generation.

³² NRRI Report, p. 8.

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1 Fuel market prices, and also fuel requirements, are largely outside utility control
2 and these costs can be substantial and volatile.

3
4 ***Q47. DOES THE PPA RIDER ADDRESS A CIRCUMSTANCE FOR WHICH A***
5 ***COST TRACKER IS APPROPRIATE?***

6 ***A47.*** No. AEP Ohio's relationship to the OVEC power plants, including the ICPA and
7 its partial ownership of OVEC, are essentially equivalent to (partial) ownership of
8 the OVEC power plants. The costs (other than fuel) associated with utility-owned
9 power plants are typically subject to traditional regulation. The fixed costs, and
10 variable operations and maintenance costs, are very much under the utility's
11 control, and they are not unpredictable or volatile; consequently, they are not
12 appropriate costs for collection from customers through a cost tracker mechanism.
13 The fuel costs also reflect how the OVEC plants are offered into the PJM markets
14 and, as a result, dispatched.

15
16 Traditional regulation of such costs ensures the utility has some incentive to strive
17 to minimize the costs. Under a cost tracker, such as the proposed PPA Rider, it is
18 unclear whether any regulatory oversight of these costs would occur. Under these
19 circumstances, a cost tracker, such as the proposed PPA Rider, is inferior to
20 traditional regulation, as it eliminates incentives to control costs, and may
21 eliminate regulatory oversight.

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1 ***Q48. THE OVEC PLANTS ARE OPERATED BY OVEC, NOT AEP OHIO. DOES***
2 ***THIS MAKE THE COST TRACKER APPROACH MORE ACCEPTABLE?***

3 ***A48.*** To the extent AEP Ohio and the other sponsors and owners lack control over
4 OVEC, OVEC's costs are even more removed from any market or regulatory
5 incentives, and imposing these costs on customers is no more justified.

6
7 ***Q49. YOU HAVE COMPARED THE PPA RIDER TO TRADITIONAL COST-OF-***
8 ***SERVICE REGULATION. HOWEVER, UNDER SENATE BILLS 3 AND***
9 ***221, OHIO IS TRANSITIONING ELECTRIC GENERATION FROM A***
10 ***COST-BASED, REGULATED COMMODITY TO A MARKET-BASED***
11 ***COMMODITY. IS THE PPA RIDER CONSISTENT WITH THIS POLICY***
12 ***DIRECTION?***

13 ***A49.*** No. This transition recognizes that electric generation, like other commodities, is
14 produced most efficiently when the associated costs, benefits, and risks are borne
15 by the parties best able to manage them. When competitive providers build, own
16 and operate power plants, and bear the risks of their decisions to build, own and
17 operate power plants, they have full incentive to make sound decisions and to
18 operate efficiently. By contrast, it has long been recognized that when there is
19 full cost recovery, the incentives to make sound decisions and to operate
20 efficiently are weak or absent, so comprehensive regulatory oversight of costs and
21 operations is required.

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1 Under the proposed PPA Rider, AEP Ohio would fully collect all OVEC-related
2 costs, as in the regulated world. However, it is not clear whether the PUCO
3 would have the authority and access to review OVEC operations, and to assess the
4 prudence of those operations and the resulting costs, as it has with the regulated
5 assets of Ohio utilities. Consequently, the PPA Rider could create an arrangement
6 that not only lacks market incentives and is inferior to market-based provision of
7 generation; it is also inferior to traditional regulation, to the extent the PUCO's
8 oversight is more limited or nonexistent.

9
10 ***Q50. CAN YOU GIVE A SPECIFIC EXAMPLE OF THE PROBLEMATIC***
11 ***INCENTIVES RESULTING FROM THE PPA RIDER?***

12 ***A50.*** Yes. Consider, for example, the future "lean improvements/process optimization"
13 that AEP Ohio claims would reduce the OVEC fixed costs and associated demand
14 charges below the forecast provided by OVEC (discussed earlier in this
15 testimony). Under market arrangements, if OVEC were able to reduce these fixed
16 costs, it would increase the profits to OVEC's owners. Consequently, OVEC's
17 owners would have incentives to pressure OVEC management to accomplish any
18 such potential cost improvements.

19
20 By contrast, under the proposed PPA Rider, OVEC's actual costs would be passed
21 through to customers. OVEC's owners would, therefore, see no benefit from any

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1 such cost reductions, and would have little if any reason to encourage
2 management to pursue them.

3
4 ***Q51. THE AEP COMPANIES OWN OTHER ELECTRIC GENERATION THAT***
5 ***COMPETES IN THE PJM MARKETS. DOES THIS RAISE ANY ISSUES***
6 ***WITH REGARD TO THE PROPOSED PPA RIDER?***

7 ***A51.*** Yes. As noted earlier, the AEP companies own 43.37 percent of OVEC stock,
8 and are allocated the same portion of its cost and output under the ICPA. This
9 gives AEP substantial control over OVEC operations. However, the OVEC
10 plants compete with AEP's unregulated generation in the PJM markets. Under
11 the PPA Rider, AEP would not benefit from incremental OVEC sales and net
12 revenues, as these would pass through to customers. However, incremental
13 output from the OVEC plants will tend to reduce the energy prices available to
14 AEP's plants in the western PJM market area. Therefore, AEP would have some
15 incentive to exercise its control and influence over OVEC, including both its
16 rights to schedule output and also its influence over management and operations
17 as the largest owner, in a manner that would benefit its unregulated generation.
18 This could lead to realizing less than the full value of the OVEC assets in the PJM
19 markets, and higher net costs to customers under the PPA Rider.

PUBLIC VERSION
Direct Testimony of James F. Wilson
On Behalf of the Office of the Ohio Consumers' Counsel
PUCO Case Nos. 13-2385-EL-SSO, et al.

1 ***Q52. DOES THE FACT THAT OVEC HAS MULTIPLE OWNERS AND***
2 ***SPONSORS RAISE ANY CONCERNS ABOUT THE PPA RIDER?***

3 ***A52.*** Yes. The ICPA determines how the OVEC output is shared, and how costs that
4 are not associated with output (such as Minimum Loading Event Costs, ICPA
5 Article 5) are allocated. It is not clear that this arrangement ensures efficient
6 decision-making with regard to, among other actions, plant operation,
7 maintenance, and investment. In addition, ownership by multiple parties, and the
8 contractual obligations under the ICPA, may present a barrier to difficult
9 decisions, such as the retirement or repowering of generating units that are no
10 longer economic.

11
12 ***Q53. PLEASE SUMMARIZE THIS SECTION OF YOUR TESTIMONY,***
13 ***REGARDING THE PROPOSED PPA RIDER AS A REGULATORY***
14 ***MECHANISM.***

15 ***A53.*** It is not appropriate for AEP Ohio to collect the net costs of its entitlement to
16 OVEC output from customers through a cost tracker such as the proposed PPA
17 Rider. This would impose the cost and risk of the assets onto customers, while
18 eliminating incentives to control these costs.

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**VI. RECOMMENDATIONS FOR THE TREATMENT OF THE OVEC
ENTITLEMENT**

***Q54. YOU STATED THAT THE PPA RIDER IS LIKELY TO BE COSTLY TO
OHIO CUSTOMERS, WHILE ALSO ELIMINATING INCENTIVES TO
INCREASE REVENUES AND MINIMIZE COSTS ASSOCIATED WITH
THE OVEC ASSETS. WHAT DO YOU RECOMMEND WITH REGARD TO
THE PROPOSED PPA RIDER AND ASSOCIATED OVEC COSTS AND
REVENUES?***

A54. I recommend that the PUCO simply deny AEP Ohio's request for the PPA Rider, finding that the costs, benefits and risks of AEP Ohio's OVEC entitlement should not be passed through to customers. The PUCO has ruled that AEP Ohio may retain the OVEC assets, subject to conditions that should apply "during the current ESP and beyond, until the OVEC contractual entitlements can be transferred to AEP Genco or otherwise divested, or until otherwise ordered by the Commission,"³³ and that retail rate issues should be addressed in this, the next ESP proceeding. However, the proposed PPA Rider would shift the costs and risks associated with the OVEC plants to customers, and that should not be allowed.

