

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)	Case No. 14-1693-EL-RDR
for Inclusion in the Power Purchase)	
Agreement Rider)	

In the Matter of the Application of)	
Ohio Power Company for Approval of)	Case No. 14-1694-EL-AAM
Certain Accounting Authority)	

DIRECT TESTIMONY OF
PABLO A. VEGAS
IN SUPPORT OF AEP OHIO'S
AMENDED APPLICATION

INDEX TO DIRECT TESTIMONY OF
PABLO A. VEGAS

PERSONAL DATA.....	1
PURPOSE OF TESTIMONY.....	2
COMMISSION APPROVAL OF RIDER AND REQUIRED INFORMATION FOR A PPA APPLICATION	4
OVERVIEW OF COMPANY TESTIMONY	6
SUMMARY OF PPA BENEFITS.....	7
BACKGROUND AND DETAILS OF THE PROPOSED PPAS	11
ECONOMIC VIABILITY OF THE PPA UNITS IN PJM MARKET.....	16
OHIO’S GENERATION SUPPLY IS RETIRING AND NOT BEING REPLACED DUE IN PART FROM PJM MARKET FLAWS	19
OTHER STATES ARE MORE ATTRACTIVE FOR GENERATION INVESTMENTS.....	24
ECONOMIC IMPACT OF THE PPA RIDER UNITS	25
PPA OVERSIGHT AND INFORMATION SHARING	27
PROPOSAL PROPERLY ALLOCATES PPA FINANCIAL RISK	29

BEFORE
THE PUBLIC UTILITIES COMMISSION OF OHIO
DIRECT TESTIMONY OF
PABLO A. VEGAS
ON BEHALF OF OHIO POWER COMPANY

1 **PERSONAL DATA**

2 **Q. WHAT IS YOUR NAME AND BUSINESS ADDRESS?**

3 A. My name is Pablo A. Vegas and my business address is 850 Tech Center Drive, Gahanna,
4 Ohio 43230.

5 **Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?**

6 A. I am employed by Ohio Power Company (“AEP Ohio,” or the “Company”), a unit of
7 American Electric Power (“AEP”). My title is President and Chief Operating Officer of
8 AEP Ohio.

9 **Q. WHAT ARE YOUR RESPONSIBILITIES AS PRESIDENT AND CHIEF**
10 **OPERATING OFFICER OF AEP OHIO?**

11 A. I am directly responsible for the day-to-day operations of AEP Ohio. As part of my
12 responsibilities, I oversee and lead AEP Ohio in establishing goals that are designed to
13 align and support the corporate goals and objectives of AEP, as well as achieve the
14 objectives of the state of Ohio for the benefit of customers and shareholders.

15 **Q. WHAT IS YOUR EDUCATIONAL AND PROFESSIONAL BACKGROUND?**

16 A. I earned a Bachelor of Science Degree in Mechanical Engineering from the University of
17 Michigan and have attended the AEP Strategic Leadership Program at The Ohio State
18 University. In 2014, I attended the Advanced Management Program at Harvard
19 University. Before joining AEP, I held senior leadership positions with IBM,

1 PricewaterhouseCoopers and Andersen Consulting. I joined AEP in 2005, where I held
2 leadership positions in Information Technology and Finance, leading both the Corporate
3 IT Planning and Commercial Operations IT Planning organizations. I then served as
4 Director of Strategic Planning, working cross functionally to formulate AEP's short- and
5 long-term strategic plans.

6 From 2008 to 2010, I was President and Chief Operating Officer of AEP Texas,
7 overseeing distribution operations serving nearly one million electricity consumers in
8 south and west Texas, as well as the operating unit's safety, customer services,
9 marketing, communications, community affairs, governmental affairs, and regulatory
10 functions. In 2010, I became Vice President and Chief Information Officer for AEP,
11 responsible for development and support of AEP's software applications and operation of
12 AEP's information technology infrastructure. I assumed my current position in 2012.

13 **PURPOSE OF TESTIMONY**

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

15 A. I support AEP Ohio's overall proposal to enter into a purchase power agreement
16 ("Affiliated PPA") with AEP Generation Resources ("AEPGR") for the generation output
17 of several of its generating units ("PPA Units") and to include the contracts in the PPA
18 Rider that was approved by the Commission in the Company's Electric Security Plan
19 Case Nos. 13-2385-EL-SSO and 13-2386-EL-AAM ("ESP III"). I also support including
20 in the PPA Rider the Company's net impacts of its Ohio Valley Electric Corporation
21 ("OVEC") entitlement as provided by the Inter-Company Power Agreement ("OVEC
22 Agreement" or "OVEC PPA") between OVEC and its Sponsoring Companies as
23 described by Company witnesses Pearce and Allen. The generating units included within

1 the Affiliated PPA and the OVEC PPA may also be referred to collectively as the “PPA
2 Rider Units.”

3 My testimony addresses the following:

- 4 • Approval of the PPA Rider mechanism in the *ESP III Order* and required
5 information for a PPA application;
- 6 • Witnesses supporting the filing and a brief description of their sponsored
7 testimonies including references to support Commission-required information
8 needed for a PPA application;
- 9 • Benefits of approving the PPAs – customer, economic development, and
10 generation reliability through diversity of resources along with background
11 and details of the proposed Affiliated PPA;
- 12 • PJM market flaws that are resulting in retirement of Ohio’s generation supply
13 and why replacement plants will be sited in other states that are more
14 attractive for generation investments; and
- 15 • Economic benefits to Ohio provided by the PPA Rider Units.

16 **Q. PLEASE SUMMARIZE THE BENEFITS OF THE PROPOSED PPAs.**

17 A. The proposed PPAs will benefit AEP Ohio’s customers, protect Ohio’s economy, and
18 bolster the reliability of Ohio’s electric supply. It will provide a necessary hedge to AEP
19 Ohio’s customers that will protect them from the impacts of market volatility, especially
20 during periods of extreme weather, provide Ohio generators with a predictable source of
21 revenue to maintain operations keeping jobs and taxes in the state, and promote economic
22 development in Ohio by providing retail price certainty that Ohio businesses desire as
23 demonstrated by the endorsement of the Company’s OVEC PPA proposal in the ESP III

1 case by the Ohio Energy Group, which represents the interests of some of the largest
2 industrial customers in AEP Ohio's service territory.

3 The proposed PPAs provide these many benefits to our customers and
4 communities including the supply of stable and reasonably-priced power for years to
5 come, which is a fundamental need for our communities to position themselves to
6 prosper. It also has the potential to reliably address the uncertainties of capacity and
7 energy supply in PJM by providing our customers with a financial hedge to the volatile
8 market pricing currently experienced that could continue for the foreseeable future.

9 **COMMISSION APPROVAL OF RIDER AND REQUIRED INFORMATION FOR A PPA**
10 **APPLICATION**

11 **Q. PLEASE BRIEFLY DESCRIBE THE APPROVAL OF THE PPA RIDER IN THE**
12 **ESP III PROCEEDING.**

13 A. In ESP III, the Company requested approval of a non-bypassable PPA Rider to serve as a
14 hedge against future generation market volatility, in order to stabilize the rates of its
15 customers. The Commission authorized AEP Ohio to establish a placeholder PPA Rider,
16 at an initial rate of zero, for the term of the ESP. The Order went on to note that
17 implementation details of the placeholder PPA would be determined by the Commission
18 as part of a future proceeding. The Commission also provided factors and requirements
19 that should be addressed by the Company in a PPA application.

