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Barcy F. McNeal  
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180 East Broad Street  
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**RE:** *In the Matter of the Annual Environmental Control Plan Under Rule 4901:1-41-03(B), Ohio Administrative Code, by Ohio Power Company, Case No. 13-0878-EL-ECP.*

Dear Ms. McNeal:

I am submitting the enclosed 2013 Annual Environmental Control Plan (ECP) on behalf of Ohio Power Company, or AEP Ohio, pursuant to Rule 4901:1-41-03(B), Ohio Administrative Code (OAC). I have sent a copy of AEP Ohio's 2013 ECP to the Director of the Ohio Environmental Protection Agency in accordance with Rule 4901:1-41-03(B), OAC.

Thank you for your attention to this matter.

Respectfully Submitted,

/s/ Matthew J. Satterwhite  
Matthew J. Satterwhite

## **AEP Ohio Environmental Control Plan**

### **Air Emission Controls**

Exhibit A summarizes the installation status of SO<sub>2</sub>, NO<sub>x</sub>, and mercury control equipment at AEP Ohio generating units as of March 2013. The control equipment listed represents installed or planned installations through 2020 that are currently required for compliance with the Clean Air Act (“CAA”), including the Clean Air Act Amendments of 1990 (“CAAA”), NO<sub>x</sub> SIP Call, and the Clean Air Interstate Rule (“CAIR”), and two more recent rulemakings discussed below, as well as the New Source Review (“NSR”) Consent Decree.

In 2011, the United States Environmental Protection Agency (“USEPA”) issued two regulations that profoundly affect AEP and AEP Ohio, our stakeholders and the communities we serve – the Cross State Air Pollution Rule (“CSAPR”) and the Mercury and Air Toxics Standards (“MATS”) Rule. MATS is designed to reduce mercury, and other hazardous air pollutant emissions from coal- and oil-fired power plants, and CSAPR would reduce SO<sub>2</sub> and NO<sub>x</sub> emissions from power plants located in 33 Eastern, Midwestern and Southern states.

CSAPR has since been vacated by the courts, and absent a successful Supreme Court challenge, the somewhat less restrictive CAIR program will remain in place until a replacement rule is issued. However, MATS will necessitate accelerated retirement of several AEP Ohio coal-fired units.

On February 13, 2012, AEP Ohio officially retired the 450 MW Sporn Unit 5 and on December 31, 2012, the 165 MW Conesville Unit 3. AEP Ohio notified PJM that the units would no longer be available for use. Additionally, Exhibit B summarizes the anticipated

AEP Ohio generating unit retirements as a result of the above rules. AEP Ohio will retire approximately 1,900 MW of generating capacity by June 1, 2015. Furthermore, based on a February 2013 modification of the NSR Consent Decree, Muskingum River Unit 5 will be forced to stop burning coal by 2015; however, in lieu of retirement, the unit still has the option to be refueled with natural gas by December 31, 2017.

## **Carbon Dioxide (“CO<sub>2</sub>”) Control**

### **AEP System-wide Measures**

AEP Ohio, along with the other operating companies of AEP, have continued to take a leadership role on the CO<sub>2</sub> issue; however, national public policymakers and regulators across our 11 states have conflicting views about global warming and the need for greenhouse gas (“GHG”) regulations in the United States.

AEP proactively supported a number of proposed climate bills in Congress and made significant investments in clean-coal technologies. We voluntarily reduced or offset carbon dioxide emissions through the Chicago Climate Exchange between 2003 and 2010 and set a new goal for emission reductions by 2020. Additionally, the transformation of AEP’s generation business will further reduce those emissions in the future. However, there still is no mandate to drive these reductions, and absent legislation or regulation, the amount of GHG emission reductions required from AEP Ohio cannot be predicted with certainty.

The USEPA has proposed rules that will limit carbon dioxide emissions from new power plants under the Greenhouse Gas New Source Performance Standards (“NSPS”). While the rules, as proposed, do not apply to existing AEP units or to any planned AEP retrofit projects, they effectively preclude the construction of new coal-fired electric

generating units as it establishes a single emission rate standard that is based on a natural gas combined-cycle unit. Because natural gas is inherently less CO<sub>2</sub> emission-intensive than coal, construction of a coal unit will be impossible without the use of carbon capture and storage (“CCS”) technologies. It is expected that the USEPA will finalize these standards by 2013.

AEP is currently focused on taking practical, short-term actions to reduce carbon emissions, such as improving energy efficiency, investing in the development of cost-effective and less carbon-intensive technologies and evaluating our assets – power plants, office buildings, and mobile fleet – across a range of reasonable scenarios. Longer term, the transformation of our generation business is expected to reduce our reliance on coal from 65 percent of our generating capacity in 2012 to about 46 percent in 2020. This balancing of our fuel resources will also keep us on the path to continued carbon dioxide reductions, helping us achieve our 2020 voluntary goal to reduce GHG emissions by 10 percent from 2010 levels.