³³ Case No. 12-1126-EL-UNC, Finding and Order of December 4, 2013 at 9.

PUBLIC VERSION
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1 ***Q55. IF THE PUCO IS UNWILLING TO DENY THE REQUESTED PPA RIDER,***
2 ***ARE THERE WAYS THAT IT COULD BE MODIFIED TO PROVIDE SOME***
3 ***PROTECTION TO CUSTOMERS?***

4 ***A55.*** Yes. A second (and less preferred) option would be to modify the PPA Rider so
5 that it is cost-neutral for customers, at least in an ex ante, forecast expected value
6 sense, and so that the actual net cost or benefit of the OVEC capacity would be
7 shared between AEP Ohio and customers. Such a sharing rule would provide
8 customers some protection, and would also restore some of the incentives to
9 maximize revenues and minimize costs that the PPA Rider, as proposed,
10 eliminates.

11
12 ***Q56. PLEASE ELABORATE ON HOW SUCH A SHARING RULE MIGHT WORK.***

13 ***A56.*** A sharing rule could take the form of a typical incentive mechanism. First, a
14 “benchmark” for the OVEC net cost would be established. The benchmark could
15 be established based on a one-time forecast of expected OVEC value, or it could
16 be determined based on a formula that takes into account actual market prices and
17 perhaps other uncertainties over time.

18
19 Then if the actual OVEC net cost in a month equals the market-based benchmark
20 value, the PPA Rider would be zero and have no effect. Whenever actual net cost
21 differs from the benchmark, the sharing rule would take effect. For instance, the

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1 sharing rule might call for half of the net cost or benefit to be passed through to
2 customers through the PPA Rider, with half retained by AEP Ohio.

3
4 Under this approach, in effect, AEP Ohio would be rewarded through the PPA
5 Rider when the OVEC entitlement is more valuable than the market-based
6 benchmark, and AEP Ohio would bear half the cost when the OVEC entitlement
7 is costly relative to the benchmark. But the risk to AEP Ohio would be reduced
8 by sharing the cost or benefit 50/50 with customers. The risk to customers would
9 similarly be reduced by 50% compared to the PPA Rider as proposed by AEP
10 Ohio.

11
12 ***Q57. WHAT ARE THE ADVANTAGES OF THIS APPROACH COMPARED TO***
13 ***THE PPA RIDER AS AEP OHIO HAS PROPOSED IT?***

14 ***A57.*** There are three advantages to this modification of the PPA Rider.

- 15 i. First, by establishing in advance an explicit benchmark (or
16 benchmark formula) based on expected market value, there
17 is no built-in subsidy or ex ante expected amount to be
18 collected from customers through the PPA Rider. Under
19 the PPA Rider as proposed, the cost to customers over the
20 ESP Period is expected to be [REDACTED] under AEP
21 Ohio's estimate, or \$117 million under my estimate. If the
22 benchmark reflects an unbiased estimate of the expected

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1 market value, the expected cumulative value over the ESP
2 Period of the PPA Rider would be zero, at least at the time
3 it is established.

4 ii. Second, as a result of the sharing rule, AEP Ohio would
5 have more incentive to maximize revenues and minimize
6 costs, incentives that are eliminated under the proposed
7 PPA Rider.

8 iii. Third, the risk to customers would be 50% mitigated by
9 such a sharing rule, compared to the proposed PPA Rider
10 (in addition to removing the subsidy).
11

12 ***Q58. IN ITS APPLICATION (P. 15), AEP OHIO REQUESTS A RIGHT TO***
13 ***TERMINATE THE ELECTRIC SECURITY PLAN ONE YEAR EARLY, IF***
14 ***THERE IS A SUBSTANTIVE CHANGE TO OHIO OR FEDERAL LAWS OR***
15 ***REGULATORY RULES, OR TO PJM MARKET RULES. SHOULD AEP***
16 ***OHIO BE PERMITTED TO TERMINATE THE PPA RIDER ON THIS***
17 ***BASIS?***

18 ***A58.*** No. If the PPA Rider is approved, it should not be included under any such
19 “regulatory out” option. Instead, AEP Ohio should only be allowed to terminate
20 the PPA Rider by PUCO order.

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1 Allowing AEP Ohio to terminate the ESP and PPA Rider early would potentially
2 allow AEP Ohio to impose the net cost of the OVEC plants on customers through
3 May 2017, and then, if conditions change and the plants are anticipated to be
4 economic during 2017/2018, terminate the PPA Rider and retain the net benefits.
5 That would be unfair to customers and should not be allowed.

6
7 An arrangement that allowed AEP Ohio to terminate the PPA Rider early would
8 also create an incentive to maximize capital and maintenance expenses while such
9 costs are being passed through to customers, reducing the need for such
10 expenditures during a later period when net profits are retained.

11
12 ***Q59. DOES THIS COMPLETE YOUR PRE-FILED TESTIMONY?***

13 ***A59.*** Yes it does. However, I understand that I may be asked to update or supplement
14 my testimony based on new information that may become available.

CERTIFICATE OF SERVICE

It is hereby certified that a true copy of the foregoing *Direct Testimony of James F. Wilson, PUBLIC VERSION, on Behalf of the Office of the Ohio Consumers' Counsel* was served via electronic transmission this 6th day of May, 2014.