20 **Q. WHAT FACTORS AND REQUIREMENTS DID THE COMMISSION PUT**
21 **FORWARD IN THE ESP III ORDER AS NEEDED FOR A PPA APPLICATION?**

1 A. I have been advised by counsel that the Commission identified the following four factors
2 of consideration for inclusion within a request for approval of a PPA. The witnesses
3 supporting the factors are included.

- 4 • Factor #1: The financial need of the generating plant(s) subject to the PPA
5 (addressed by Company witnesses Pearce and Thomas);
- 6 • Factor #2: The necessity of the generating facility subject to the PPA, in light of
7 future reliability concerns, including supply diversity (addressed by Company
8 witnesses Vegas, Fetter, and Wittine);
- 9 • Factor #3: A description of how each generating plant subject to the PPA is
10 compliant with all pertinent environmental regulations and its plan for compliance
11 with pending environmental regulations (addressed by Company witnesses
12 McManus and Thomas); and
- 13 • Factor #4: The impact that closure of the generating plants subject to the PPA
14 would have on electric prices and the resulting effect on economic development
15 within the state (addressed by Company witnesses Bletzacker, Allen, and
16 Bradish).

17 I have also been advised by counsel that the Commission also identified the
18 following substantive requirements for the Company to address in its proposal. Company
19 witnesses supporting the requirements are also included.

- 20 • Requirement #1: Rigorous Commission oversight of the rider, including a
21 proposed process for a periodic substantive review and audit (addressed by
22 Company witnesses Vegas and Allen);

- Requirement #2: Full information sharing with the Commission and its Staff (addressed by Company witness Vegas);
- Requirement #3: Verification that the PPA's financial risk is allocated between both the Company and its ratepayers (addressed by Company witness Vegas); and
- Requirement #4: A severability provision that recognizes that the ESP will continue, in the event that the PPA rider is invalidated, in whole or in part at any point, by a court of competent jurisdiction (addressed by the Company in its Amended Application).

OVERVIEW OF COMPANY TESTIMONY

Q. PLEASE GIVE AN OVERVIEW OF THE COMPANY TESTIMONY IN SUPPORT OF AEP OHIO'S PPA PROPOSAL.

A. Table 1 below summarizes the witnesses who will be testifying on AEP Ohio's behalf in support of the PPA.

Table 1 – Witnesses and Subject Areas Presented in Filing

Witness	Subject Area
Pablo Vegas	<ul style="list-style-type: none"> • Introduction of Witnesses • Required Information for a PPA Application • Benefits to Ohio from the PPA Rider Units • Background and Development of the Proposed PPAs • Generation Supply Diversity • Industry Trends Driving the Need for Both PPAs • Allocation of Financial Risk • PPA Oversight and Information Sharing
Steve Fetter	<ul style="list-style-type: none"> • Regulatory and Public Interest Considerations Supporting the Affiliated PPA and Its Inclusion in the PPA Rider
Kelly Pearce	<ul style="list-style-type: none"> • Terms and Conditions of the Affiliated PPA • Forecasted Revenues and Costs of the PPAs • PJM Markets • Cost Stability of the PPAs • AEP Ohio OVEC Entitlement

Toby Thomas	<ul style="list-style-type: none"> • Affiliated PPA Generating Units • Economic Viability of the Affiliated PPA Units in a Deregulated Market
Karl Bletzacker	<ul style="list-style-type: none"> • Fundamentals Forecast • Impact of PPA Unit Closures on Electricity Prices
Robert Bradish	<ul style="list-style-type: none"> • Results of Transmission Planning Impact Study to Address Reliability Concerns
John McManus	<ul style="list-style-type: none"> • Compliance of PPA Rider Units with Environmental Regulations
Renee Hawkins	<ul style="list-style-type: none"> • Return on Equity • Capital Structure
Thomas Mitchell	<ul style="list-style-type: none"> • PPA Accounting
William Allen	<ul style="list-style-type: none"> • PPA Rider Structure • Economic Development Benefits • Customer Rate Impacts • Rate Stability
Eric Wittine	<ul style="list-style-type: none"> • Outlook for Construction of New Generation in Ohio

1 **SUMMARY OF PPA BENEFITS**

2 **Q. WILL THE PPAS BENEFIT AEP OHIO'S CUSTOMERS?**

3 A. Yes. The PPAs will benefit AEP Ohio's customers at the outset by providing an
4 "insurance policy" to hedge against price spikes caused by market volatility. As more
5 fully described by Company witness Pearce, in the long-term, as the PJM capacity market
6 is reformed to achieve a sustainable structure and capacity prices increase, it is expected
7 the PPA Rider would result in a credit to AEP Ohio's customers, reducing their net costs
8 for electric service. Unfortunately for Ohio's generating assets, these market reforms
9 could come too late to keep assets from retiring prematurely. A timely decision by the
10 Commission approving the PPAs would remove this uncertainty, the resolution of which
11 cannot be assured by either FERC approval of PJM's Capacity Performance Resource or
12 other subsequent PJM capacity market pricing changes/improvements for unregulated

jurisdictions. The ultimate impact of any PJM market reforms may not be known for a number of years.

Q. HOW WOULD THE PPA RIDER ENHANCE RATE STABILITY FOR AEP OHIO'S CUSTOMERS?

A. The PPA Rider will allow AEP Ohio's customers to realize the financial benefits associated with stable sources of reasonably priced generation for years to come. As described by Company witnesses Pearce and Allen, the largest benefit of this arrangement will be to act as a hedge that partially shields AEP Ohio's customers from the impacts of both capacity and energy market volatility over the term of the PPAs. During the Polar Vortex of 2014, real-time energy prices in PJM cleared in excess of \$1,000/MWh over several hours and as high as \$1,841/MWh for one hour. While the Polar Vortex was an extreme weather event, it is not uncommon for energy prices to fluctuate significantly hour-to-hour, month-to-month, and year-to-year. The January 2014 average real-time energy price for the PJM RTO was \$113/MWH, compared to an average energy price for the entire year of 2013 of just under \$37/MWH. This clearly shows that the energy market is volatile and will react to abnormal weather patterns and supply disruptions. This volatility will likely get worse in the future because retiring coal-fired units are either being replaced by gas-fired units or not being replaced at all, increasing the market's overall reliance on gas and reducing the region's reserve margin. Gas-fired generation does not have the same advantages as coal-fired generation with respect to on-the-ground fuel storage and coal's less volatile pricing.

Figures 1 and 2 below display the price volatility in the energy market over the past several years and in January 2014, respectively. Much of this price volatility in the

energy market is directly related to natural gas pricing. Many gas-fired units in the PJM market do not have firm gas supplies. As a result, in cold weather situations where gas is needed both for home heating and to run gas units, the short term price of gas can be over 30 times the “normal” daily price we might see in the trade presses. Further, gas may not be available when firm gas supplies must be used for heating homes instead of generating electricity.

