BEFORE
THE PUBLIC UTILITIES COMMISSION OF OHIO

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

SUPPLEMENTAL TESTIMONY OF A. JOSEPH CAVICCHI ON BEHALF OF THE PJM POWER PROVIDERS GROUP AND THE ELECTRIC POWER SUPPLY ASSOCIATION

December 28, 2015

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I. Introduction, Purpose of Testimony, and Summary of Conclusions

Q1. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A1. My name is A. Joseph Cavicchi. My business address is 200 State Street, Boston, MA 02109.

Q2. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?

A2. I am employed by Compass Lexecon as an Executive Vice President.

Q3. HAVE YOU PREVIOUSLY SUBMITTED TESTIMONY IN THIS PROCEEDING?

A3. Yes. On September 11, 2015, I submitted Direct Testimony on behalf of the PJM Power Providers Group ("P3 Group") and the Electric Power Supply Association ("EPSA").[1]

Q4. WHAT WAS THE PURPOSE OF YOUR PRIOR TESTIMONY IN THIS MATTER?

A4. I was asked by the P3 Group and EPSA to review and analyze the Application for the PPA Rider in this matter and evaluate whether the proposal would stabilize retail rates and provide a financial hedge for American Electric Power's Ohio Power Company's ("AEP Ohio" or the "Company") retail customers.[2]

Q5. PLEASE DESCRIBE AEP OHIO'S PPA PROPOSAL.

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1 Direct Testimony of A. Joseph Cavicchi on behalf of the PJM Power Providers Group and the Electric Power Supply Association, September 11, 2015, hereinafter "Cavicchi Direct Testimony."

2 In association with my prior testimony I reviewed the Direct Testimonies of William A. Allen, Pablo A. Vegas, Kelly D. Pearce, Steven M. Fetter, and Toby L. Thomas in Support of AEP Ohio's Amended Application, Before the Public Utilities Commission of Ohio, *In the Matter of the Application Seeking Approval of Ohio Power Company's Proposal to Enter into an Affiliate Power Purchase Agreement for Inclusion in the Power Purchase Rider*, Case Nos. 14-1693-EL-RDR and 14-1694-EL-AAM, May 15, 2015.

A5. AEP Ohio has proposed to enter into a power purchase agreement ("PPA Proposal") with its affiliate AEP Generation Resources ("AEP Genco"). The PPA Proposal envisions that AEP Ohio purchases the rights to a total of approximately 3,100 MW of generation output from nine generation units that are either wholly or jointly owned by AEP Genco and AEP Ohio's holdings in the Ohio Valley Electric Corporation ("OVEC").[3] Under the PPA Proposal AEP Ohio would pay AEP Genco all historical and going forward costs associated with the generating units as if the generating units were regulated under a cost-of-service framework (i.e., AEP Genco recovers all operating costs associated with the units including a return on and of capital invested in the units both historically and in the future). The power products (energy, capacity, and ancillary services) produced by these generating units would be sold into PJM's wholesale markets and the revenues received for the sales would be credited against the costs, and AEP Ohio ratepayers would either pay (when revenues are less than costs) or be paid (when revenues are greater than costs) the difference. The PPA Proposal provides AEP Genco with guaranteed cost recovery and return on investment while AEP Ohio ratepayers accept all the risks associated with taking on ownership of merchant generation resources during the term of the agreement.

Q6. PLEASE SUMMARIZE THE FINDINGS PRESENTED IN YOUR PRIOR TESTIMONY.