/s/ Maureen R. Grady
Maureen R. Grady
Assistant Consumers' Counsel

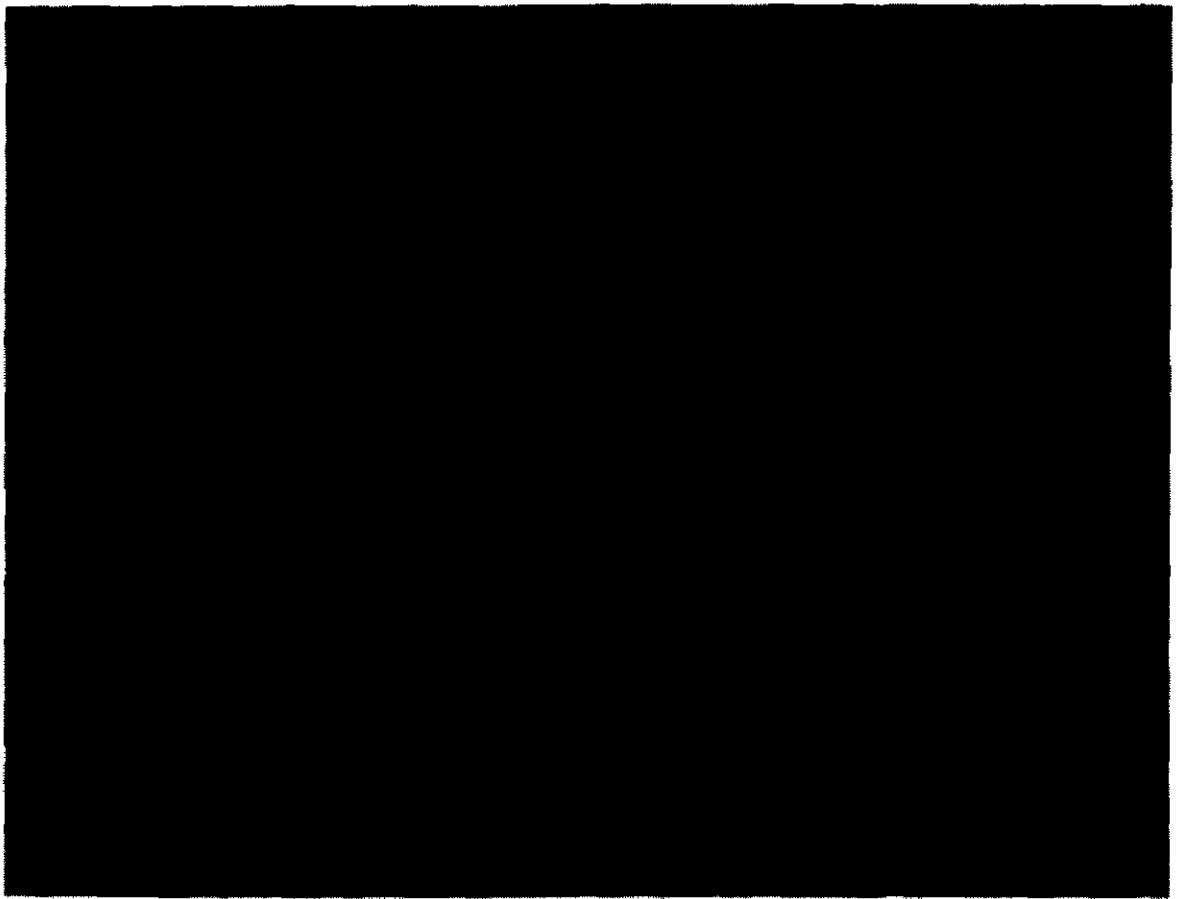
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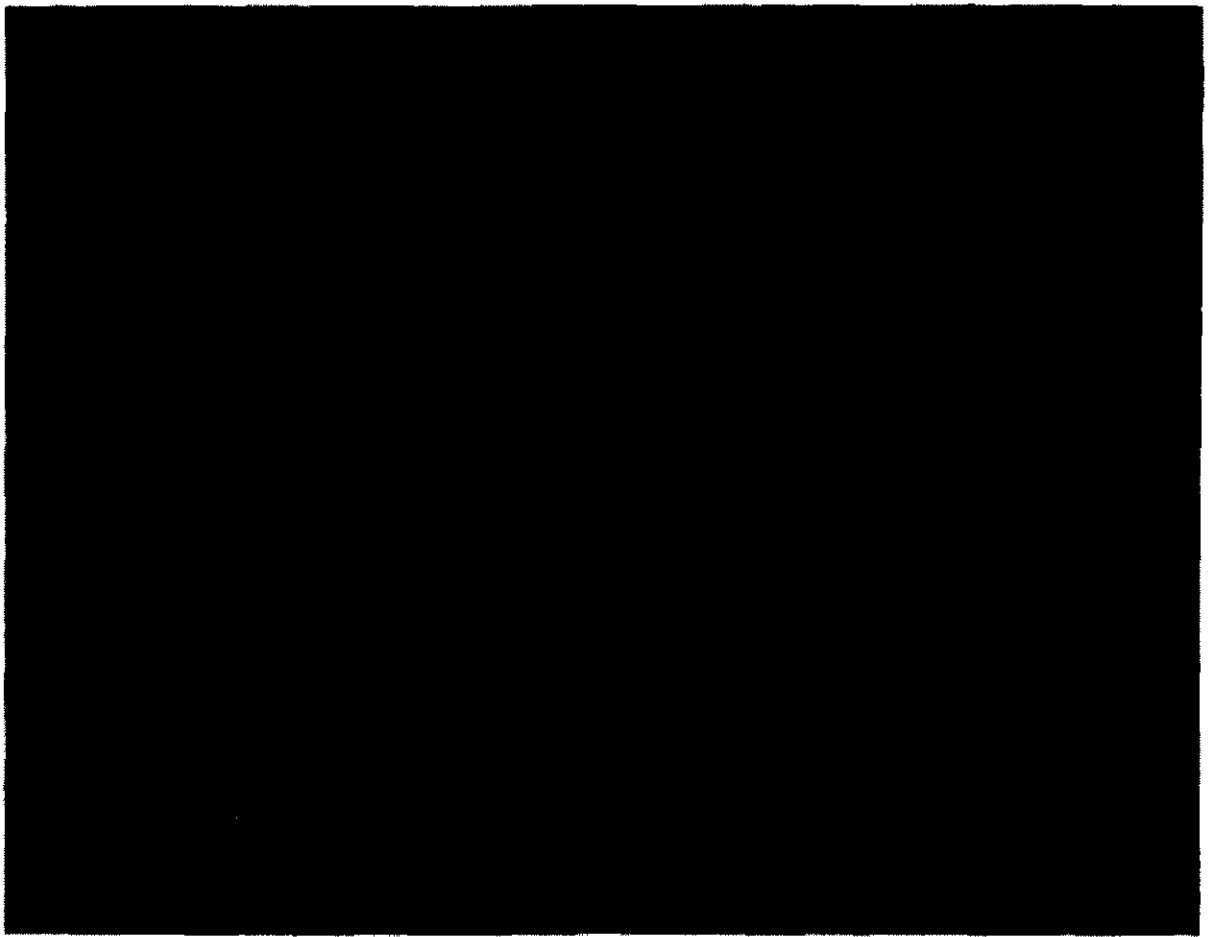
Devin.parram@puc.state.oh.us
Katie.johnson@puc.state.oh.us
Werner.margard@puc.state.oh.us
sam@mwncmh.com
fdarr@mwncmh.com
mpritchard@mwncmh.com
Philip.Sineng@ThompsonHine.com
ricks@ohanet.org
tobrien@bricker.com
dborchers@bricker.com
Rocco.dascenzo@duke-energy.com
Elizabeth.watts@duke-energy.com
BarthRoyer@aol.com
dboehm@BKLlawfirm.com
mkurtz@BKLlawfirm.com
jkylern@BKLlawfirm.com
myurick@taftlaw.com
zkravitz@taftlaw.com
tdougherty@theOEC.org
msmalz@ohiopoverlylaw.org
mhpeticoff@vorys.com
glpetrucci@vorys.com
Stephanie.Chmiel@ThompsonHine.com
swilliams@nrdc.org
tsiwo@bricker.com

stnourse@aep.com
mjsatterwhite@aep.com
dconway@porterwright.com
Bojko@carpenterlipps.com
Mohler@carpenterlipps.com
haydenm@firstenergycorp.com
jmcdermott@firstenergycorp.com
scasto@firstenergycorp.com
whitt@whitt-sturtevant.com
campbell@whitt-sturtevant.com
williams@whitt-sturtevant.com
yparisi@igsenergy.com
lfriedeman@igsenergy.com
mswhite@igsenergy.com
Gary.A.Jeffries@dom.com
Judi.sobecki@aes.com
cmooney@ohiopartners.org
cloucas@ohiopartners.org
jfinnigan@edf.org
joseph.clark@directenergy.com
NMcDaniel@elpc.org
lhawrot@spilmanlaw.com
dwilliamson@spilmanlaw.com
tshadrick@spilmanlaw.com
gpoulos@enernoc.com
Schmidt@sprgrp.com