Figure 1 – Historic PJM Energy Prices

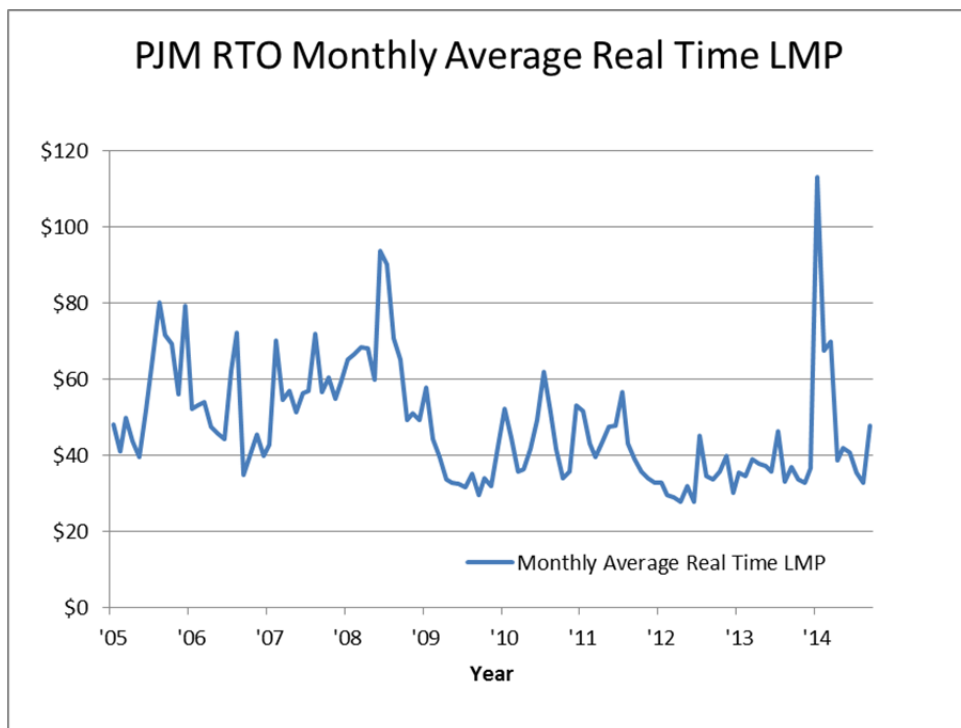
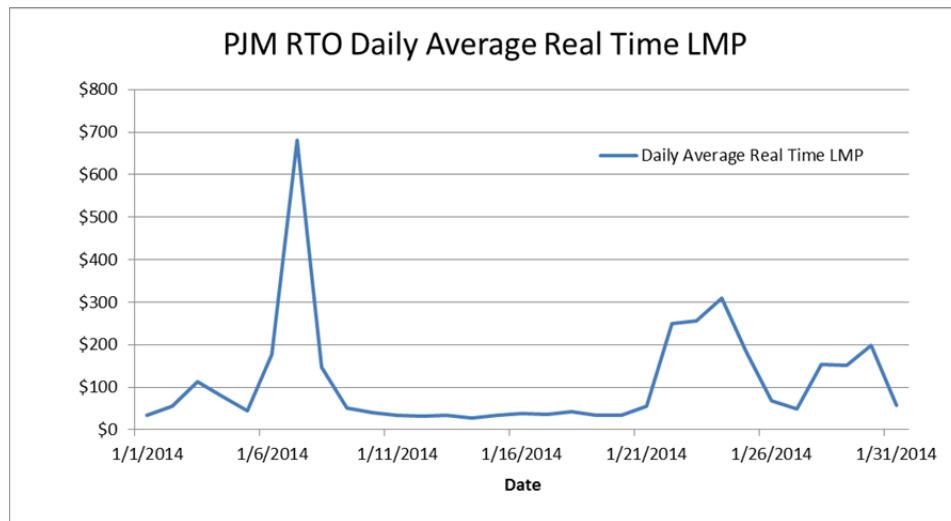


Figure 2 – January 2014 PJM Energy Prices



1 This type of market volatility impacts AEP Ohio’s customers rates. Those
2 customers with variable rates that follow the market will experience prices spikes
3 immediately. Other customers with fixed rates will also pay more as the risk of volatility
4 is incorporated into future offers. The PPA will positively address both of these
5 situations. It will not only reduce the impact of severe price shocks caused by unusual
6 weather events, it will also smooth out the typical fluctuations that exist in the market,
7 increasing price certainty, which is a benefit to AEP Ohio’s customers. Because of the
8 relative stability of the costs of the PPA Rider Units compared to the market, the PPA
9 Rider will rise and fall in a direction that will help mitigate the fluctuations of the market.

10 **Q. WHAT OTHER POSITIVE OUTCOME WILL THE PRICE STABILITY OF THE**
11 **PPAS FOSTER?**

12 A. The stable price structure of the PPA is also expected to provide economic development
13 opportunities in AEP Ohio’s service territory, along with continued operation of the PPA
14 Rider Units to keep thousands of Ohioans employed and support both the state and local
15 economies as detailed by Mr. Allen. It must also be recognized that inclusion of the

PPAs for AEPGR and OVEC in the PPA Rider supports continued operation of nearly 6,800 MW of generation in Ohio when the full nameplate capacity of the shared ownership units (e.g. Conesville 4, Kyger 1-5) are considered. As one of the joint owners of these units of the Affiliated PPA, AEPGR would effectively have a veto over any proposed closure of the units; so, approval of the Affiliated PPA would leverage support for continued operation of the 6,800 MW in Ohio.

Q. DOES THE AFFILIATED PPA ENABLE THE PPA UNITS TO BE MANAGED BASED ON A LONGER TERM PERSPECTIVE TO THE ECONOMIC BENEFIT OF CURRENT AND FUTURE AEP OHIO CUSTOMERS, AS WELL AS OHIO?

A. Yes. The Affiliated PPA will provide the PPA Units with a known revenue stream commensurate with the actual costs associated with providing this generating capability. The PPA Units will be less reliant on the volatile capacity market prices to support their continued operation, allowing those assets to be managed based on well-informed long-term investment decisions with a more certain and transparent view of how they will ultimately recover their expenditures as discussed by Company witness Thomas.

This financial construct should not only lead to continued operation of this generating capacity, it will also mitigate certain reliability risks that could occur with the retirement of baseload facilities.

BACKGROUND AND DETAILS OF THE PROPOSED PPAS

Q. PLEASE DESCRIBE THE PPAS THAT AEP OHIO IS PROPOSING FOR APPROVAL AND INCLUSION IN THE PPA RIDER.

A. As described in detail by Company witness Pearce, the Affiliated PPA is an agreement between AEP Ohio and AEPGR in which AEP Ohio will be entitled to output from

several generating facilities owned by AEPGR. Specifically, AEP Ohio will be entitled to all of the capacity, energy, and ancillary service revenues received from PJM associated with AEPGR's ownership share of its PPA Units located in Ohio. In return, AEP Ohio will make payments to AEPGR for its costs of owning and operating these generating units as prescribed by the contract. AEP Ohio also has an entitlement of the OVEC PPA units located in Ohio and Indiana as shown in Table 2 below.