A6. First, AEP Ohio's retail customers already enjoy the benefits of low volatility Standard Service Offer ("SSO") and Competitive Retail Electric Supplier ("CRES") electricity commodity prices. The current retail rates are not directly linked to the much more

[3] Three of the nine units, totaling 1,400 MW of capacity, are wholly owned by AEP Genco (See Thomas Direct Testimony at 3:5). Note that in the case of the OVEC generation, OVEC invoices AEP Ohio its share of the costs associated with its rights to the generation output; this generation is not subject to the proposed PPA.

volatile wholesale market spot prices. Second, AEP Ohio's PPA Proposal represents nothing more than a *bet* that future PJM wholesale power prices will be sufficiently high over the long run to offset the purported fully embedded costs of the generating units. The AEP Ohio PPA Proposal offers no guarantee whatsoever that a ratepayer-backed agreement to bear these costs is beneficial for AEP Ohio ratepayers. Finally, it is critical to recognize that the costs that AEP Ohio will incur under its PPA Proposal include AEP Genco generating unit legacy capital investments ("sunk costs") that have no bearing on whether the generating units will remain operational in the years ahead. AEP Ohio's commitment to guarantee full recovery of legacy costs simply represents a windfall for AEP Genco that subsidizes its generation resources at the expense of existing and future PJM generation owners.

Q7. WHAT IS THE PURPOSE OF YOUR SECOND SUPPLEMENTAL TESTIMONY?

A7. I have been asked by the P3 Group and EPSA to review and analyze the Joint Stipulation[4] filed by the Companies in this proceeding and evaluate whether approval by the Public Utilities Commission of Ohio ("PUCO" or "Commission") of the Joint Stipulation would stabilize AEP Ohio retail rates and provide a long-term financial hedge to AEP Ohio retail customers. I also consider in my analysis the direct testimony of William A. Allen which was filed in association with the Joint Stipulation.[5]

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4 Before the Public Utilities Commission of Ohio, Case Nos. 14-1693-EL-RDR and 14-1694-EL-AAM, December 14, 2015, Joint Stipulation and Recommendation (hereinafter "Joint Stipulation").

5 Direct Testimony of William A. Allen in Support of AEP Ohio's Settlement Agreement, Before the Public Utilities Commission of Ohio, In the Matter of the Application Seeking Approval of Ohio Power Company's Proposal to Enter into an Affiliate Power Purchase Agreement for Inclusion in the Power Purchase Agreement Rider, Case Nos. 14-1693-EL-RDR and 14-1694-EL-AAM, December 14, 2015 (hereinafter "Allen Stipulation Direct Testimony").

Q8. PLEASE DESCRIBE THE JOINT STIPULATION FILED BY THE SETTLING PARTIES?

A8. The Joint Stipulation includes the following key provisions:

- The proposed PPA term is reduced from the projected useful life of each generating unit to eight years commencing June 1, 2016 and extending through May 31, 2024;
- The return on equity is set at 10.38% as opposed to the previously proposed range of 8.9%-15.9%;
- The Company agrees to provide captive ratepayers cost credits of $10 million in year 5 of the PPA Proposal; $20 million in year 6 of the PPA Proposal; $30 million in year 7 of the PPA Proposal; and, $40 million in year 8 of the PPA Proposal, if the PPA Proposal is not otherwise providing cost reductions at least at these levels;
- Convert Conesville Units 5 and 6 to co-fired gas generation by year-end 2017 (ratepayer funded)[6];
- Extension of the term of AEP Ohio's current ESP;
- Commitments to advocate at the federal level;
- Commitments to reduce carbon emission of power plants in Ohio;
- Commitment to fund various initiatives that reduce costs of certain customer groups over the term of the PPA and seek to expand renewable resources (ratepayer funded); and,
- Commitment to explore grid modernization plan.

Q9. WHAT IS ONE OF THE KEY BENEFITS FOR THE RETAIL CUSTOMER THAT AEP OHIO IDENTIFIES IN ASSOCIATION WITH ITS JOINT STIPULATION?

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[6] The Company also commits to retire, refuel, or repower Conesville Units 5 and 6 and Cardinal Unit 1 to use only natural gas by year end 2029 and 2030, respectively.

A9. AEP Ohio claims that the Joint Stipulation "provides a hedge against rising energy prices" and "is designed to provide adequate, safe, reliable and predictably priced electric service."[7] AEP Ohio goes on further to claim that its Joint Stipulation "could truly be viewed as transformative"[8] by purportedly providing significant benefits to the customers through various truly non-quantifiable benefits identified above and unrelated to the PPA Proposal.