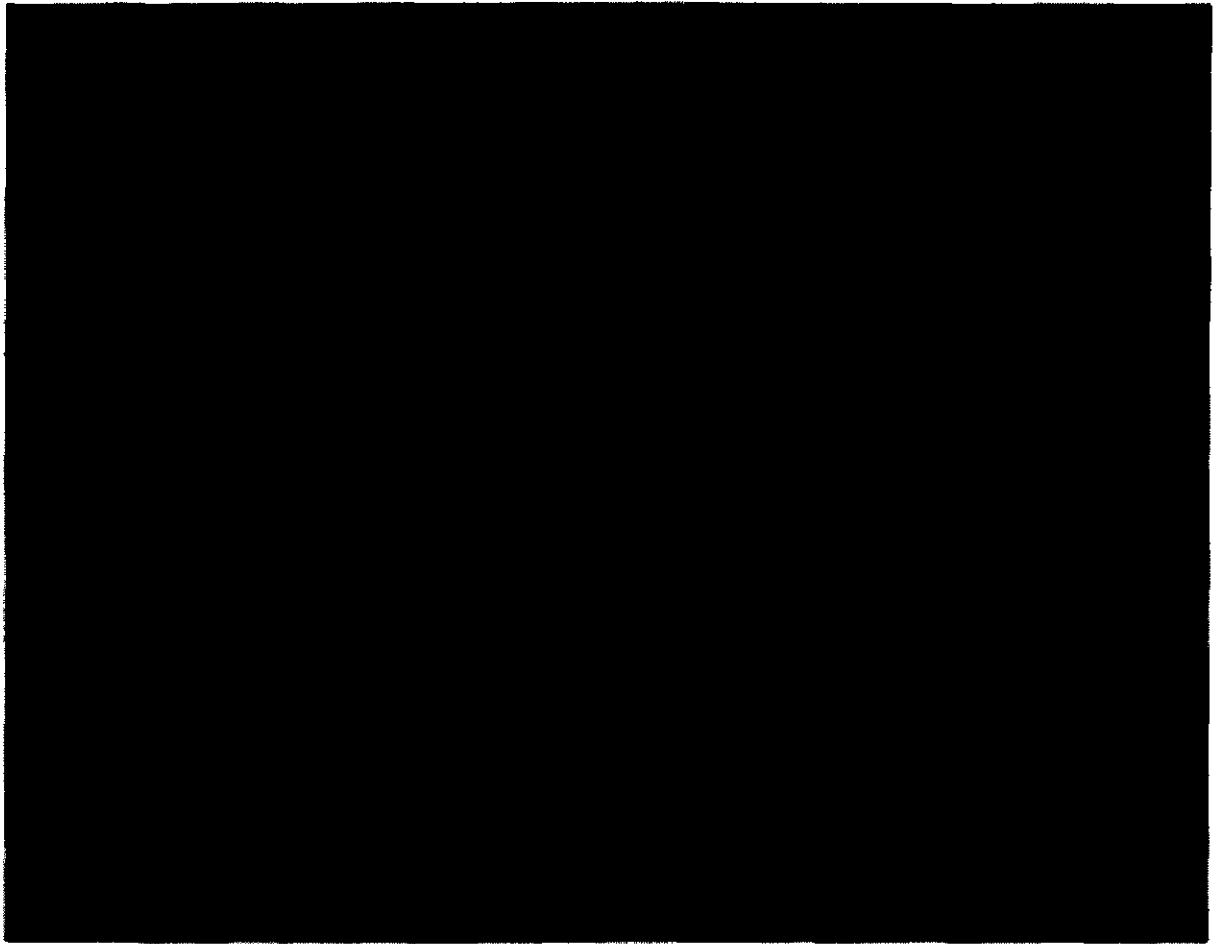
Attorney Examiner:

Sarah.parrot@puc.state.oh.us









James F. Wilson
Principal, Wilson Energy Economics

4800 Hampden Lane Suite 200
Bethesda, Maryland 20814 USA

Phone: (240) 482-3737
Cell: (301) 535-6571
Fax: (240) 482-3759
Email: jwilson@wilsonenec.com
www.wilsonenec.com

SUMMARY

James F. Wilson is an economist with 30 years of consulting experience, primarily in the electric power and natural gas industries. Many of his assignments have pertained to the economic and policy issues arising from the interplay of competition and regulation in these industries, including restructuring policies, market design, market analysis and market power. Other recent engagements have involved resource adequacy and capacity markets, contract litigation and damages, forecasting and market evaluation, pipeline rate cases and evaluating allegations of market manipulation. Mr. Wilson has been involved in electricity restructuring and wholesale market design for over twenty years in California, PJM, New England, Ontario, Russia and other regions. He also spent five years in Russia in the early 1990s advising on the reform, restructuring and development of the Russian electricity and natural gas industries.

Mr. Wilson has submitted affidavits and testified in Federal Energy Regulatory Commission and state regulatory proceedings. His papers have appeared in the *Energy Journal*, *Electricity Journal*, *Public Utilities Fortnightly* and other publications, and he often presents at industry conferences.

Prior to founding Wilson Energy Economics, Mr. Wilson was a Principal at LECG, LLC. He has also worked for ICF Resources, Decision Focus Inc., and as an independent consultant.

EDUCATION

MS, Engineering-Economic Systems, Stanford University, 1982
BA, Mathematics, Oberlin College, 1977

RECENT ENGAGEMENTS

- Various consulting assignments on wholesale electric capacity market design issues in PJM, New England, the Midwest, Texas, and California.
- Cost-benefit analysis of a new natural gas pipeline.
- Evaluation of the impacts of demand response on electric generation capacity mix and emissions.
- Panelist on a FERC technical conference on capacity markets.
- Affidavit on the potential for market power over natural gas storage.
- Executive briefing on wind integration and linkages to short-term and longer-term resource adequacy approaches.
- Affidavit on the impact of a centralized capacity market on the potential benefits of participation in a Regional Transmission Organization (RTO).
- Participated in a panel teleseminar on resource adequacy policy and modeling.
- Affidavit on opt-out rules for centralized capacity markets.
- Affidavits on minimum offer price rules for RTO centralized capacity markets.
- Evaluated electric utility avoided cost in a tax dispute.

- Advised on pricing approaches for RTO backstop short-term capacity procurement.
- Affidavit evaluating the potential impact on reliability of demand response products limited in the number or duration of calls.
- Evaluated changing patterns of natural gas production and pipeline flows, developed approaches for pipeline tolls and cost recovery.
- Evaluated an electricity peak load forecasting methodology and forecast; evaluated regional transmission needs for resource adequacy.
- Participated on a panel teleseminar on natural gas price forecasting.
- Affidavit evaluating a shortage pricing mechanism and recommending changes.
- Testimony in support of proposed changes to a forward capacity market mechanism.
- Reviewed and critiqued an analysis of the economic impacts of restrictions on oil and gas development.
- Advised on the development of metrics for evaluating the performance of Regional Transmission Organizations and their markets.
- Prepared affidavit on the efficiency benefits of excess capacity sales in readjustment auctions for installed capacity.
- Prepared affidavit on the potential impacts of long lead time and multiple uncertainties on clearing prices in an auction for standard offer electric generation service.

EARLIER PROFESSIONAL EXPERIENCE

LECG, LCC, Washington, DC 1998–2009.

Principal

- Reviewed and commented on an analysis of the target installed capacity reserve margin for the Mid Atlantic region; recommended improvements to the analysis and assumptions.
- Evaluated an electric generating capacity mechanism and the price levels to support adequate capacity; recommended changes to improve efficiency.
- Analyzed and critiqued the methodology and assumptions used in preparation of a long run electricity peak load forecast.
- *Evaluated results of an electric generating capacity incentive mechanism and critiqued the mechanism's design; prepared a detailed report. Evaluated the impacts of the mechanism's flaws on prices and costs and prepared testimony in support of a formal complaint.*
- Analyzed impacts and potential damages of natural gas migration from a storage field.
- Evaluated allegations of manipulation of natural gas prices and assessed the potential impacts of natural gas trading strategies.
- Prepared affidavit evaluating a pipeline's application for market-based rates for interruptible transportation and the potential for market power.
- Prepared testimony on natural gas industry contracting practices and damages in a contract dispute.
- Prepared affidavits on design issues for an electric generating capacity mechanism for an eastern US regional transmission organization; participated in extensive settlement discussions.
- Prepared testimony on the appropriateness of zonal rates for a natural gas pipeline.
- Evaluated market power issues raised by a possible gas-electric merger.
- Prepared testimony on whether rates for a pipeline extension should be rolled-in or incremental under Federal Energy Regulatory Commission ("FERC") policy.
- Prepared an expert report on damages in a natural gas contract dispute.
- Prepared testimony regarding the incentive impacts of a ratemaking method for natural gas pipelines.
- Prepared testimony evaluating natural gas procurement incentive mechanisms.
- Analyzed the need for and value of additional natural gas storage in the southwestern US.

