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EXHIBIT NO. _____

BEFORE
THE PUBLIC UTILITIES COMMISSION OF OHIO

In the Matter of the Application of)
Columbus Southern Power Company and)
Ohio Power Company for Authority to) Case No. 11-346-EL-SSO
Establish a Standard Service Offer) Case No. 11-348-EL-SSO
Pursuant to §4928.143, Ohio Rev. Code,)
in the Form of an Electric Security Plan.)

In the Matter of the Application of)
Columbus Southern Power Company and) Case No. 11-349-EL-AAM
Ohio Power Company for Approval of) Case No. 11-350-EL-AAM
Certain Accounting Authority.)

VOLUME 1

ON BEHALF OF
COLUMBUS SOUTHERN POWER COMPANY
AND
OHIO POWER COMPANY

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**COLUMBUS SOUTHERN POWER COMPANY'S
AND OHIO POWER COMPANY'S
APPLICATION**

I. AEP Ohio and the Proposed Merger of CSP and OPCo

Columbus Southern Power Company (CSP) and Ohio Power Company (OPCo) are subsidiary electric utility operating companies of American Electric Power Company, Inc. (AEP) and they conduct their combined business in Ohio as "AEP Ohio." As relevant to this application, each Company is an "electric distribution utility," "electric light company," "electric supplier" and "electric utility" as those terms are defined in §4928.01 (A) (6), (7), (10) and (11), Ohio Rev. Code, respectively. Through a March 18, 2009 Opinion and Order and a July 23, 2009 Entry on Rehearing in Case Nos. 08-917-EL-SSO and 08-918-EL-SSO, the Commission approved a modified Electric Security Plan (ESP) to be in effect for AEP Ohio from 2009 through the end of 2011.

This application has been developed and presented as a single-company filing, given the proposed merger of CSP and OPCo (currently pending in Case No. 10-2376-EL-UNC) that is expected to close prior to 2012. Depending on the context, CSP and OPCo may be referred to

collectively as "AEP Ohio" or the "Company" and may also be referred to separately or individually. Likewise, the proposed ESP for CSP and OPCo may be referred to as "AEP Ohio's proposed ESP" or "the Company's proposed ESP" or simply "the proposed ESP." While the proposed application and supporting exhibits are presented as a merged company, the documentation in the case and accompanying work papers include sufficient information for the ESP to be evaluated for CSP and OPCo independently if needed. In the event that the merger is not closed by the 4th Quarter of 2011, then CSP and OPCo propose alternative generation rates to be implemented during any "bridge" period until the merger is closed. Such "bridge rates," as discussed in the testimony of Company witnesses Hamrock and Roush, would use the same rate levels being proposed in the ESP and adjust as appropriate to reflect the independent companies and rate zones. In the unlikely event that the merger is not closed by June 30, 2012, CSP and OPCo will file appropriate amendments to provide separate rate plans for each of the Companies.

II. Summary of the Proposed Electric Security Plan and Requested Relief

AEP Ohio, pursuant to §§4928.141 and 4928.143, Ohio Rev. Code, requests authority for a standard service offer (SSO) that will be in effect for the period January 1, 2012, through May 31, 2014. For their SSO under §4928.141, the Applicants seek the Commission's approval of an ESP based on §4928.143, Ohio Rev. Code, and Rule 4901:1-35, Ohio Admin. Code. An electric distribution utility (EDU) may comply with §4928.141(A)'s SSO requirement through either a market rate offer (MRO), pursuant to §4928.142, Ohio Rev. Code, or an ESP, pursuant to 4928.143, Ohio Rev. Code. As set forth in this application, AEP Ohio is proposing an ESP for the term of January 1, 2012 through May 31, 2014.

The Company has approached the proposed ESP in a manner that is consistent with S.B. 221. For example, the ESP addresses a range of issues that are broader than simply focusing on

the SSO for competitive retail electric services. The Company's ESP, as described in this application and in supporting Company testimony, also address provisions regarding their distribution service (See §4928.143 (B) (2) (d) and (h), Ohio Rev. Code); economic development and job retention (See §§4928.02(N), 4928.143 (B) (2) (i) and 4905.31 (E), Ohio Rev. Code) through the Ohio Growth Fund initiative; the alternative energy resource requirements of §4928.64, Ohio Rev. Code; the energy efficiency requirements of §4928.66, Ohio Rev. Code (See also §§4928.143 (B) (2) (i) and 4905.31 (E), Ohio Rev. Code); low-income customer assistance through the Company's Partnership with Ohio initiative (helping to protect at-risk customers consistent with §4928.02(L), Ohio Rev. Code); and other matters. That being said, the primary focus of the application concerns SSO pricing issues.