Q10. IS THERE ANY EVIDENCE THAT AEP OHIO'S JOINT STIPULATION WILL DELIVER BENEFITS THAT OUTWEIGH ITS COSTS?

A10. No. In fact, since that time when AEP Ohio originally developed the power price forecast underlying its Joint Stipulation, fuel and power market prices have declined significantly wholly invalidating the entire analysis upon which the Joint Stipulation is based. There is simply no factual basis upon which Mr. Allen's Settlement Exhibit WAA-2, which he cites as providing an estimated nominal dollar benefit of $721 million, is in any way realistic.[9] In fact, as I explain, the Joint Stipulation will clearly cost AEP Ohio's ratepayers dearly over the next couple of years and be highly unlikely to ever provide positive financial benefits. Moreover, the Company's proposed adoption of quarterly reconciliation will introduce greater rate volatility for captive ratepayers erasing any purported claim of the Joint Stipulation providing increased rate stability.

Q11. WILL AEP OHIO'S PPA PROPOSAL ALSO DISTORT THE INCENTIVES FACED BY AEP GENCO WHEN OPERATING THE GENERATING UNITS?

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7 Allen Stipulation Direct Testimony at 13:7 and 13: 22-23.

8 Allen Stipulation Direct Testimony at 14:9-10.

9 I understand that the Company states all its supposed benefits or costs in nominal dollars. I note that doing so simply provides incomplete and inaccurate information on the projected benefits or costs for the purposes of evaluating the Company's Joint Stipulation.

A11. Yes. The guaranteed return of all costs including a return on equity will create incentives for AEP Genco to sustain inefficient operations (i.e., operations and investment that would not be economic under PJM's market-determined prices). Under the PPA Proposal, AEP Genco would basically be allowed to pass through all costs (including a guaranteed return) associated with the generating units resulting in AEP Ohio ratepayers bearing the risks otherwise borne by AEP Genco. The results of subsidizing these risks is that AEP Genco would rationally seek to make capital investments in the plants to support continued operations, even when such investments are uneconomic relative to alternatives in the open marketplace. The costs of creating incentives to make uneconomic and distorted investment decisions will be borne by AEP Ohio's ratepayers.

These incentives will be aligned exactly with those of generating plant owners facing traditional cost-of-service, rate-of-return regulation. Public policy economics recognizes that rate-of-return regulation, an important regulatory tool when companies display the characteristics of natural monopoly, distorts owners' incentives in ways that drive up costs to ratepayers.[10] In addition, the PPA Proposal gives AEP Genco limited incentives to operate efficiently.[11] In contrast, other generation owners in PJM's wholesale markets are under constant pressure to minimize the costs of operation and make optimal investment decisions.

10 "Rate-of-return regulation gives the firm incentives to misreport cost allocations, choose an inefficient technology (in some cases), undertake cost-reducing innovation in an inefficient way, underproduce in a noncore market, price below marginal cost in a competitive market which happens to be included in the set of core markets regulated by an aggregate rate-of-return constraint, and view diversification decisions inefficiently." Braeutigam, R. R., & Panzar, J. C. (1989), "Diversification Incentives under 'Price-Based' and 'Cost-Based' Regulation," *The RAND Journal of Economics*, 373-391.

11 The PPA Proposal does not provide the seller with a clear incentive to maintain high generating unit availability as when units are on outage the seller is not penalized. Moreover, the capacity pricing is not conditioned upon unit availability which is typical in these types of agreements (See IEU RPD-1-002 Supplemental Attachment 1 at Article 3.9 and V.

Q12. WHO BENEFITS FROM THE JOINT STIPULATION?