- Evaluated market issues in the restructured Russian electric power market, including the need to introduce financial transmission rights, and policies for evaluating mergers.
- Affidavit on market conditions in western US natural gas markets and the potential for a new merchant gas storage facility to exercise market power.
- Testimony on the advantages of a system of firm, tradable natural gas transmission and storage rights, and the performance of a market structure based on such policies.
- Testimony on the potential benefits of new independent natural gas storage and policies for providing transmission access to storage users.
- Testimony on the causes of California natural gas price increases during 2000-2001 and the possible exercise of market power to raise natural gas prices at the California border.
- Advised a major US utility with regard to the Federal Energy Regulatory Commission's proposed Standard Market Design and its potential impacts on the company.
- Reviewed and critiqued draft legislation and detailed market rules for reforming the Russian electricity industry, for a major investor in the sector.
- Analyzed the causes of high prices in California wholesale electric markets during 2000 and developed recommendations, including alternatives for price mitigation. Testimony on price mitigation measures.
- Summarized and critiqued wholesale and retail restructuring and competition policies for electric power and natural gas in select US states, for a Pacific Rim government contemplating energy reforms.
- Presented testimony regarding divestiture of hydroelectric generation assets, potential market power issues, and mitigation approaches to the California Public Utilities Commission.
- Reviewed the reasonableness of an electric utility's wholesale power purchases and sales in a restructured power market during a period of high prices.
- Presented an expert report on failure to perform and liquidated damages in a natural gas contract dispute.
- Presented a workshop on Market Monitoring to a group of electric utilities in the process of forming an RTO.
- Authored a report on the screening approaches used by market monitors for assessing exercise of market power, material impacts of conduct, and workable competition.
- Developed recommendations for mitigating locational market power, as part of a package of congestion management reforms.
- Provided analysis in support of a transmission owner involved in a contract dispute with generators providing services related to local grid reliability.
- Authored a report on the role of regional transmission organizations in market monitoring.
- Prepared market power analyses in support of electric generators' applications to FERC for market-based rates for energy and ancillary services.
- Analyzed western electricity markets and the potential market power of a large producer under various asset acquisition or divestiture strategies.
- Testified before a state commission regarding the potential benefits of retail electric competition and issues that must be addressed to implement it.
- Prepared a market power analysis in support of an acquisition of generating capacity in the New England market.
- Advised a California utility regarding reform strategies for the California natural gas industry, addressing market power issues and policy options for providing system balancing services.

ICF RESOURCES, INC., Fairfax, VA, 1997-1998.

Project Manager

- Reviewed, critiqued and submitted testimony on a New Jersey electric utility's restructuring proposal, as part of a management audit for the state regulatory commission.
- Assisted a group of US utilities in developing a proposal to form a regional Independent System Operator (ISO).

- Researched and reported on the emergence of Independent System Operators and their role in reliability, for the Department of Energy.
- Provided analytical support to the Secretary of Energy's Task Force on Electric System Reliability on various topics, including ISOs. Wrote white papers on the potential role of markets in ensuring reliability.
- Recommended near-term strategies for addressing the potential stranded costs of non-utility generator contracts for an eastern utility; analyzed and evaluated the potential benefits of various contract modifications, including buyout and buydown options; designed a reverse auction approach to stimulating competition in the renegotiation process.
- Designed an auction process for divestiture of a Northeastern electric utility's generation assets and entitlements (power purchase agreements).
- Participated in several projects involving analysis of regional power markets and valuation of existing or proposed generation assets.

IRIS MARKET ENVIRONMENT PROJECT, 1994–1996.

Project Director, Moscow, Russia

Established and led a policy analysis group advising the Russian Federal Energy Commission and Ministry of Economy on economic policies for the electric power, natural gas, oil pipeline, telecommunications, and rail transport industries (*the Program on Natural Monopolies*, a project of the IRIS Center of the University of Maryland Department of Economics, funded by USAID):

- Advised on industry reforms and the establishment of federal regulatory institutions.
- Advised the Russian Federal Energy Commission on electricity restructuring, development of a competitive wholesale market for electric power, tariff improvements, and other issues of electric power and natural gas industry reform.
- Developed policy conditions for the IMF's \$10 billion Extended Funding Facility.
- Performed industry diagnostic analyses with detailed policy recommendations for electric power (1994), natural gas, rail transport and telecommunications (1995), oil transport (1996).

Independent Consultant stationed in Moscow, Russia, 1991–1996

Projects for the WORLD BANK, 1992-1996:

- Bank Strategy for the Russian Electricity Sector. Developed a policy paper outlining current industry problems and necessary policies, and recommending World Bank strategy.
- Russian Electric Power Industry Restructuring. Participated in work to develop recommendations to the Russian Government on electric power industry restructuring.
- Russian Electric Power Sector Update. Led project to review developments in sector restructuring, regulation, demand, supply, tariffs, and investment.
- Russian Coal Industry Restructuring. Analyzed Russian and export coal markets and developed forecasts of future demand for Russian coal.
- World Bank/IEA Electricity Options Study for the G-7. Analyzed mid- and long-term electric power demand and efficiency prospects and developed forecasts.
- Russian Energy Pricing and Taxation. Developed recommendations for liberalizing energy markets, eliminating subsidies and restructuring tariffs for all energy resources.

Other consulting assignments in Russia, 1991–1994:

- Advised on projects pertaining to Russian energy policy and the transition to a market economy in the energy industries, for the Institute for Energy Research of the Russian Academy of Sciences.
- Presented seminars on the structure, economics, planning, and regulation of the energy and electric power industries in the US, for various Russian clients.

DECISION FOCUS INC., Mountain View, CA, 1983–1992

Senior Associate, 1985-1992.

- *For the Electric Power Research Institute, led projects to develop decision-analytic methodologies and models for evaluating long term fuel and electric power contracting and procurement strategies. Applied the methodologies and models in numerous case studies, and presented several workshops and training sessions on the approaches.*
- *Analyzed long-term and short-term natural gas supply decisions for a large California gas distribution company following gas industry unbundling and restructuring.*
- *Analyzed long term coal and rail alternatives for a midwest electric utility, including alternative coal supply regions, suppliers and contract structures; spot/contract mix; rail arrangements; power purchases; conversion to gas.*
- *Evaluated bulk power purchase alternatives and strategies for a New Jersey electric utility.*
- *Performed a financial and economic analysis of a proposed hydroelectric project.*
- *For a natural gas pipeline company serving the Northeastern US, forecasted long-term natural gas supply and transportation volumes. Developed a forecasting system for staff use.*
- *Analyzed potential benefits of diversification of suppliers for a natural gas pipeline company.*
- *Evaluated uranium contracting strategies for an electric utility.*
- *Analyzed telecommunications services markets under deregulation, developed and implemented a pricing strategy model. Evaluated potential responses of residential and business customers to changes in the client's and competitors' telecommunications services and prices.*
- *Analyzed coal contract terms and supplier diversification strategies for an eastern electric utility.*
- *Analyzed oil and natural gas contracting strategies for an electric utility.*

TESTIMONY AND AFFIDAVITS

PJM Interconnection, L.L.C., FERC Docket No. ER14-504 (Clearing of Demand Response in RPM), Affidavit in Support of the Protest of the Joint Consumer Advocates and Public Interest Organizations, December 20, 2013.

New England Power Generators Association, Inc. v. ISO New England Inc., FERC Docket No. EL14-7, Testimony in Support of the Protest of the New England States Committee on Electricity, November 27, 2013.

Midwest Independent Transmission System Operator, Inc., FERC Docket No. ER11-4081, Affidavit In Support of Brief of the Midwest TDUs, October 11, 2013.

ANR Storage Company, FERC Docket No. RP12-479, Prepared Answering Testimony on behalf of the Joint Intervenor Group, April 2, 2013; Prepared Cross-answering Testimony, May 15, 2013; testimony at hearings, September 4, 2013.

In the Matter of the Application of The Dayton Power and Light Company for Approval of its Market Rate Offer, Public Utilities Commission of Ohio Case No. 12-426-EL-SSO: Direct Testimony on Behalf of the Office of the Ohio Consumers' Counsel, March 5, 2013; deposition, March 11, 2013.

PJM Interconnection, L.L.C., FERC Docket No. ER13-535 (Minimum Offer Price Rule), Affidavit in Support of the Protest and Comments of the Joint Consumer Advocates, December 28, 2012.

In the Matter of the Application of Ohio Edison Company, et al for Authority to Provide for a Standard Service Offer in the Form of an Electric Security Plan, Public Utilities Commission of Ohio Case No. 12-1230-EL-SSO: Direct Testimony on Behalf of the Office of the Ohio Consumers' Counsel, May 21, 2012; deposition, May 30, 2012; testimony at hearings, June 5, 2012.

PJM Interconnection, L.L.C., FERC Docket No. ER12-513, Affidavit in Support of Protest of the Joint Consumer Advocates and Demand Response Supporters (changes to RPM), December 22, 2011.