While many of the actions described above are initiated at a broader level, the net results are achieved through AEP Ohio and other AEP operating companies in the form of emission reductions and increased operational experience in managing carbon emissions. In the absence of federal legislation or regulation, these voluntary efforts will continue.

### **AEP Ohio Programs**

AEP Ohio has met the renewable energy and energy efficiency targets as set forth in Amended Substitute Senate Bill 221 (“S.B. 221”). The renewable energy and energy efficiency benchmarks have the secondary benefit of directly reducing AEP Ohio’s CO<sub>2</sub> emissions. Additional renewable energy resources directly displace fossil-fueled generation

and increasing levels of end-use energy efficiency reduce the total amount of energy (mostly fossil-fuel based) needed to serve AEP Ohio's customers, both achieving a net CO<sub>2</sub> benefit. AEP Ohio retains the option to expand these programs beyond current state requirements should the economics warrant such actions.

As part of its renewable energy compliance effort, AEP Ohio signed a 20-year agreement to purchase the entire output of the 10.1 MW Wyandot Solar Project located near Upper Sandusky, Ohio as well as a 20-year agreement to purchase the entire output of the 99 MW Timber Road Wind Farm located in Paulding County, Ohio. To meet other in-state renewable energy requirements, AEP has issued Requests for Proposals ("RFP") and contracts for both renewable energy resources and biodiesel fuel sources. These projects will directly reduce the amount of fossil-fuel generated energy, and thus GHG emissions associated with serving AEP Ohio's customers. Please see the AEP Ohio Alternative Energy Portfolio Compliance Plan filed April 15, 2013, for further information on these topics.

Biodiesel is an alternative fuel used to a small degree at a few of AEP Ohio's power plants because it is recognized by the state as another source of renewable energy. AEP Ohio successfully tested the use of biodiesel for coal unit start-up and flame stabilization at the Picway Plant in 2010 and began using it at Conesville Units 4 through 6 and Muskingum River Units 1 through 4. Since mid-2011, following permit approvals, the plants have been using biodiesel instead of fuel oil; however, the future use of biodiesel is being phased out due to economics.

AEP Ohio also has been actively investing in energy efficiency ("EE") measures to directly reduce energy consumption within Ohio. These measures can be significant as MWh not produced means a reduction in GHG emissions. These EE measures will ramp up over

the coming years in conjunction with the requirements of S.B. 221. The EE and Peak Demand Reduction (“PDR”) programs are described in the 2012-2014 EE/PDR Action Plan in Case Nos. 11-5568-EL-POR and 11-5569-EL-POR and the Annual Portfolio Status Report in Case No. 12-1537-EL-EEC.

Additional benefits from EE may be achieved in the coming years with deployment of the gridSMART<sup>®</sup> program. The gridSMART<sup>®</sup> initiative includes smart grid technologies such as smart meters, voltage optimization equipment and smart appliances which are currently being utilized in gridSMART<sup>®</sup> community-based projects in Columbus with approximately 132,000 customers. The project accelerates smart grid deployments by improving grid reliability, increasing grid efficiency, decreasing customer energy consumption, and trimming peak demand, thereby reducing carbon dioxide emissions.

### **CCS Demonstrations**

In addition to renewable energy and end-user energy efficiency programs, AEP has invested in projects and will continue to evaluate projects that directly reduce CO<sub>2</sub> emissions from its generating fleet. An AEP pilot project in West Virginia was the first in the country to capture CO<sub>2</sub> from a coal-based electric generating unit and inject it into a geologic storage facility. The project proved that the technology worked, and it captured more than 51,000 metric tons of CO<sub>2</sub> between September 2009 and May 2011 and permanently stored more than 37,000 metric tons underground. Unfortunately, cost recovery issues and a lack of financial support for the 235 MW commercial scale development project placed the CCS program on hold until economically feasible. AEP and AEP Ohio still believe the work completed will provide substantial benefits in the future.