A12. The only clear beneficiaries of AEP Ohio's Joint Stipulation are the shareholders of American Electric Power ("AEP"), AEP Ohio's parent company. Many observers reported the Joint Stipulation as a positive development for AEP's shareholders while making no mention of the Companies' ratepayers realizing benefits. For example, RBC Capital Markets, LLC reported "We believe AEP's main settlement terms were mostly expected given the same terms outlined in FirstEnergy's recent settlement. We expect the PPA, if approved, to provide earnings stability for the associated capacity as management looks to divest the remaining ~4,800 MW of owned Ohio generation capacity."[12] Similarly, J.P. Morgan reported that "We see the deal as $.10-.20 accretive [increased earnings per share] for AEP, and for the company to move quickly toward a sale of its remaining 5 GW of OH generation."[13] As I explain below these reports and observations are not surprising; the Companies' Joint Stipulation comes at a time when consumers are enjoying reduced energy prices and increased investment in new, high-efficiency natural gas fired combined-cycle power plants in Ohio and throughout the Mid-Atlantic region of the PJM Interconnection.

Q13. PLEASE SUMMARIZE YOUR CONCLUSIONS AND RECOMMENDATIONS?

A13. I conclude that AEP Ohio's Joint Stipulation does not provide retail ratepayers benefits that outweigh its costs and I recommend that AEP Ohio's Joint Stipulation be rejected. The Commission has indicated that a proposal like that of AEP Ohio which supplements the benefits of staggering and laddering of SSO auctions, and provides for a significant

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12 Tucker, Shelby, "American Electric Power (AEP): Files Settlement Agreement in Ohio PPA Proposal," December 4, 2015, RBC Capital Markets, LLC.

13 North America Equity Research, "American Electric Power, AEP Reaches OH PPA Settlement Reached – Alert," December 14, 2015, J.P. Morgan.

financial hedge that truly stabilizes rates, may be appropriate.[14] However, the now reduced eight-year term PPA Proposal under the Joint Stipulation, and the dramatic shift in fuel and power markets over the two years since AEP Ohio developed its forecast, clearly provides no prospect that captive ratepayers are getting a "financial hedge" against increasing power prices. In fact, it is now just the opposite: Captive ratepayers will incur costs under the Joint Stipulation just as wholesale power prices are declining.[15]

Moreover, the AEP Ohio Joint Stipulation cannot guarantee that retail customer rates will be more stable than they would be without the PPA Proposal. In fact, quarterly reconciliation can be expected to result in larger swings in retail rates when annual forecasted PPA revenues and costs are trued up against actual quarterly revenues and costs where large swings can occur. I conclude that the AEP Ohio Joint Stipulation does not fulfill the Commission's objectives and simply forces a costly undiversified risk of ownership of 3,100 MW of merchant coal-fired generation resources upon captive retail ratepayers.

Finally, if the PUCO was to approve the Joint Stipulation, I would urge the PUCO to recognize that sound public policy would dictate that approval of any form of PPA be conditioned on a guarantee from the Company that the PPA will come at no net-cost to captive ratepayers. That is, the Company should be ordered to adopt a mechanism where-by any costs borne by captive ratepayers are refunded on a reasonably defined schedule if the PPA does not deliver the benefits projected by the Company.

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[14] See Ohio Power Company d/b/a AEP Ohio, *In re Ohio Power Co.*, Case No. 13-2385-EL-SSO, et al., Opinion and Order (February 25, 2015), at 25.

[15] Although AEP Ohio may be inclined to argue that this represents increased rate stability, such a claim would be absurd given it comes at a clear increased cost to captive ratepayers with no guarantee of eventual offsetting cost reductions.

II. Analysis of the Joint Stipulation's Purported Captive Ratepayer Benefits

A. The Joint Stipulation Will Clearly Increase Captive Ratepayer Cost Significantly in the Near-Term

Q14. WHAT DRIVES THE ANALYSES THAT THE COMPANY HAS RELIED UPON IN SUPPORT OF THE JOINT STIPULATION?

[redacted]

[redacted][16] However, the Company's natural gas price forecast—provided by Mr. Bletzacker--shows natural gas prices that are clearly now long out-of-date and completely inconsistent with current natural gas price forecasts.