People of the State of Illinois *ex rel.* Leon A. Greenblatt, III v Commonwealth Edison Company, Circuit Court of Cook County, Illinois, deposition, September 22, 2011; interrogatory, Feb. 22, 2011.

in the Matter of the Application of Union Electric Company for Authority to Continue the Transfer of Functional Control of Its Transmission System to the Midwest Independent Transmission System Operator, Inc., Missouri PSC Case No. EO-2011-0128, Testimony in hearings, February 9, 2012; Rebuttal Testimony and Response to Commission Questions On Behalf Of The Missouri Joint Municipal Electric Utility Commission, September 14, 2011.

PJM Interconnection, L.L.C., and PJM Power Providers Group v. PJM Interconnection, L.L.C., FERC Docket Nos. ER11-2875 and EL11-20 (Minimum Offer Price Rule), Affidavit in Support of Protest of New Jersey Division of Rate Counsel, March 4, 2011, and Affidavit in Support of Request for Rehearing and for Expedited Consideration of New Jersey Division of Rate Counsel, May 12, 2011.

PJM Interconnection, L.L.C., FERC Docket No. ER11-2288 (Demand response "saturation" issue), Affidavit in Support of Protest and Comments of the Joint Consumer Advocates, December 23, 2010.

North American Electric Reliability Corporation, FERC Docket No. RM10-10, Comments on Proposed Reliability Standard BAL-502-RFC-02: Planning Resource Adequacy Analysis, Assessment and Documentation, December 23, 2010.

In the Matter of the Reliability Pricing Model and the 2013/2014 Delivery Year Base Residual Auction Results, Maryland Public Service Commission Administrative Docket PC22, Comments and Responses to Questions On Behalf of Southern Maryland Electric Cooperative, October 15, 2010.

PJM Interconnection, L.L.C., FERC Docket No. ER09-1063-004 (PJM compliance filing on pricing during operating reserve shortages): Affidavit in Support of Comments and Protest of the Pennsylvania Public Utility Commission, July 30, 2010.

ISO New England, Inc. and New England Power Pool, FERC Docket No. ER10-787-000 on Forward Capacity Market Revisions: Direct Testimony On Behalf Of The Connecticut Department of Public Utility Control, March 30, 2010; Direct Testimony in Support of First Brief of the Joint Filing Supporters, July 1, 2010; Supplemental Testimony in Support of Second Brief of the Joint Filing Supporters, September 1, 2010.

PJM Interconnection, L.L.C., FERC Docket No. ER09-412-006: Affidavit in Support of Protest of Indicated Consumer Interests, January 19, 2010.

In the Matter of the Application of Ohio Edison Company, et al for Approval of a Market Rate Offer to Conduct a Competitive Bidding Process for Standard Service Offer Electric Generation Supply, Public Utilities Commission of Ohio Case No. 09-906-EL-SSO: Direct Testimony on Behalf of the Office of the Ohio Consumers' Counsel, December 7, 2009; deposition, December 10, 2009, testimony at hearings, December 22, 2009.

Application of PATH Allegheny Virginia Transmission Corporation for Certificates of Public Convenience and Necessity to Construct Facilities: 765 kV Transmission Line through Loudon, Frederick and Clarke Counties, Virginia State Corporation Commission Case No. PUE-2009-00043: Direct Testimony on Behalf of Commission Staff, December 8, 2009.

PJM Interconnection, L.L.C., FERC Docket No. ER09-412-000: Affidavit On Proposed Changes to the Reliability Pricing Model On Behalf Of RPM Load Group, January 9, 2009; Reply Affidavit, January 26, 2009.

PJM Interconnection, L.L.C., FERC Docket No. ER09-412-000: Affidavit in Support of the Protest Regarding Load Forecast To Be Used in May 2009 RPM Auction, January 9, 2009.

Maryland Public Service Commission et al v. PJM Interconnection, L.L.C., FERC Docket No. EL08-67-000: Affidavit in Support Complaint of the RPM Buyers, May 30, 2008; Supplemental Affidavit, July 28, 2008.

PJM Interconnection, L.L.C., FERC Docket No. ER08-516: Affidavit On PJM's Proposed Change To RPM Parameters On Behalf Of RPM Buyers, March 6, 2008.

PJM Interconnection, L.L.C., Reliability Pricing Model Compliance Filing, FERC Docket Nos. ER05-1410 and EL05-148: Affidavit Addressing RPM Compliance Filing Issues on Behalf of the Public Power Association of New Jersey, October 15, 2007.

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PROFESSIONAL ASSOCIATIONS

United States Association for Energy Economics

Natural Gas Roundtable

Energy Bar Association

April 2014

OHIO POWER COMPANY'S RESPONSE
THE OFFICE OF THE OHIO CONSUMERS' COUNSEL'S
DISCOVERY REQUEST
PUCO CASE NO. 13-2385-EL-SSO et al.
ELEVENTH SET

INTERROGATORY

INT-11-272 IEU-INT-2-001 Conf. att. 1 page 1 states, "** OVEC demand charge has been decreased \$10M annual (versus the projections from OVEC) to reflect lean improvements/process optimization"

- a. Identify the demand charge projections from OVEC;
- b. Has OVEC and/or you committed to making these "lean improvements/process optimization"?
- c. Has OVEC or you committed to reducing the demand charge \$10M annually based on the "lean improvements/process optimization"?
- d. Do you commit to the \$10M annual reduction in demand charge for purposes of the PPA Rider even if OVEC or you fail to implement the "lean improvements/process optimization"?

RESPONSE

a. OVEC provides yearly demand charges with OPCo (including CSP) having a 19.93% share.

2015: Total = \$368M OPCo @ 19.93% = \$73M
2016: Total = \$384M OPCo @ 19.93% = \$77M
2017: Total = \$395M OPCo @ 19.93% = \$79M
2018: Total = \$436M OPCo @ 19.93% = \$87M

- b. No.
- c. No.
- d. No.

Prepared by: William A. Allen

OHIO POWER COMPANY'S RESPONSE
THE OFFICE OF THE OHIO CONSUMERS' COUNSEL'S
DISCOVERY REQUEST
PUCO CASE NO. 13-2385-EL-SSO et al.
ELEVENTH SET

REQUEST FOR PRODUCTION OF DOCUMENTS

RPD-11-049 Referring to what has been requested from you in OCC INT-273, please provide all documents, including workpapers that support the values referenced therein.

RESPONSE

There are no documents or workpapers for OCC INT-11-273 other than OEG-INT-2-001 conf. att. 1 and IEU-INT-2-001 Conf. att. 1, which have already been provided.

Prepared by: William A. Allen

OHIO POWER COMPANY'S RESPONSE
THE OFFICE OF THE OHIO CONSUMERS' COUNSEL'S
DISCOVERY REQUEST
PUCO CASE NO. 13-2385-EL-SSO et al.
ELEVENTH SET

REQUEST FOR PRODUCTION OF DOCUMENTS

RPD-11-048 Referring to your response to OCC INT-272, if the response to the interrogatory (a)-(d) was affirmative in any respect, please provide a copy of documents that:

- a. Describe the "lean improvements/process optimization"
- b. Pertain to commitments you have made with re: to "lean improvements/process optimization"
- c. Pertain to OVEC commitments to reducing the demand charge \$10M annually based on the "lean improvements/process optimization" or some other basis.

RESPONSE

Not applicable.

Prepared by: William A. Allen

OHIO POWER COMPANY'S RESPONSE
THE OFFICE OF THE OHIO CONSUMERS' COUNSEL'S
DISCOVERY REQUEST
PUCO CASE NO. 13-2385-EL-SSO et al.
ELEVENTH SET

INTERROGATORY

INT-11-275 IEU-INT-2-001 Conf. att. 1 page 1 line 15 is labeled "Energy Market Price (\$/MWH).

- a. What is the source of this energy market average monthly price forecast?
- b. When was the forecast prepared, and by whom?
- c. If a model was used, identify the model and the assumptions used.
- d. If this value is based on or related to the data provided in OEG-INT-2-006, describe how the Energy Market Price values were calculated based on the hourly values in OEG-INT-2-006.
- e. Describe all assumptions or estimates that were used with regard to the operation of the OVEC plants (peak hours, off-peak hours, etc.) in determining the Energy Market Price.
- f. Identify the forecast hourly OVEC generation quantities during the ESP III period, if applicable.