The proposed ESP which addresses this broad range of issues will have the effect of stabilizing and providing certainty regarding retail electric service (§4928.143 (B) (2) (d), Ohio Rev. Code) and is "more favorable in the aggregate as compared to the expected results that would otherwise apply under section 4928.142 of the Revised Code." (§4928.143, (C) Ohio Rev. Code). AEP Ohio expects to file an MRO if the proposed ESP is not adopted and reserves the right to make an MRO filing, including while this ESP proposal is pending (with rates effective with the first billing cycle of January 2012), should it choose to do so at least 90 days before the expiration of the current ESP. The terms of the proposed ESP offer AEP Ohio customers financial stability and reasonable electricity rates while offering investors reasonable financial stability. Each of the major components of the proposed ESP are critical to AEP Ohio's future and need to be addressed in order for the Company to remain in a regulated SSO plan. Substantial investments are needed in order to maintain and replace AEP Ohio's generation assets into the future. Based on planned unit retirements and environmental requirements, timely

and certain recovery of generation investments is needed in order for AEP Ohio to remain in an ESP plan.

Therefore, AEP Ohio requests that the Commission:

1. approve the proposed ESP without modification, including all accounting authority needed to implement the ESP as proposed; and
2. provide such approval sufficiently in advance of the termination of the current ESP which is scheduled to expire on the last billing cycle of December 2011.

More specifically, AEP Ohio requests that the proposed ESP be approved and made effective with the first billing cycle of January, 2012 and continuing through the last billing cycle of May, 2014.

III. Filing Requirements of Rule 4901:1-35-03(C), Ohio Admin. Code

A. Description of Supporting Testimony

A more complete description of and support for the proposed ESP is provided through the testimony of the Company witnesses listed in the following table, with each witnesses' subjects also being referenced in the table.

Witness	General Subject Area	General Description of Testimony
Joseph Hamrock	General Policy Witness Market Transition Rider (MTR) Green Power Portfolio Rider (GPPR) Economic Development Rider (EDR) Rate Security Rider (RSR)	<ul style="list-style-type: none"> • AEP strategy and industry leadership • AEP Ohio objectives, ESP components • Economic development & low income support
Philip Nelson	Fuel Adjustment Clause (FAC) Phase-In Recovery Rider (PIRR) Generation Resource Rider (GRR) Alternative Energy Rider (AER) Environmental Investment Carrying Cost Rider (EICCR) Carbon Capture and Sequestration Rider (CCSR) Pool termination & modification	<ul style="list-style-type: none"> • Cost recovery mechanisms for fuel, purchased power, and deferred fuel recovery • Generation resource, alternative energy renewable energy credit, and environmental rider components • Carbon capture and sequestration (CCS) • Pool termination and modification provision
Renee	Securitization of Deferred Fuel	<ul style="list-style-type: none"> • Rationale and benefits of securitization

Hawkins		of Deferred Fuel
Jay Godfrey	Renewable Portfolio Standard (RPS) and RPS approval process	<ul style="list-style-type: none"> • Ohio RPS compliance activities • New RPS contract process proposal
Thomas Kirkpatrick	Distribution Investment Rider (DIR) Enhanced Service Reliability Rider (ESRR) Storm Damage Recovery	<ul style="list-style-type: none"> • Overview and description of the Distribution investment rider, which includes investment in Distribution programs and continuing gridSMART® costs & enhanced reliability rider • Storm damage
Karen Sloneker	gridSMART®, Energy Efficiency (EE) Peak Demand Response (PDR) Plug-In Electric Vehicles (PEV)	<ul style="list-style-type: none"> • Completion of gridSMART® Phase 1 Rider and status • Collaborative of EE/PDR status and recovery through the existing rider • Introduction of PEV tariff proposal and recovery options
Thomas Mitchell	Regulatory accounting for certain riders including , but not limited to: Generation NERC Compliance Cost Recovery Rider (NERCR) Facilities Closure Cost Recovery Rider (FCCR)	<ul style="list-style-type: none"> • Regulatory accounting details for proposed riders
Andrea Moore	Rate design of : gridSMART® Rider, TCRR, FAC, AER, PIRR, EE/PDR, EDR, ESRR, EICCR, DIR, NERCR, FCCR, PEV, Provider of Last Resort (POLR) Rider, Storm Damage Recovery Mechanism	<ul style="list-style-type: none"> • Rate recovery design for continuation of certain riders, for proposed changes or additions to current riders, and/or recovery of new riders/tariff proposals • Pool termination and modification provision
David Roush	Tariffs and Rate Design for certain riders such as the MTR, GPPR, RSR, Standard Offer Generation Service Rider (GSR)	<ul style="list-style-type: none"> • Tariff rate design, generation rate realignment, rate terms and conditions (T&C), green power portfolio rate
Laura Thomas	Market Rate Offer (MRO) Test, POLR, FCCR, and NERCR	<ul style="list-style-type: none"> • ESP vs. MRO price development, POLR charge rationale, facilities closure concepts, generation NERC compliance cost recovery