For example, Attachment AJC-S-2 provides a comparison of the natural gas price forecast used by Mr. Bletzacker in his late 2013 PPA Proposal analysis against more

16 See Direct Testimony of Karl R. Bletzacker in Support of AEP Ohio's Application, *In the Matter of the Application Seeking Approval of Ohio Power Company's Proposal to Enter into an Affiliate Power Purchase Agreement for Inclusion in the Power Purchase Agreement Rider*, Case Nos. 14-1693-EL-RDR and 14-1694-EL-AAM, October 3, 2014 (hereinafter "Bletzacker Direct Testimony") at Figure 1.

recent natural gas price forecasts that incorporate the significant decline in U.S. natural gas prices over the past two years.[17] Attachment AJC-S-2 shows that Mr. Bletzacker's forecast is now clearly wrong. Since the time of Mr. Bletzacker's analysis the U.S. Energy Information Administration ("EIA") came out with its 2015 Annual Energy Outlook ("AEO") which portended softening natural gas prices in comparison to Mr. Bletzacker's analysis.[18] Attachment AJC-S-2 also shows an example of an updated long-term forecast as well as the current NYMEX futures prices. Attachment AJC-S-2 shows that there has been a decline in projected 2016 natural gas prices of more than 50% when compared to late 2013 when Mr. Bletzacker developed his forecast (i.e, a decline of more than $3/MMBTU), and that these now lower natural gas price levels are expected to persist for some time into the future. Moreover, the NYMEX marketplace—where market participants financially hedge their positions, especially in the near-term--expects that natural gas prices will remain considerably below previous projections for some time now. Finally, Attachment AJC-S-2 also includes an example of a current EIA AEO short-term update where now lower near-term prices are also acknowledged.

Q15. IS THERE OTHER EVIDENCE RECOGNIZING SIGNIFICANT REDUCTIONS IN NEAR-TERM NATURAL GAS PRICE FORECASTS TOO?

A15. Yes. While in Attachment AJC-S-2 the focus is on comparing longer-term natural gas price forecasts, numerous analysts are reporting short- to medium-term natural gas price forecasts that show much, much lower projected prices than those used by the Company in support of the Joint Stipulation. For example, Moody's Investors Service has just

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17 Each of these natural gas price forecasts is for the Henry Hub delivery point in Louisiana.

18 Note that EIA AEO is simply one of many long-term forecasts that were released over the past year. However, its reference case represents a reasonable starting point when compared to then current and expected marketplace supply/demand conditions.

lowered its projected near-term Henry Hub prices to \$2.25/MMBTU in 2016, \$2.50/MMBTU in 2017 and \$2.75/MMBTU in 2018.[19] Similarly, Raymond James recently lowered its near-term forecast saying, "Put simply, there is plenty of U.S. natural gas to meet rising demand at prices of \$3.25 [per MMBTU] (or possibly lower) for the next five years."[20] Finally, Natural Gas Intelligence reported that Goldman Sachs also recently lowered its expected 2016 Henry Hub price projection to \$2.85/MMBTU and indicated: "Longer term, we believe that continued efficiency gains in shale drilling will help accommodate the demand phase of the shale revolution with prices at \$3.00/MMBTU."[21] Numerous other near-term projections also show considerably lower gas prices expected over the next few years.[22]

Q16. HOW WOULD REALIZATION OF LOWER GAS PRICES THAN THOSE PROJECTED BY MR. BLETZACKER IMPACT THE PROJECTED BENEFITS PRESENTED BY THE COMPANY?

A16. Reduced gas prices will result in lower electric energy prices and cause the Company's captive ratepayers to incur significantly increased costs under the Joint Stipulation. For example, using market revenue estimates for the PPA generating units based on recent years' PJM electric energy prices, which correspond to gas price levels more consistent with current projections, Attachment AJC-S-3 provides a comparison of estimated PJM electric energy market revenues that would have been realized by the PPA units in recent

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19 Moody's sharply lowers oil price assumptions on threat of prolonged oversupply, Moody's Investor Service, Global Credit Research December 15, 2015, available at: https://www.moodys.com/research/Moodys-sharply-lowers-oil-price-assumptions-on-threat-of-prolonged--PR_341345.