RESPONSE

- a. The Company objects to this request as it was previously asked and answered in OCC-INT-5-094 parts b,c.
- b. The Company objects to this request as it was previously asked and answered in OCC-INT-5-094 part e.
- c. The Company objects to this request as it was previously asked and answered in OCC INT-5-095, part c.
- d. The referenced Energy Market Price represents the monthly weighted average hourly market prices weighted by hourly OVEC generation.
- e. The Company objects to this requests as it was previously asked and answered in OCC-INT-5-094 parts a,b,c and d.
- f. See Competitively-Sensitive Confidential OCC INT-11-275.

OHIO POWER COMPANY'S RESPONSE
THE OFFICE OF THE OHIO CONSUMERS' COUNSEL'S
DISCOVERY REQUEST
PUCO CASE NO. 13-2385-EL-SSO et al.
FIFTH SET

INTERROGATORY

INT-5-090 Please refer to the response to OEG-INT-2-006 Confidential Attachment 1 and describe in detail the information shown in this attachment, including:

- a. The source of the data and the manner in which it was determined. If the data was developed through a computer model, identify the computer model (including manufacturer, product model and serial number), and provide all model inputs and assumptions.
- b. Please state what the indicated prices represent, including the delivery location.
- c. Please identify the date the forecast was prepared and the person(s) who was/were responsible for preparing the forecast.
- d. Does the provided forecast represent all of the forecasts, including preliminary, amended and revised forecasts, prepared or acquired by AEP Ohio to estimate market prices for the indicated terms, as requested in OEG-INT-2-006?

RESPONSE

- a. The near-term market data (2014 through 2018) are based on forward market prices provided by AEP's Commercial Operations group. Forward prices are retrieved from several different exchanges (e.g., NYMEX or ICE) to create future price marks which are converted to hourly prices using proprietary algorithms by AEP Commercial Operations. Longer-term prices (2019 through 2023) are based on a fundamental forecast prepared by AEP's Fundamental Analysis Group. For a description of the model and inputs, refer to the response to question 95, part c., this set.
- b. ADHUB.
- c. The forecasts were prepared in August of 2013 by the Commercial Operations and Fundamental Analysis Groups.
- d. No.

Prepared by: William A. Allen

OHIO POWER COMPANY'S RESPONSE
TO DIRECT ENERGY SERVICES LLC's
DISCOVERY REQUEST
PUCO CASE NO. 13-2385-EL-SSO et al.
FIRST SET

INTERROGATORY

INT-1-003 Referencing the newly proposed Power Purchase Agreement ("PPA") Rider:

(a) Witness Allen explains (at page 5, lines 7-11) that OVEC power participation benefits and requirements would be included in the PPA rider and that AEP Ohio will have the ability to allow the inclusion of additional PPAs or similar products subsequently approved by the Commission in the rider (through the ESP term). What "additional PPAs" would AEP believe could be included in the rider? Please also provide examples of "similar products" that AEP Ohio would envision could be approved to be put into the rider.

(b) If the PPA rider as proposed for OVEC power had been in place for calendar years 2011, 2012, and 2013, please provide the rider calculation on a monthly basis for customers on Schedule RS, GS-1, GS-2, GS-3, and GS-4 customers.

(c) What does AEP Ohio expect the forward energy competitive price projections over the next three years to be for the PPA rider?

RESPONSE

(a) The Company has not proposed any additional PPAs to be included in the PPA rider at this time. As stated on page 8, lines 9-11, "the Company will have the ability to petition the Commission to allow the inclusion of additional PPAs (or similar products subsequently approved by the Commission) in the PPA rider throughout the ESP term." Similar products could be contracts or agreements for the purchase of capacity and energy.

(b) The Company has not performed the requested calculation.

(c) See the Company's response to OEG INT-2-006.

OHIO POWER COMPANY'S RESPONSE
TO OHIO ENERGY GROUP'S
DISCOVERY REQUEST
PUCO CASE NO. 13-2385-EL-SSO et al.
EIGHTH SET

INTERROGATORY

INT-8-006 Please provide AEP Ohio's latest forecast (or results from its latest modeling efforts) of its expected portion of OVEC monthly generation (in MWh) for 2014 and as far out as is available.

RESPONSE

The Company has not updated the forecast.

Prepared by: William A. Allen

OHIO POWER COMPANY'S RESPONSE
TO OHIO ENERGY GROUP'S
DISCOVERY REQUEST
PUCO CASE NO. 13-2385-EL-SSO et al.
EIGHTH SET

INTERROGATORY

INT-8-007 Please provide AEP Ohio's latest forecast (or results from its latest modeling efforts) of the expected energy-related revenues from providing its expected portion of OVEC monthly generation into the PJM day-ahead market for 2014 and as far out as is available.

RESPONSE

See the Company's response to OEG INT-8-006.

Prepared by: William A. Allen

OHIO POWER COMPANY'S RESPONSE
TO OHIO ENERGY GROUP'S
DISCOVERY REQUEST
PUCO CASE NO. 13-2385-EL-SSO et al.
EIGHTH SET

INTERROGATORY

INT-8-008 Please provide AEP Ohio's latest forecast (or results from its latest modeling efforts) of the expected energy-related costs associated with its expected portion of OVEC monthly generation for 2014 and as far out as is available. If possible, please provide component details (e.g., fuel costs, variable O&M costs, start costs, SO2 costs, CO2 costs, etc.).

RESPONSE

See the Company's response to OEG INT-8-006.

Prepared by: William A. Allen

**OHIO POWER COMPANY'S RESPONSE
THE OFFICE OF THE OHIO CONSUMERS' COUNSEL'S
DISCOVERY REQUEST
PUCO CASE NO. 13-2385-EL-SSO et al.
SUPPLEMENTAL FIFTH SET**

INTERROGATORY

INT-5-107 Please identify and break down the LMP price(s) available to OVEC for each billing period to AEP-Ohio for the past 3 years.

RESPONSE

OCC INT-5-107 Attachment 1 displays Day Ahead LMP's by month for the last three years. Two transactions point were utilized (OVEC & AEP Gen Hub). Each LMP price is broken down by the following components: Congestion, Energy, & Loss. The amounts reflect a monthly average price.

Prepared by: William A. Allen

SUPPLEMENTAL RESPONSE

The Company's previous response incorrectly displayed Real Time Prices for the 2013 AEP Gen Hub transaction point. OCC INT-5-107 Supplemental Attachment 1 displays the corrected table highlighted in yellow.

Prepared by: William A. Allen

Attachment JFW-2
Page 11 of 18

1.	2011 OVEC Transaction Point				2012 OVEC Transaction Point				2013 OVEC Transaction Point				
	Month	DA LMP - Congestion	DA LMP - Energy	DA LMP - Loss	DA LMP - Price	DA LMP - Congestion	DA LMP - Energy	DA LMP - Loss	DA LMP - Price	DA LMP - Congestion	DA LMP - Energy	DA LMP - Loss	DA LMP - Price
	Jan	-10.33	54.92	-5.36	39.23	-0.72	33.06	-2.36	29.98	-2.16	34.89	-2.49	30.24
	Feb	-3.68	42.30	-4.09	34.52	-0.27	30.49	-2.14	28.08	-1.82	35.29	-2.07	31.40
	Mar	-1.58	39.85	-3.54	34.74	0.11	28.73	-1.50	27.34	-1.31	38.91	-1.97	35.62
	Apr	-1.87	40.84	-3.16	35.81	0.17	28.05	-1.55	26.66	-0.54	38.95	-1.70	36.71
	May	-1.50	43.43	-2.65	39.28	-0.16	30.02	-1.21	28.66	-1.04	37.89	-1.76	35.09
	Jun	-5.51	48.02	-2.96	39.55	-1.75	31.89	-2.16	27.98	-1.10	36.16	-1.96	33.10
	Jul	-5.27	57.16	-5.57	46.33	-1.62	41.56	-3.13	36.81	-3.03	45.54	-3.21	39.30
	Aug	-1.71	42.96	-3.75	37.50	-1.83	32.82	-2.45	28.55	-1.07	33.72	-1.83	30.82
	Sep	-1.72	38.00	-3.40	32.88	-1.00	31.89	-1.96	28.93	-2.17	34.86	-1.72	30.96
	Oct	-0.09	36.80	-2.31	34.40	0.14	33.84	-1.85	32.13	-0.72	34.53	-1.67	32.13
	Nov	0.20	34.65	-1.80	33.05	-0.75	38.17	-2.76	34.65	-1.39	34.77	-1.83	31.55
	Dec	-0.44	33.41	-1.25	31.72	-0.70	31.97	-2.37	28.90	-1.86	38.65	-2.42	34.37
	Avg.	-2.79	42.69	-3.32	36.58	-0.70	32.71	-2.12	29.89	-1.52	37.01	-2.05	33.44