B. Pro Forma Financial Projections of the Effect of the Proposed ESP

Pro forma financial projections of the effect of the proposed ESP for the duration of the ESP are presented in the testimony of Company witness Nelson and Exhibit PJN-3 which includes the assumptions made and methodologies used in deriving the pro forma projections.

C. Projected Rate Impacts of the Proposed ESP

Projected rate impacts by customer class/rate schedules during the ESP are contained in Exhibit DMR-1 of the testimony of Company witness Roush.

D. Description of the Corporate Separation Plan and Demonstration that the Plan Complies with §4928.17, Ohio Rev. Code and Rule 4901:1-37, Ohio Admin. Code

AEP Ohio provides a description of its corporate separation plan, adopted pursuant to §4928.17, Ohio Rev. Code, through the testimony of Company witness Hamrock, which recites the status of the plan, discusses pertinent rulings issued by the Commission (including, in its orders issued in Case Nos. 08-917 and 918-EL-SSO, continuing to allow the Company to use functional, instead of structural, separation to comply with the corporate separation requirements of §4928.17) and sets forth changes to the corporate separation plan that are currently anticipated. While the Company is not requesting specific amendments to the corporate separation plan directly related to the proposed ESP itself, it reserves the right to file any needed amendments through separate filing(s) during the term of the ESP. Consistent with the Commission's decision in Case No. 09-464-EL-UNC, the Company submits that it continues to comply with the requirements of §4928.17, Ohio Rev. Code.

E. Status of the Operational Support Plan

Pursuant to Rule 4901:1-35-03(C)(5), Ohio Admin. Code, AEP Ohio states that its Operational Support Plan has been implemented and that it is not aware of any outstanding problems with its implementation.

F. Description of How the Company Addresses Governmental Aggregation and Implementation of Divisions (I), (J), and (K) of §4928.20, Ohio Rev. Code and the Effect on Large-Scale Governmental Aggregation of Unavoidable Generation Charges

For the proposed ESP, the Company's plan for addressing governmental aggregation programs and the implementation of divisions (I), (J), and (K) of §4928.20, Ohio Rev. Code, and the effect on large-scale governmental aggregation of any unavoidable generation charges, remain unchanged from that approved by the Commission in Case Nos. 08-917 and 918-EL-

SSO. Language regarding these provisions is set forth in Exhibits DMR-5 and DMR-6, sponsored by Company witness Roush for CSP and OPCo, respectively.

G. State Policies Enumerated in §4928.02, Ohio Rev. Code, Are Advanced by the Proposed ESP

A detailed account of how the proposed ESP is consistent with and advances the policies of this state enumerated in §4928.02(A) through (N), Ohio Rev. Code, is provided by Company witness Hamrock.

H. Statement Regarding Qualifying Transmission Entity

CSP, OPCo and AEP Ohio Transmission Company, Inc. are members of PJM Interconnection, which is a qualifying transmission entity, as that term is used in §4928.12, Ohio Rev. Code.

I. Executive Summary

An executive summary of the proposed ESP is attached to this application as Attachment 1.

IV. Standard Service Offer Rate Provisions of the Proposed ESP

A. Generation and Provider of Last Resort Rates

1. SSO Generation Service Rider (base generation rate)

CSP's and OPCo's last base rate cases were in the early 1990s. Since that time rates have been unbundled into generation, transmission and distribution components and subsequently adjusted based upon percentage adjustments to the then current unbundled rates. As such, the generation rates reflect an amalgamation of very old cost relationships, including any historical levels of cross-subsidization among tariff classes. In addition, CSP and OPCo are proposing a merger, and the post-merger Company is what is reflected in the proposed ESP rates. For these

reasons, the Company's proposal in this proceeding is to rationalize the rate relationships based upon the manner in which the market would price such loads using the same methodology used to develop the competitive benchmark price and applying it to the class load shapes.