20 Energy, Industry Update, U.S. Research, Published by Raymond James & Associates, September 1, 2015 at 1.

21 Goldman Cuts U.S. NatGas Price Forecast Again, Natural Gas Intelligence, October 21, 2015, available at: http://www.naturalgasintel.com/articles/104096-goldman-cuts-us-natgas-price-forecast-again.

22 See, for example, http://knoema.com/ncszerf/natural-gas-prices-long-term-forecast-to-2020-data-and-charts, where various additional near-term natural gas price forecasts are reported.

years against the projected energy market revenues using Mr. Bletzacker's now out-of-date electric energy price forecast.[23] [redacted] Moreover, as I explain below, these increased captive ratepayer costs will both drive up otherwise declining ratepayer power prices and increase retail rate volatility.

Q17. ARE THERE ADDITIONAL REASONS TO EXPECT THE COMPANY'S CAPTIVE RATEPAYER BENEFIT ESTIMATE TO BE OVERSTATED?

A17. [redacted]

[23] In this analysis I assumed historic reported daily hourly generation unit production resulted in energy market revenues based on contemporaneously reported PJM day-ahead hourly wholesale energy market prices. This calculation of revenues parallels the approach proposed under the PPA where the generating units are offered each day into PJM hourly energy markets.

[24] [redacted]

[redacted]

Second, more recent AEP zonal load forecasts reported by PJM show continued reductions in expected energy consumption and peak electric demand. For example, PJM's 2014 and 2015 PJM Load Forecast Reports, released following the development of Mr. Bletzacker's forecast, show material reductions in growth in energy consumption in the AEP zone.[25] These more recent energy consumption projections for the AEP zone have been reduced considerably when compared to earlier forecasts. The AEP zone energy consumption projection in 2014 was 139,332 GWh, and was revised down to 134,974 GWh in 2015.[26] The 2020 AEP zone projection was revised down from 144,133 GWh to 140,724 GWh, and in 2024 revised down from 147,001 GWh to 144,259 GWh.[27]

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25 See PJM Resource Adequacy Planning Department, *PJM Load Forecast Report*, January 2014 (revised February 2014) ("PJM 2014 Load Forecast Report") available at: http://www.pjm.com/~/media/documents/reports/2014-load-forecast-report.ashx and PJM Resource Adequacy Planning Department, *PJM Load Forecast Report*, January 2015 ("PJM 2015 Load Forecast Report") available at: http://www.pjm.com/~/media/documents/reports/2015-load-forecast-report.ashx..

26 Note that these forecasts include all the AEP utility companies' projections. However, Mr. Allen's testimony shows AEP Ohio's load and load growth declining too, consistent with PJM's reported energy consumption reductions (see, for example, OCC INT-S1-032 Attachment 1).

27 See Table E-1 which shows annual net energy consumption projections by region, found on page 86 of the PJM 2014 and PJM 2015 Load Forecast Reports.

In addition, PJM peak demand forecasts have been falling as well. The 2015 PJM Load Forecast Report shows that AEP Summer and Winter peak demand forecasts have declined in 2015 compared to prior 2014 projections (except in the out years for the Winter period).[28] Moreover, the decrease in the projection for AEP peak load ranges from -2% in 2015 to -1% in 2025 for the Summer (-1.6% to -.1% in Winter).[29] PJM's electric energy consumption and peak demand forecasts for AEP are declining putting additional downward pressure on power prices.

B. Impact of the PPA Proposal on Retail Price Volatility

Q18. DOES THE JOINT STIPULATION PROVIDE GREATER RATE STABILITY TO CAPTIVE RATEPAYERS?

A18. No. In fact, the Joint Stipulation is expected to decrease rate stability through its reliance on a quarterly reconciliation process. Moreover, the currently proposed implementation of the PPA rider calls for the Company to set the rider rate assuming an overall credit of $4 million.[30] However, as I explained above it is implausible to forecast that the PPA will generate a credit in its early years and it is certain it will result in considerably increased costs for captive ratepayers. In fact, the rider will significantly under-collect the PPA costs during the seven months it is in effect in 2016 and result in a substantial rate increase in 2017.[31]

Q19. PLEASE EXPLAIN WHY QUARTERLY RECONCILIATION WILL LEAD TO REDUCED RATE STABILITY.