Table 2 – PPA Rider Units

Plant	Location	Unit	PPA Entitlement (MW)	Currently Planned Retirement Year
AEPGR Units				
Cardinal	OH	1	592	2033
Conesville	OH	4	339	2033
Conesville	OH	5	405	2036
Conesville	OH	6	405	2038
Stuart	OH	1	150	2033
Stuart	OH	2	150	2033
Stuart	OH	3	150	2033
Stuart	OH	4	150	2033
Zimmer	OH	1	330	2051
OVEC Units				
Kyger Creek	OH	1	40	2040
Kyger Creek	OH	2	40	2040
Kyger Creek	OH	3	40	2040
Kyger Creek	OH	4	40	2040
Kyger Creek	OH	5	40	2040
Clifty Creek	IN	1	40	2040
Clifty Creek	IN	2	40	2040
Clifty Creek	IN	3	40	2040
Clifty Creek	IN	4	40	2040
Clifty Creek	IN	5	40	2040
Clifty Creek	IN	6	40	2040
Total			3,111	

All of the energy, capacity, and ancillary services associated with the PPA Rider Units will be bid into the PJM market. The net revenues and costs resulting from the PPA

1 will be included in the PPA Rider approved in the ESP III proceeding. The PPA Rider is
2 designed to stabilize customer prices due to the relatively stable cost of owning and
3 operating the PPA Rider Units compared to much more volatile market prices.

4 **Q. DOES THE AMOUNT OF MEGAWATT CAPACITY INCLUDED IN THE PPA**
5 **RIDER PROVIDE A SUBSTANTIAL FINANCIAL HEDGE TO RATES?**

6 A. Yes. The over 3,100 MW included in the Affiliated and OVEC PPAs provides the
7 significant financial hedge that will stabilize rates as required by the Commission in the
8 *ESP III Order* (at 25). This total represents over a third of AEP Ohio's connected retail
9 load and from a portfolio basis is both a significant and reasonable amount of generation
10 to use for a hedge. Company witness Pearce provides analysis showing the benefit this
11 hedge will provide to customers through 2024 and during the Polar Vortex of 2014.

12 **Q. WHAT IS THE INTENT OF THE PPAS?**

13 A. The PPAs are designed to provide the following benefits:

- 14 1) Stabilize retail rates in AEP Ohio's service area
- 15 2) Support economic development in Ohio;
- 16 3) Protect the reliability of electricity supply;
- 17 4) Maintain fuel diversity; and
- 18 5) Protect against the adverse impact of early plant closures on the Ohio
19 economy and the impacts to the local communities these plants support.

20 **Q. PLEASE DISCUSS THE CIRCUMSTANCES THAT GAVE RISE TO THE PPAS.**

21 A. Ohio's transition to deregulated generation rates has exposed its generators to the pricing
22 uncertainty of the markets and exposed AEP Ohio's customers to the significant volatility
23 associated with market-based rates. Artificially depressed market prices could force

1 Ohio's generators to close their doors prematurely due to improper pricing signals,
2 potentially devastating the local economies where they currently operate. In the long run,
3 prematurely retired units will likely be replaced by higher variable-cost units and
4 increased transmission investments, for which Ohio customers will have to pay. Further,
5 market volatility inhibits economic growth because AEP Ohio serves many large energy-
6 intensive customers that depend on rate stability to invest and grow their businesses. As
7 a result, AEP Ohio is proposing to include long-term cost-based PPAs in the PPA Rider.

8 **Q. WHAT WILL OCCUR IF INCLUSION OF THE AFFILIATED PPA IS NOT**
9 **APPROVED AS REQUESTED?**

10 A. Without the PPA, the PPA Units will be at greater risk of premature retirement, and these
11 units are likely to be sold by AEP, which is evaluating strategic alternatives for its
12 merchant generation fleet. A sale could be to an out-of-state entity that does not have the
13 same long-term commitment as AEP to Ohio and the communities where the PPA Units
14 are located. Even if the units are sold, the premature retirement risk and the resulting
15 economic impact to Ohio may not be lessened – the units will still face the same
16 uncertain market economics that they do now.

17 Additionally, as discussed by Company witness Bradish, the retirement of these
18 units will lead to \$1.6 billion of dollars of new transmission facilities that will be needed
19 to support grid reliability. As he also points out, generating units are preferential
20 transmission upgrades to support grid reliability. The risk with over relying on
21 transmission solutions was recently illustrated when a region-wide power outage affected
22 parts of Washington, D.C., including the Capitol and White House on April 7, 2015. The
23 outage was due to an equipment failure at a substation in rural Charles County, Maryland.

1 Power was being imported to the DC Metro area via transmission lines that had
2 functionally-replaced the Potomac River Generating Station in nearby Alexandria,
3 Virginia upon its retirement in 2012.

4 The new transmission facilities to supplant the existing grid reliability provided
5 by the PPA Units will only lead to increased costs for Ohioans that would be avoided or
6 mitigated if such early generating unit retirements do not occur. Additionally, Ohioans
7 will eventually bear the cost of new generating capacity, which as I will describe below,
8 will likely be built in other states.

9 **Q. PLEASE COMMENT ON THE UNITS SELECTED FOR INCLUSION IN THE**
10 **AFFILIATED PPA.**

11 A. All of the units included in the Affiliated PPA are reliable sources of energy and, due to
12 its prior ownership of the units, AEP Ohio is very familiar with their operation and
13 maintenance history. These units have provided decades of reliable service to AEP
14 Ohio's customers. AEP Ohio knows that these units have been properly maintained and
15 are capable of operating reliably well into the future. As Company witness McManus
16 describes, all of the PPA Rider Units are capable of operating in compliance with
17 environmental regulations. As a result, these units are well-positioned to provide reliable
18 capacity and energy going forward under the proposed PPAs.

19 The portfolio of PPA Rider Units also has characteristics that will protect
20 customers from price volatility in the market. All of the units have the capability to store
21 several weeks of fuel on site which makes them less susceptible to supply curtailments or
22 price spikes caused by fuel-supply issues. As seen in the Polar Vortex of January 2014,

1 the lack of a firm fuel supply, particularly with gas-fired generation, can contribute to
2 significant price increases in the energy market.

3 **Q. WHAT INFLUENCE WILL AEP OHIO HAVE ON THE CONTINUED**
4 **OPERATION OF THE PPA RIDER UNITS TO BENEFIT CUSTOMERS AND**
5 **OHIO?**

6 A. The President and Chief Operating Officer of AEP Ohio, currently me, will be a member
7 of committees that oversee decisions affecting the plants included in the PPAs, both the
8 AEPGR and OVEC units. This will allow AEP Ohio to keep the Commission informed
9 of decisions affecting these plants similar to the way that the Company has constructively
10 worked with this Commission for many years. The long-term impacts on Ohio and our
11 customers will be a factor in the decision-making processes of these committees.

12 **ECONOMIC VIABILITY OF THE PPA UNITS IN PJM MARKET**

13 **Q. ARE THE PPA UNITS ECONOMICALLY VIABLE?**

14 A. The PPA Units are now on the economic “bubble,” where low short-term capacity and
15 energy market prices have increased the risk of premature retirement. Recently, low
16 natural gas prices have led to depressed energy prices. Additionally, the artificial nature
17 of the PJM capacity construct has resulted in suppressed prices in the near term as
18 explained in more detail by Company witness Pearce.