2.	2011 AEP Gen Hub Transaction Point				2012 AEP Gen Hub Transaction Point				2013 AEP Gen Hub Transaction Point				
	Month	DA LMP - Congestion	DA LMP - Energy	DA LMP - Loss	DA LMP - Price	DA LMP - Congestion	DA LMP - Energy	DA LMP - Loss	DA LMP - Price	DA LMP - Congestion	DA LMP - Energy	DA LMP - Loss	DA LMP - Price
	Jan	-11.56	54.92	-4.91	38.45	-0.81	33.06	-1.91	30.34	-2.50	34.89	-2.16	30.23
	Feb	-4.23	42.30	-3.62	34.44	-0.52	30.49	-1.78	28.19	-1.75	35.29	-1.84	31.70
	Mar	-1.72	39.85	-2.86	35.28	0.07	28.73	-1.37	27.43	-1.23	38.91	-1.73	35.94
	Apr	-1.96	40.84	-2.59	36.29	0.25	28.05	-1.24	27.06	-0.62	38.95	-1.60	36.74
	May	-0.59	43.43	-2.09	40.75	0.11	30.02	-1.04	29.09	-1.05	37.89	-1.65	35.19
	Jun	-4.50	48.02	-2.42	41.11	-1.37	31.89	-1.80	28.72	-1.18	36.16	-1.75	33.23
	Jul	-4.77	57.16	-4.83	47.56	-1.14	41.56	-2.87	37.54	-2.58	45.54	-2.87	40.10
	Aug	-1.58	42.96	-3.06	38.31	-1.50	32.82	-2.20	29.13	-1.05	33.72	-1.73	30.93
	Sep	-0.83	38.00	-2.73	34.44	-0.90	31.89	-1.72	29.27	-2.20	34.86	-1.66	31.00
	Oct	0.28	36.80	-1.79	35.29	-0.15	33.84	-1.50	32.19	-0.68	34.53	-1.52	32.32
	Nov	-0.01	34.65	-1.25	33.39	-1.15	38.17	-2.21	34.80	-1.48	34.78	-1.57	31.73
	Dec	0.00	33.41	-1.38	32.03	-0.70	31.97	-2.11	29.16	-2.03	38.65	-2.21	34.41
	Avg.	-2.62	42.69	-2.79	37.28	-0.65	32.71	-1.81	30.24	-1.53	37.01	-1.86	33.63

Note:
1. Day Ahead LMP's at OVEC Transaction Point
2. Day Ahead LMP's at AEP Gen Hub Transaction Point
3. Prices reflect a monthly average.

**OHIO POWER COMPANY'S RESPONSE
TO INDUSTRIAL ENERGY USERS-OHIO'S
DISCOVERY REQUEST
PUCO CASE NO. 13-2385-EL-SSO et al.
SECOND SET**

INTERROGATORY

INT-2-014 Identify all ancillary services revenue AEP-Ohio received related to OVEC in 2012.

RESPONSE

AEP-Ohio does not receive ancillary services revenue related to OVEC.

Prepared by: William A. Allen

**OHIO POWER COMPANY'S RESPONSE
TO INDUSTRIAL ENERGY USERS-OHIO'S
DISCOVERY REQUEST
PUCO CASE NO. 13-2385-EL-SSO et al.
SECOND SET**

INTERROGATORY

INT-2-015 Identify all ancillary services revenue AEP-Ohio received related to OVEC in 2013.

RESPONSE

Please see the Company's response to IEU INT-2-014.

Prepared by: William A. Allen

**OHIO POWER COMPANY'S RESPONSE
TO INDUSTRIAL ENERGY USERS-OHIO'S
DISCOVERY REQUEST
PUCO CASE NO. 13-2385-EL-SSO et al.
SECOND SET**

INTERROGATORY

INT-2- 003 Identify AEP-Ohio's current power participation ratio in OVEC.

RESPONSE

As indicated at page 9, lines 11-12 of the testimony of Company witness Allen, "Ohio Power Company has a 19.93% share of the OVEC power participation benefits and requirements."

Prepared by: William A. Allen

**OHIO POWER COMPANY'S RESPONSE
TO INDUSTRIAL ENERGY USERS-OHIO'S
DISCOVERY REQUEST
PUCO CASE NO. 13-2385-EL-SSO et al.
SECOND SET**

INTERROGATORY

INT-2-020 Identify OVEC's kilowatt hour output for 2012 allocable to AEP-Ohio (in accordance with AEP-Ohio's power participation ratio).

RESPONSE

OVEC's kilowatt hour output for 2012 received by Ohio Power Company was 1,952,385kWh.

Prepared by: William A. Allen

**OHIO POWER COMPANY'S RESPONSE
TO INDUSTRIAL ENERGY USERS-OHIO'S
DISCOVERY REQUEST
PUCO CASE NO. 13-2385-EL-SSO et al.
SECOND SET**

INTERROGATORY

INT-2-021 Identify OVEC's kilowatt hour output for 2013 allocable to AEP-Ohio (in accordance with AEP-Ohio's power participation ratio).

RESPONSE

OVEC's kilowatt hour output for 2013 received by Ohio Power Company was 1,985,352kWh.

Prepared by: William A. Allen

OHIO POWER COMPANY'S RESPONSE
THE OFFICE OF THE OHIO CONSUMERS' COUNSEL'S
DISCOVERY REQUEST
PUCO CASE NO. 13-2385-EL-SSO et al.
SIXTH SET

INTERROGATORY

INT-6-114 Re: Response to IEU-2-001: The forecast reflects a large increase in output (OVEC Energy GWH) in the summer months in 2016 compared to 2015. Explain the basis for the forecasted increase in summer generation.

RESPONSE

As shown in IEU INT-2-001 Confidential Attachment 1, the forecasted average market price for energy increased about \$4.54/MWh from the summer of 2015 to the summer of 2016, while the forecasted OVEC energy price increased only \$0.95/MWh. Thus, the forecasted relative energy price position of OVEC would be more favorable.

Prepared by: William A. Allen

**OHIO POWER COMPANY'S RESPONSE
THE OFFICE OF THE OHIO CONSUMERS' COUNSEL'S
DISCOVERY REQUEST
PUCO CASE NO. 13-2385-EL-SSO et al.
FIFTH SET**

INTERROGATORY

- INT-5-111 Re: Allen testimony p. 10, lines 6-7: Describe in detail how OPC will sell the OVEC entitlement into the "PJM market."
- a. Will the energy be offered into the day-ahead or real-time markets?
 - b. State whether any transmission or transmission rights are associated with the entitlement, and the delivery points at which the entitlement will be sold.
 - c. If specific plans do not yet exist for selling the OVEC entitlement, state the basis upon which the strategy for selling the entitlements will be determined.

RESPONSE

- a. It is OPC's expectation that the OVEC entitlement will generally be offered into PJM's day-ahead market.
- b. No.
- c. Please see the Company's response to part 'a'.

Prepared by: William A. Allen

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Summary: Testimony Direct Testimony of James F. Wilson, Public Version, on Behalf of the Office of the Ohio Consumers' Counsel electronically filed by Ms. Deb J. Bingham on behalf of Grady, Maureen R. Ms.