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28 2015 PJM Load Forecast Report at 31.

29 2015 PJM Load Forecast Report at 43-44.

30 Joint Stipulation at 6.

31 Note that I do not explicitly analyze the Company's OVEC ownership shares as part of my testimony. However, the power market trends described herein affect the Company's OVEC interests equally.

A19. In contrast to the analysis in my direct testimony where I explained that AEP Ohio's then current proposal was unlikely to have a material impact on rate stability,[32] AEP's Joint Stipulation introduces quarterly reconciliation which can be expected to result in significant rate swings as PJM electric energy market prices move up and down over time. For example, an analysis of the estimated reconciliation based on wholesale market data for the years 2011-2015 shows that the impact of a quarterly reconciliation process can be expected to introduce significant swings in rates up and down (See Attachment AJC-S-3 which shows how variations in energy market revenues will affect reconciliation adjustments by tens of millions of dollars per quarter). For example, assuming generation unit forecast energy market revenues are based on forward market data at the time the rate is set, I estimated that the impact of quarterly reconciliation could range from -\$3/MWh to \$10/MWh.[33]

Q20. DOES THE NOW REVISED IMPLEMENTATION PLAN FOR THE PPA RIDER UNDER THE JOINT STIPULATION PORTEND A SUBSTANTIAL RATE SWING NOT LONG AFTER THE RIDER WOULD BE ADOPTED?

A20. Yes. As a result of setting the initial PPA rider at an unrealistic level the Company will find itself rapidly incurring costs under the PPA Proposal that will not be compensated by generating unit sales into the PJM markets. As these unrecovered costs rise, the Company will begin adjusting the PPA rider level to incorporate the unrecovered costs (i.e., the payments being made to AEP Genco under the PPA Proposal). In late 2016, when the Company makes its estimate for the PPA rider for 2017, the Company will be

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32 Cavicchi Direct Testimony at 12:15-14:14.

33 In this analysis I assumed generation unit production and costs are projected accurately and that wholesale energy market prices will represent the greatest uncertainty under the PPA rider reconciliation process. In reality, these reconciliations will also be impacted by variations in projected production.

forecasting substantial increased costs that will then be rolled into the PPA rider resulting in substantial rate increases for captive ratepayers.

For example, assuming the Company implements the PPA rider in June 2016, the last month of the second quarter of 2016, after one month the Company will need to reconcile the second quarter. At some point during the third quarter of 2016, at least 30-60 days into the quarter, the Company will reconcile the June 2016 actual costs against the forecast. Based on the data in Exhibit AJC-3, I estimate an increased cost of just over $19 million, or approximately $1.80/MWh, will be rolled into the PPA rider when it is initially reconciled.[34]

Next, the Company will enter into the fourth quarter of 2016 and find it necessary to estimate the PPA rider level for 2017, and at nearly the same time reconcile the results from the third quarter of 2016. At this juncture I estimate the Company will incur just over $70 million in unrecovered costs for the third quarter, which it will presumably seek to add into the rider in late 2016 as an adjustment presumably based on fourth quarter projected retail sales (which would result in a more than $7/MWh increase in the PPA rider assuming it is allocated over the quarter). At the same time the Company will forecast continued unrecoverable costs under the PPA Proposal for the year 2017. Depending upon the timing of the collection of unrecovered costs for 2016 and the exact estimate for the 2017 PPA rider rate, the combination of cost increases from the latter

[34] I assume in my analysis that the Company will seek to recover its costs over the upcoming quarter such that the average recovery rate is derived based on the estimated retail sales for the upcoming quarter. I note however that in reality large ratepayers will bear proportionally less of the burden given many customers are able to manage their peak demand usage, which will be used by the Company to allocate the PPA rider costs (See Joint Stipulation at 6). This means that smaller customers will actually see higher PPA rider rate changes than I estimate.

half of 2016, and the 2017 forecasted rider rate, could easily result in the PPA rider increasing captive ratepayer costs by around \$10/MWh (or 1 cent/kWh), on average, in 2017.