19 **Q. DO YOU EXPECT CAPACITY PRICES IN PJM TO INCREASE?**

20 A. Yes. Clearing prices in the capacity market are expected to increase significantly in the
21 future as a result of PJM’s stated desire to improve the reliability of the system in the
22 future to address actual experiences from the January 2014 Polar Vortex and the

1 upcoming retirement of several thousand MWs of coal-fired units in 2015 due to the
2 Mercury and Air Toxics Standards regulation.

3 In August 2014, PJM introduced a proposal for a new type of capacity product,
4 called the Capacity Performance Resource, which could significantly change the
5 Reliability Pricing Model (“RPM”) capacity construct. To qualify for PJM’s Capacity
6 Performance category, generating facilities will need to have a combination of fuel
7 inventory or firm supply, flexible operation, and high availability. AEP is confident that
8 the coal-fired PPA Rider Units will qualify for this category as the proposal is currently
9 written. FERC’s review process has resulted in an approximate three-month delay of the
10 2018/19 base residual auction with no guarantee that the result will be sufficient to make
11 the PPA Rider Units economically viable without approval of the PPAs.

12 **Q. IS THERE ANY OTHER UNCERTAINTY REGARDING THE OUTCOME OF**
13 **PJM’S ANNUAL BASE RESIDUAL AUCTIONS?**

14 A. Yes. I have been advised by counsel that there is currently a case before the U.S.
15 Supreme Court that will likely impact the ability of demand response (“DR”) resources to
16 continue to be included in PJM’s capacity auctions. The Court will likely not render a
17 decision until June 2016.

18 However, the predictable revenues provided by the PPAs will help address these
19 uncertainties going forward, increasing the probability that these plants will remain
20 operating through their useful lives while at the same time providing more stable rates for
21 consumers. Further, any additional revenues above the costs to operate the units that are
22 provided as a result of changes in PJM’s capacity markets would flow to customers
23 through the PPA Rider.

1 **Q. SINCE PJM FILED FOR APPROVAL OF ITS CAPACITY PERFORMANCE**
2 **PROPOSAL WITH THE FERC, WHAT HAS BEEN THE REACTION FROM**
3 **PJM'S STAKEHOLDERS?**

4 A. AEP Ohio, as part of AEP, filed comments as part of a coalition of utilities ("Coalition")
5 having service areas within the PJM footprint. The Coalition generally supports more
6 stringent performance requirements for capacity and views PJM's Capacity Performance
7 Resource as an urgently needed improvement; clearly, not taking action to address the
8 deficiencies of the status quo is not a viable option. However, PJM's Capacity
9 Performance proposal does not resolve, or resolve in an expedient manner, the underlying
10 problems in RPM that are jeopardizing reliability. As discussed below, increased
11 penalties alone will not translate into capacity revenues sufficient to support reliable
12 operations and clearly will not support new-build generation. Mr. Pearce provides
13 additional discussion on this issue.

14 **Q. WILL THE CAPACITY PERFORMANCE PROPOSAL RESOLVE THE**
15 **CAPACITY PRICING ISSUES WITHIN PJM?**

16 A. The expected rule changes to the capacity market combined with the volatility inherent in
17 the energy market create a lot of uncertainty in the future for Ohio consumers and only
18 time will tell how well it addresses the capacity pricing issues, especially given how the
19 capacity market will continue to evolve. Two important elements to improving the
20 reliability of the system through Capacity Performance are increasing the payments for
21 non-performance followed by the need to improve price formation in RPM that has
22 consistently failed to produce adequate prices to allow PJM generators to invest in
23 necessary upgrades and otherwise cover their costs of operation and maintenance. I

1 discussed this resource challenge in greater depth earlier in the PPA benefits section of
2 my testimony.

3 The needs of PJM generators for adequate and stable pricing will continue, and
4 absent an alternative such as a PPA, their survival is subject to PJM avoiding another
5 RPM misstep that to date have only been made apparent after auction results have been
6 posted and then subsequently addressed. For example, PJM failed to heighten the
7 qualification process for DR after dramatic increases in speculative DR participation and
8 corresponding decreases in capacity prices; similarly, PJM failed to establish more
9 stringent standards for imported capacity after thousands of megawatts of imports cleared
10 PJM, but exceeded the firm transmission capability of the existing transmission system.
11 What we have seen is that each attempt to correct an “issue” in PJM capacity pricing also
12 carries with it the risk of triggering an unanticipated side-effect that then requires a
13 subsequent “correction.” This uncertainty is likely to continue, as are calls for an
14 alternative such as the PPA to protect retail customers from avoidable price spikes.
15 Ultimately, if the Capacity Performance Resource is successful, the PPA and OVEC
16 Units will improve financially and AEP Ohio’s customers will reap the benefit under the
17 PPA Rider structure.

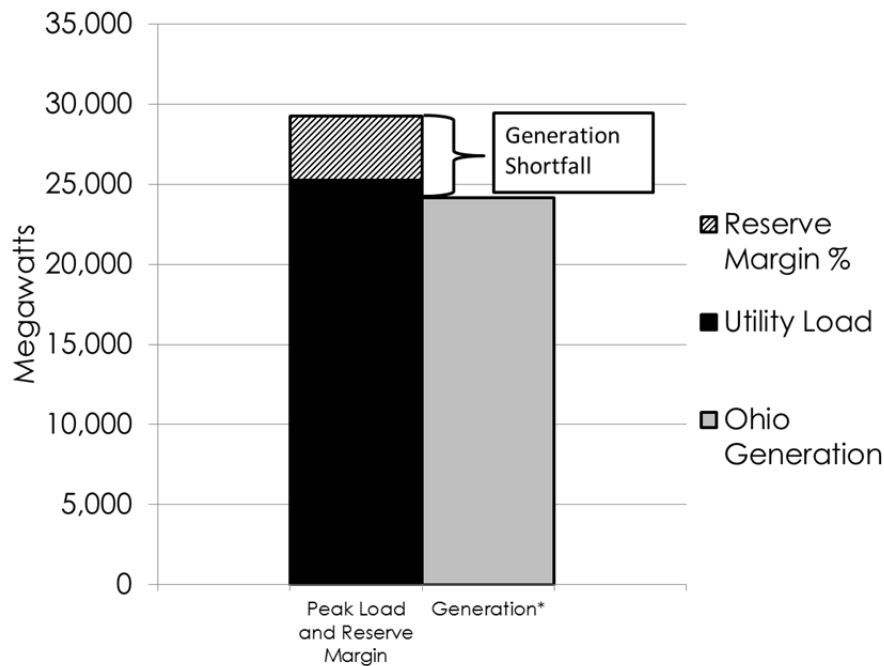
18 **OHIO’S GENERATION SUPPLY IS RETIRING AND NOT BEING REPLACED DUE**
19 **IN PART FROM PJM MARKET FLAWS**

20 **Q. PLEASE COMMENT ON THE STATE OF GENERATION SUPPLY IN OHIO.**

21 A. A combination of factors has led to a significant decrease in the amount of generation
22 that will be produced in Ohio in the future. Since 2012, utilities in Ohio have announced
23 the retirement of over 5,900 MW of generation in Ohio by mid-2015; a list of these units

is provided by Company witness Wittine. Current market conditions are such that additional plants may be forced to shutter for economic reasons. As a result of known generation retirements, Ohio will already be greatly reliant on neighboring states for generation in 2015 as shown in Figure 3 below.