# Exhibit A

AEP-Ohio Generating Unit Control Equipment Installed or Planned to be Installed for Air Emission Control for CAA <sup>A</sup>									
Plant Name & Unit #	SO <sub>2</sub>	Installation Date <sup>†</sup>	NOx (Combustion Controls)	Installation Date <sup>†</sup>	NOx (SCR/SNCR)	Installation Date <sup>†</sup>	Hg (ACI)	Installation Date <sup>†</sup>	
Amos <sup>B</sup>	FGD	Installed ('09)	Low NOx Burners / CCV Burners	Installed ('98)	SCR	Installed ('02)			
Beckjord <sup>C</sup>									
Cardinal 1	FGD	Installed ('08)	Low NOx Burners	Installed ('98)	SCR	Installed ('03)			
Conesville 4	FGD	Installed ('09)	T-Fired Unit Simulated OFA / Concentric Firing System	Implemented / ('04)	SCR	Installed ('09)			
Conesville 5	FGD Upgrade	Installed ('06) <sup>D</sup>	T-Fired -No Change / OFA with upgrades	Installed ('04)			ACI	Post-2012	
Conesville 6	FGD Upgrade	Installed ('08) <sup>D</sup>	T-Fired -No Change / OFA with upgrades	Installed ('04)			ACI	Post-2012	
Gavin 1	FGD Upgrade	Post-2012	Low NOx Burners / CCV Burners	Installed ('98)	SCR	Installed ('01)	ACI	Post-2012	
Gavin 2	FGD Upgrade	Post-2012	Low NOx Burners / CCV Burners	Installed ('99)	SCR	Installed ('01)	ACI	Post-2012	
Kammer 1			Over Fire Air / upgrades	Installed ('99 / '03)					
Kammer 2			Over Fire Air / upgrades	Installed ('98 / '04)					
Kammer 3			Over Fire Air / upgrades	Installed ('99 / '03)					
Mitchell 1 <sup>B</sup>	FGD	Installed ('07)	Low NOx Burners / with water injection	Installed ('93 / '03)	SCR	Installed ('07)			
Mitchell 2 <sup>B</sup>	FGD	Installed ('06)	Low NOx Burners	Installed ('94)	SCR	Installed ('07)			
Muskingum R 1			Over Fire Air	Installed ('99)					
Muskingum R 2			Over Fire Air	Installed ('00)					
Muskingum R 3			Over Fire Air / upgrades	Installed ('99 / '03)					
Muskingum R 4			Over Fire Air / upgrades	Installed ('99 / '03)					
Muskingum R 5 <sup>E</sup>			Low NOx Burners	Installed ('93)	SCR	Installed ('05)			
Picway 5			Low NOx Burners	Installed ('95)					
Sporn 2			Low NOx Burners w/ Interjectory Air / upgrades	Installed ('97 / '04)					
Sporn 4			Low NOx Burners w/ Interjectory Air / upgrades	Installed ('97 / '04)	SNCR	Installed ('08)			
Stuart 1	FGD	Installed ('08)	Low NOx Burners	Installed	SCR	Installed ('04)			
Stuart 2	FGD	Installed ('08)	Low NOx Burners	Installed ('11)	SCR	Installed ('04)			
Stuart 3	FGD	Installed ('08)			SCR	Installed ('04)			
Stuart 4	FGD	Installed ('08)			SCR	Installed ('04)			
Zimmer	FGD	Installed ('91)	Low NOx Burners	Installed	SCR	Installed ('04)			

<sup>A</sup> This Exhibit reflects installed or planned installations through 2020, as of March 2013.

<sup>B</sup> Consistent with AEP Ohio's Commission-approved corporate separation plan, effective January 1, 2014, AEP Ohio will transfer its generating units and associated assets to AEP Generation Resources (AEPGR). Immediately after closing of the asset transfer, AEPGR will transfer AEP Ohio's former share of Amos Unit 3 (867 MW) to Appalachian Power Company (APCo). In a similar transaction, AEPGR will transfer AEP Ohio's former Mitchell Generating Station (two units with average annual capacity rating of 1,560 MW) to APCo and Kentucky Power Company (KPCo). APCo and KPCo will each obtain a 50% undivided interest in the Mitchell Generating Station. AEP has requested approval of these transactions from the FERC and appropriate state regulatory commissions. AEP expects to obtain all necessary approvals before the end of the third quarter 2013 and close the transactions on December 31, 2013.

<sup>C</sup> See Exhibit B.

<sup>D</sup> Upgrade existing FGD to meet 95% 30-day rolling average removal efficiency

<sup>E</sup> Muskingum River Unit 5 will be forced to stop burning coal by no later than December 31, 2015. However, the unit has the option to be refueled with natural gas by December 31, 2017, in lieu of retirement.

<sup>†</sup> In-service by end of year

# Exhibit B

## AEP Ohio Generating Unit Retirements Estimated to be Retired by June 1, 2015

Plant	Location	Unit	MW
Kammer Plant	Moundsville, WV	1,2,3	630
Muskingum River	Beverly, OH	1,2,3,4	840
Beckjord <sup>A</sup>	New Richmond, OH	6	53
Picway	Lockbourne, OH	5	100
Philip Sporn	New Haven, WV	2,4	300

<sup>A</sup> Plant operated by Duke Power Company. 53 MW represents Ohio Power's share of the unit capacity.



**This foregoing document was electronically filed with the Public Utilities**

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Summary: Notice -Annual Environmental Control Plan electronically filed by Mr. Yazen Alami on behalf of Ohio Power Company