Q21. HOW DO YOU RESPOND TO MR. ALLEN'S CONTINUED TESTIMONY THAT THE PPA RIDER WILL STABILIZE CUSTOMER RATES?

A21. Mr. Allen's testimony is simply based on out-of-date inputs. Mr. Allen originally argued, in essence, that if power prices were rising, then the PPA Proposal will put downward pressure on customer rates, and that if power prices are falling, the PPA Proposal will put upward pressure on customer rates.[35] However, it is now clear that power prices have fallen substantially from previously observed higher levels, and that the proposed PPA rider ignores the clear declines in expected electric energy market prices over the past two years; the rider will be set based on an illusion of a PPA credit in 2016.

The current data and forecasts show the Company will realize increased costs under the PPA Proposal following its implementation. Ironically, Attachment AJC-S- 5 shows that this increase in costs will coincide with declining wholesale Standard Service Offer ("SSO") power prices.[36] Although the Company may be tempted to argue that keeping its captive ratepayers' rates high results in increased rate stability, it is frightening to think that consumers should be shielded from welcome electricity rate declines on the false perception of a future payoff.

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35 Allen Direct Testimony at 8:21-9:2.

36 Attachment AJC-S-5 reports the most recent SSO auctions results reported by Ohio utilities and shows declining SSO wholesale power prices consistent with expectations of lower wholesale power market prices shown in Attachment AJC-S-1.

Obviously all forecasts are subject to error and it is likely that power prices will continue to rise and fall several times over the eight-year term of the PPA Proposal (See, for example, Attachment AJC-S-1 showing several years of historical electric energy prices). With power prices and PPA costs moving in many possible directions over time any supposed additional stability is practically impossible to quantify,[37] and with quarterly reconciliation, will demonstrably be less compared to using an annual reconciliation mechanism. The only certainty offered by the Joint Stipulation is that based on the available data the impact of the PPA rider is now expected to drive consumer rates up significantly not long after its implementation.

Q22. DOES THIS CONCLUDE YOUR SUPPLEMENTAL TESTIMONY?

A22. Yes, although I reserve the right to further supplement my supplemental testimony.

[37] See Cavicchi Direct Testimony at Attachment AJC-3.

CERTIFICATE OF SERVICE

The Public Utilities Commission of Ohio's e-filing system will electronically serve notice of the filing of this document on the parties referenced on the service list of the docket card who have electronically subscribed to the case. In addition, the undersigned certifies that a courtesy copy of the foregoing document is also being served (via electronic mail) on the 28th day of December 2015 upon all persons/entities listed below:

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Recent Ohio Utility Standard Service Offer Wholesale Power Procurement Results

Utility	Date of Auction	Delivery Period	Clearing Price ($/MWh)
AEP Ohio CBP	5/12/2015	June 1, 2015 to May 31, 2018	$56.35
		June 1, 2015 to May 31, 2016	$55.42
		June 1, 2015 to May 31, 2017	$54.70
	4/28/2015	June 1, 2015 to May 31, 2018	$55.58
		June 1, 2015 to May 31, 2016	$53.79
		June 1, 2015 to May 31, 2017	$53.51
	11/3/2015	June 1 , 2016 to May 31, 2018	$48.29
Duke Energy Ohio	5/1/2015	June 1, 2015 to May 31, 2018	$59.17
		June 1, 2015 to May 31, 2016	$58.79
		June 1, 2015 to May 31, 2017	$57.60
	11/1/2015	June 1, 2016 to May 31, 2018	$49.86
FirstEnergy Ohio	10/1/2014	June 1, 2015 to May 31, 2016	$73.82
	1/1/2015	June 1, 2015 to May 31, 2016	$69.18

Sources:
AEP Ohio - http://www.aepohiocbp.com/index.cfm?s=home&p=home
Duke Energy Ohio - http://www.duke-energyohiocbp.com/Home.aspx
FirstEnergy Ohio - http://www.firstenergycbp.com/Home.aspx.