Figure 3 – Ohio IOU Electric Supply & Demand (2015)



* 2015 projected Ohio-sited merchant generation. Excludes municipal, cooperative and industrial generation.
Source: SNL Financials

Q. PLEASE ELABORATE ON THE IMPACTS THAT MARKETS HAVE ON GENERATING CAPACITY.

A. The current PJM capacity market structure does not support the continued long-term investment in existing units and has spurred very few plans for significant generation construction in Ohio. This situation not only threatens Ohio's economy, but also the reliability of the PJM system. PJM recently acknowledged this in an August 20, 2014 white paper in which it stated:

1 “Last winter’s generator performance – when up to 22 percent of PJM
2 capacity was unavailable due to cold weather-related problems –
3 highlighted a potentially significant reliability issue. PJM’s analysis
4 shows that a comparable rate of generator outages in the winter of
5 2015/2016, coupled with extremely cold temperatures and expected
6 coal retirements, would likely prevent PJM from meeting its peak load
7 requirements.”

8 AEP Ohio is keenly aware of this situation as 89% of AEP’s capacity slated for
9 retirement in May 2015 was online in the month of January 2014. All of the PPA Units
10 also ran during the first quarters of 2014 and 2015, with an average capacity factor during
11 each period exceeding 64%. Similarly, the OVEC Units also performed well during
12 these periods with average capacity factors of 73% and 61%, respectively. The
13 premature retirement of the PPA Units would likely compound PJM’s peak load
14 requirement issue in the future.

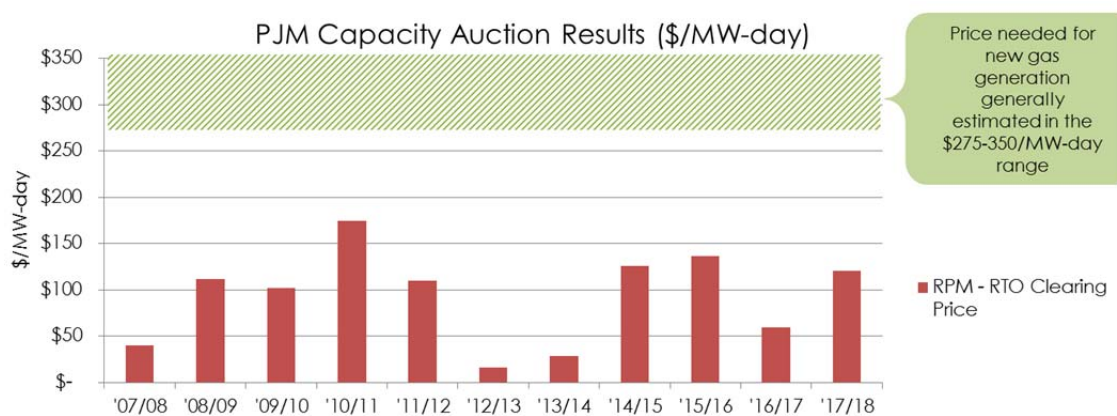
15 **Q. PLEASE ELABORATE ON THE FLAWS IN PJM’S CAPACITY MARKET.**

16 A. The major flaw in the PJM capacity market is that it forces investors to make long-term
17 investment decisions based on erratic short-term price signals. Electric generating assets
18 are long-term investments of at least 20 years. On the other hand, PJM’s capacity market
19 is operated on a three-year planning horizon, with each planning year price clearing one
20 year at a time in the auction. This arrangement does not provide the proper long-term
21 price signals to encourage such investment. As Company witness Pearce discusses
22 further, the combination of this and several other market flaws (e.g. imports on non-firm
23 transmission, speculative bidding, summer-only demand response, etc.) has led PJM to
24 reexamine its capacity market structure.

25 The current market flaws have led to suppressed capacity prices and significant
26 price volatility. PJM has conducted capacity auctions for eleven planning years with

clearing prices for the RTO (excluding constrained delivery areas) ranging from \$16/MW-day to \$174/MW-day (see Figure 4 below). It is difficult to predict the expected revenues associated with long-term investments if the expected revenues earned from those investments can vary by upwards of 1,000%. Of greater concern is that approximately 75% of the units in the most recent auction bid their capacity at \$0/MW-day, hardly illustrative of a well-functioning, liquid market. Moreover, the average clearing price over the 10-year period has been just \$93/MW-day. This level is less than 27% of the Net Cost of New Entry (“CONE”) identified by PJM for the 2017/2018 planning period. Net CONE, which represents the cost of building a new gas-fueled combustion turbine power plant, was set at \$351.39/MW-day for the most recent PJM Capacity Auction. The bottom line is that the average revenues expected as a result of PJM capacity auctions may not be enough to support existing units, let alone entice enough new construction to replace Ohio’s retiring capacity. While these artificially depressed capacity prices have been reflected in Ohioans’ rates, they are mortgaging customers’ future at the expense of long-term capacity additions.

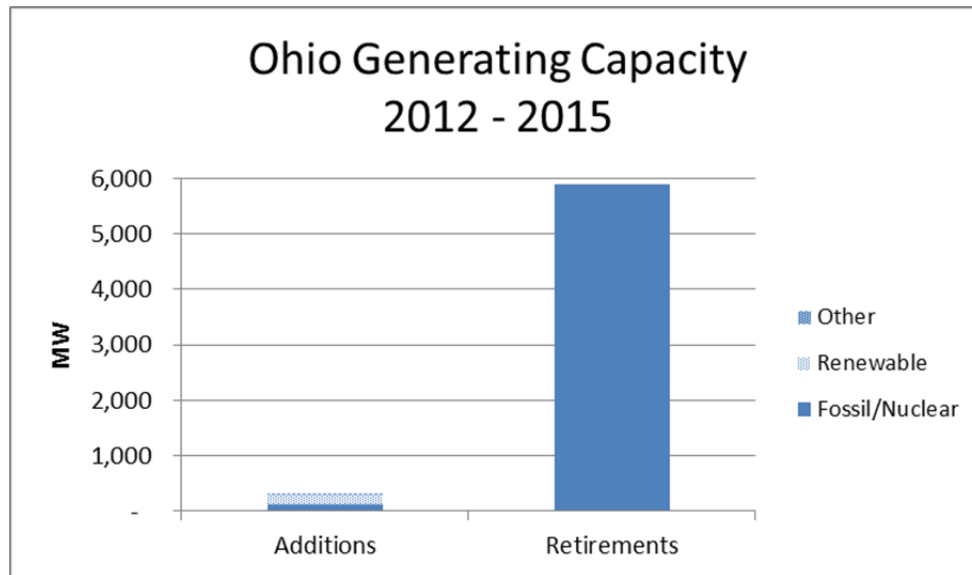
Figure 4 – PJM Capacity Market



Q. HOW HAVE THESE MARKET FLAWS IMPACTED OHIO?

1 A. As discussed by Company witness Wittine, the retirements of baseload plants in Ohio
2 will outpace the addition of new capacity for the next several years. For example, as
3 shown in Figure 5 below, in the same 2012-2015 period when Ohio will retire over 5,900
4 MW of generation, only 307 MW is expected to be placed in service.

Figure 5 – Ohio Generating Capacity



5 Further, the vast majority of planned generation is renewable which does not have
6 the same operating characteristics as the baseload generation that is slated to retire. The
7 situation does not improve beyond 2015, when there are only two plants with a total of
8 about 1,500 MW currently identified as under construction in Ohio in the PJM generation
9 queue. If even more plants are forced to retire due to economic reasons, this gap will
10 only widen.

11 The lack of new Ohio generation identified in the PJM Generation Queue is
12 alarming enough, but as Company witness Wittine discusses, there is no guarantee that
13 even the small amount of capacity that has been identified as under construction will be
14 built. The track record of merchant generators in Ohio provides little confidence that

1 their future capacity plans can be relied upon. Except for two wind projects, none of the
2 projects approved by the Ohio Power Siting Board since 2007 are in-service.

3 **OTHER STATES ARE MORE ATTRACTIVE FOR GENERATION INVESTMENTS**

4 **Q. IS THE RETIRED CAPACITY BEING REPLACED IN OHIO?**

5 A. Not fully or promptly. Ohio should be a prime location for new gas-fired generation
6 investment as it is fortunate to sit on vast reserves of shale gas. Unfortunately, for
7 reasons I will describe below, significant new capacity is not being built in Ohio.

8 **Q. WHY ARE SO FEW NEW CAPACITY PROJECTS BEING BUILT IN OHIO?**

9 A. Ohio has distinct disadvantages to attracting generation investment. Because Ohio has
10 moved to SSO procurement through short-term auctions, investors can only rely on
11 projected market revenues to support long-term investment decisions. Based strictly on
12 market economics, new generation is more likely to be built in eastern PJM, where PJM's
13 capacity market has traditionally identified constrained delivery areas supporting greater
14 capacity clearing prices.

15 Ohio's neighbors – Indiana, Michigan, Virginia, West Virginia, and Kentucky all
16 provide regulated recovery of generation investments providing investors more clarity
17 regarding the return on such large investments. Virginia not only provides regulated cost
18 recovery, but also employs rate incentives and accelerated cost recovery mechanisms to
19 encourage new generation investments to serve native load. These regulated states,
20 however, are not going to build new generation to serve Ohio.

21 **Q. WHERE DOES PJM STAND ON THE LOCATION OF NEW GENERATION?**

22 A. PJM is responsible to provide adequate generating capacity for its entire system,
23 regardless of where that capacity is located. In other words, PJM is indifferent to

1 whether a single MW of capacity is built in Ohio so long as the long-term reliability of
2 the grid is protected. Similarly, PJM is indifferent as to whether the costs of millions of
3 dollars of transmission grid fixes are imposed on its members due to premature
4 retirement of Ohio generating plants, completely disregarding the operational advantages
5 of local generation as discussed by Company witness Bradish. Of course, PJM also has
6 no regard for the harmful economic impacts to Ohio that would result from these plant
7 closures. Conversely, the Commission should be concerned about these issues and
8 looking for solutions, such as the proposed PPAs. As Company witness Fetter discusses,
9 the non-rate benefits associated with the Affiliated PPA agreement are substantial and
10 outweigh any negative rate impacts.

11 **ECONOMIC IMPACT OF THE PPA RIDER UNITS**

12 **Q. PLEASE ELABORATE ON THE ECONOMIC BENEFIT THAT BASELOAD**
13 **POWER PLANTS PROVIDE TO OHIO.**

14 A. As further discussed by Company witness Allen, the PPA Rider Units provide significant
15 benefits to Ohio's economy in terms of both employment and revenues. Not including
16 contractors, the PPA Rider Units employ over 1,600 workers and provide \$121 million of
17 direct annual payroll income to Ohio. In addition to the direct employment, the PPA
18 Rider Units indirectly contribute to more than 4,000 additional jobs to Ohio and nearly
19 \$244 million of additional annual income to the state. Several of the PPA Rider Units
20 also burn Ohio coal, contributing to the direct employment of nearly 900 miners, with an
21 income impact of \$63 million. The jobs protected by the PPA Rider Units are
22 particularly important to the local economies in which they operate because they are
23 high-paying jobs in regions that are economically lagging and have high-unemployment

1 rates. In addition to the employment and income created by the plants, historically they
2 also significantly contribute to the tax base. In 2013, the AEPGR and OVEC plants paid
3 nearly \$11.5 million of Ohio property taxes annually.

4 AEP Ohio is seeing firsthand the impact that plant retirements can have on local
5 communities. For example, the 1,400 MW Muskingum River Plant in Waterford, Ohio is
6 scheduled to retire in May 2015. The retirement of this plant alone will lead to the loss of
7 approximately 260 jobs in Washington County which will result in the loss of
8 approximately \$16 million in direct income to the local economy. In addition, the
9 Muskingum River Plant has contributed recently approximately \$1.2 million annually to
10 the Wolf Creek school district, or approximately 17 percent of the district's general
11 budget. Additionally, the closure of this plant is expected to contribute to the elimination
12 of over 100 other jobs in the area.

13 **Q. COULD THE MUSKINGUM RIVER PLANT HAVE BEEN UPGRADED TO**
14 **KEEP THIS CAPACITY IN OHIO?**

15 A. The Muskingum River Plant was retired in order to comply with environmental
16 regulations. However, over several years, AEP Ohio explored several options to
17 maintain the Muskingum River Plant as a viable generation facility. For example, AEP
18 Ohio had plans, and had begun the process of retrofitting Muskingum River Unit 5
19 ("MR5") with environmental controls to comply with the Clean Air Interstate Rule and
20 the Mercury and Air Toxics Standards. While this project was ultimately cancelled, AEP
21 also explored the possibility of converting MR5 to, or replacing it with, a gas-powered
22 facility to protect its generation supply and limit the economic damage to the area.
23 Indeed, AEP Ohio had committed, as part of a package deal, to replace the retiring MR5

1 unit with a new combined cycle gas plant to be dubbed MR6 as part of the September 7,
2 2011 ESP II Stipulation and Recommendation in AEP Ohio Case No. 11-346-EL-SSO
3 and 11-348-EL-SSO that was initially adopted by the Commission but subsequently
4 rejected. More recently, MR5 was considered for a fuel switch, where the existing boiler
5 could be fueled with natural gas, which would have required a significantly smaller
6 investment than the environmental retrofits or the new MR6 Unit. Unfortunately, the
7 PJM capacity market auction results could not justify either of these investments. This
8 MR5 example highlights the issue with generation investments in Ohio. While AEP
9 Ohio's plan to convert a coal-fired plant to a gas-fired plant was thwarted by the capacity
10 markets, in nearby states AEP Ohio's affiliates are moving forward with similar
11 conversions. Kentucky Power Company recently sought and received regulatory
12 approval to convert one of its coal-fired plants to natural gas, retaining some of the
13 employees and tax base that would have been lost if it had been forced to retire the unit.
14 Likewise, Appalachian Power Company, another AEP subsidiary, is also in the process
15 of converting two of its coal-fired units in Virginia to natural gas because of their ability
16 to recover the investment due to regulatory support there.

17 **PPA OVERSIGHT AND INFORMATION SHARING**

18 **Q. WILL THE COMMISSION HAVE THE ABILITY TO REVIEW THE COSTS**
19 **AND REVENUES ASSOCIATED WITH THE PPA RIDER?**

20 A. Absolutely. AEP Ohio commits to full information sharing with the Commission and
21 Staff on all pertinent aspects of its PPA contract with AEPGR. As shown in Exhibit
22 KDP-1 (page 1) of Company witness Pearce's Direct Testimony, the Affiliated PPA
23 includes the establishment of an Operating Committee ("Committee") which will include

1 a representative from AEP Ohio. This Committee will provide oversight over all major
2 decisions and operation of the PPA Units. Subsequently, AEP Ohio can provide, on a
3 periodic basis as determined by the Commission, summaries and/or details of the
4 Committee's actions. Furthermore, Exhibit KDP-1, page 4 provides for the Books,
5 Records and Audit Rights under the Agreement. The results of such audits would satisfy
6 the Commission's review for approval of the costs and revenues passed through the PPA
7 Rider. Furthermore, the PPA Units will be located in their own PJM subaccount which
8 will provide for clear auditing of revenues and costs as credited and billed directly from
9 PJM. Cost data for operating the Affiliated PPA Units will be comparable to data that the
10 Commission has historically been provided related to these units. All costs will be
11 reviewed and approved for payment to AEPGR by AEP Ohio's Vice President,
12 Regulatory and Finance.

13 **Q. WILL THE OVEC AGREEMENT PROVIDE ACCESS TO INFORMATION**
14 **NECESSARY FOR COMMISSION OVERSIGHT OF THE OVEC PPA ?**

15 A. Yes. The OVEC Agreement provides for access to records by all of the Sponsoring
16 Companies, including AEP Ohio. These terms of the OVEC Agreement have been in
17 place for at least a decade. As such, the Commission will also have access through AEP
18 Ohio for information it needs in its regulatory approval of revenues and costs applicable
19 to the PPA Rider as described by the Commission in its *ESP III Order*.

20 **Q. WILL THE COMMISSION HAVE THE SAME OPPORTUNITY TO REVIEW**
21 **REVENUE AND COST DATA FOR ALL CARDINAL UNITS?**

1 A. Yes. As discussed by Company witness Pearce, AEP Ohio will be a surrogate for
2 AEPGR in accordance with the Cardinal Station Agreement and thus receive access to
3 the same information as AEPGR.

4 **PROPOSAL PROPERLY ALLOCATES PPA FINANCIAL RISK**

5 **Q. WHAT RISKS IS AEP OHIO TAKING IF THIS PROPOSAL IS APPROVED?**

6 A. AEP Ohio is at risk of having recovery of the PPA Rider balance being disallowed in a
7 future ESP proceeding or not having the Affiliated PPA renewed. Either of these actions
8 would impact the Company's credit rating, which would increase the cost of investments
9 in its distribution infrastructure. These financial risks would continue to exist for the
10 Company until the PPA Rider Units are retired. Accordingly, the PPA Rider proposal
11 properly allocates financial risk between the Company and its customers, as contemplated
12 in the *ESP III Order*. The Commission will have the ability to audit the accuracy of the
13 costs and revenues included in the PPA Rider as well as a prudence review of actions and
14 decisions undertaken by AEP Ohio or its agents.

15 **Q. ARE THERE ANY OTHER CIRCUMSTANCES RELEVANT TO AEP OHIO'S**
16 **OPERATING RISKS THAT YOU WANT TO DISCUSS?**

17 A. Yes. It should be noted that in the fourth quarter of 2012 AEP Ohio recorded a pretax
18 impairment of \$287 million due to the retirement of several plants in May 2015. A
19 balance sheet loss such as this is borne by the shareholders and could impact AEP Ohio's
20 borrowing rate in debt offerings which increases the cost of all its investments. The
21 Company has sustained this write-off due to circumstances beyond its control, yet it
22 remains committed to serve its Ohio customers and support their communities in which
23 AEP Ohio's employees also live and work. Yet it cannot continue to take all the risk for

1 the broken PJM market structure and needs the Commission's assistance with approval of
2 the proposed Affiliated PPA and inclusion of it and the existing OVEC PPA in the PPA
3 Rider to preserve Ohio's economy.

4 **Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?**

5 A. Yes.

CERTIFICATE OF SERVICE

The undersigned hereby certifies that a true and correct copy of Ohio Power Company's *Pre-Filed Direct Testimony of Pablo A. Vegas* have been served upon the below-named counsel and Attorney Examiners by electronic mail to all Parties this 15th day of May, 2015.

/s/ Steven T. Nourse
Steven T. Nourse

EMAIL SERVICE LIST

Allison@carpenterlipps.com	mhpetricoff@vorys.com
Bojko@carpenterlipps.com	myurick@taftlaw.com
callwein@wamenergylaw.com	mpritchard@mwncmh.com
Christopher.Miller@icemiller.com	mjsatterwhite@aep.com
cmooney@ohiopartners.org	msmckenzie@aep.com
dboehm@BKLawfirm.com	mswhite@igsenergy.com
dconway@porterwright.com	mkurtz@BKLawfirm.com
dwilliamson@spilmanlaw.com	Michael.schuler@occ.ohio.gov
fdarr@mwncmh.com	mjsettineri@vorys.com
ghull@eckertseamans.com	msmalz@ohiopoverlylaw.org
glpetrucci@vorys.com	talexander@calfee.com
haydenm@firstenergycorp.com	nmoser@wamenergylaw.com
hussey@carpenterlipps.com	ricks@ohanet.org
jmcdermott@firstenergycorp.com	sam@mwncmh.com
jang@calfee.com	Scott.Campbell@ThompsonHine.com
jeffrey.mayes@monitoringanalytics.com	scasto@firstenergycorp.com
jkylercohn@BKLawfirm.com	schmidt@sppgrp.com
jfinnigan@edf.org	sasloan@aep.com
joseph.clark@directenergy.com	Stephanie.Chmiel@ThompsonHine.com
joliker@igsenergy.com	stnourse@aep.com
Katie.johnson@puc.state.oh.us	todonnell@dickinsonwright.com
Kurt.Helfrich@ThompsonHine.com	tobrien@bricker.com
Kyle.kern@occ.ohio.gov	toddm@wamenergylaw.com
Larry.sauer@occ.ohio.gov	tony.mendoza@sierraclub.org
lhawrot@spilmanlaw.com	tdougherty@theOEC.org
mdortch@kravitzllc.com	william.wright@puc.state.oh.us
mfleisher@elpc.org	

This foregoing document was electronically filed with the Public Utilities

Commission of Ohio Docketing Information System on

5/15/2015 4:19:46 PM

in

Case No(s). 14-1693-EL-RDR, 14-1694-EL-AAM

Summary: Testimony -Direct Testimony of Pablo A. Vegas electronically filed by Mr. Steven T Nourse on behalf of Ohio Power Company