The proposed ESP base generation rates are designed to produce the Company's requested average base generation rate while moving toward market-based rates developed consistent with the competitive benchmark price for the various types of customer usage. The 2012 proposed base generation rates include the requested base generation rate increase, but exclude projected 2011 costs for both the FAC and EICCR to arrive at the 2012 base generation rates. The base generation rates for January 2013 to May 2014 were calculated by uniformly increasing the 2012 base generation rates to achieve the proposed rate level. The base generation rate proposals are discussed in Company witness Roush's testimony and shown in Exhibit DMR-2. It is important to note that only the relative market price relationships are used in developing the proposed rates. In other words, it is the pricing relationships that are being established in this manner, not the overall level of the price, and these relationships were developed while maintaining overall revenue neutrality.

2. Market Rate Transition Rider

The Market Rate Transition Rider (MTR) is designed to facilitate the transition from the Company's current generation rates to the market-based SSO Generation Service rates discussed above. The MTR is a nonbypassable rider designed to limit the first and second year changes for any customer classes to uniformly transition any above- or below-average changes in three steps. Any revenue shortfall that is produced by limiting the increases for certain customer classes is collected from those classes whose decreases are limited.

On an annual basis, the sum of the credits provided and charges collected under the MTR should be zero (0). However, since actual customer usage by customer class will vary, the net of actual credits and charges could be greater than or less than zero (0). Since the intent of the MTR is neither to increase nor to decrease the Company's revenues, the Company proposes to include any over- or under-recovery in the quarterly FAC reconciliation. At the beginning of 2013, both the credits and the charges under the MTR would be reduced by approximately one-half. At the beginning of 2014, all credits and charges under the Market Transition Rider would end. The credits and charges for each year are shown in Exhibit DMR-3 within the testimony of Company witness Roush.

3. Fuel Adjustment Clause

The proposed ESP includes continuation and modification of a bypassable Fuel Adjustment Clause (FAC), as discussed in the testimony of Company witnesses Nelson, Moore and Mitchell. The Company is proposing to modify the FAC by removing renewable energy credits (RECs) currently recorded in Account No. 557 from the FAC, and recovering this expense through a new Alternative Energy Rider. In addition, bundled purchased power products, or REPAs, currently recorded in Account No. 555, will be split into their REC and non-REC components. The REC component will be recovered through the AER and the non-REC portion will continue to be recovered through the FAC. A summary and brief description of the types of fuel costs encompassed within the proposed FAC is found in the testimony of Company witness Nelson and Exhibit PJN-1, as is a description of the plants that the cost pertains to and a narrative pertaining to the procurement policies and procedures.

4. Environmental Investment Carrying Cost Rider

The proposed ESP includes continuation and modification of the Environmental Investment Carrying Cost Rider (EICCR). The Company is proposing some modifications to the existing rider, including changing it to be a nonbypassable rider. The EICCR will continue to recover the incremental environmental capital carrying costs incurred after 2009 as these are being recovered today. The Company is proposing that, first, it be permitted to forecast the cost, with a subsequent periodic true-up, in order to eliminate the lag that occurs today. Secondly, there are certain operating and maintenance expenses (O&M) associated with environmental equipment that are not being recovered in either the current environmental rider or the FAC, such as O&M associated with Flue Gas Desulfurization (FGD) equipment, that the Company seeks to include beginning in 2012. Additional details on the proposed rider are discussed in the testimony of Company witnesses Nelson, Moore and Mitchell.

5. Generation Resource Rider

The Generation Resource Rider (GRR) is a new nonbypassable rider designed to collect the costs associated with AEP Ohio's investment in generating facilities in accordance with §4928.143 (B) (2) (c), Ohio Rev. Code. This proposed rider is nonbypassable and is designed to recover renewable and alternative capacity additions, as well as, more traditional capacity constructed or financed by the Company and approved by the Commission. The rider will recover O&M and capital carrying costs and lease payments associated with the Company's investment in facilities dedicated to Ohio retail customers.

The proposed Turning Point solar project will be the first capacity resource addition to be included in the GRR. The Company has not yet determined the proposed rate level for the

nonbypassable charge for the life of the facility, because the final terms of the definitive agreements (including the capital lease payment) have not been established. Because the definitive agreements are being actively pursued through highly confidential negotiations, the Company proposes to make a separate filing proposing the rate level for the nonbypassable charge for the life of the facility – upon completion of the definitive agreements (Turning Point Charge filing). In order to demonstrate the need for the capacity associated with the Turning Point project, AEP Ohio filed a Supplement to its 2010 Long-Term Forecast Report on December 20, 2010 in Case Nos. 10-501-EL-FOR and 10-502-EL-FOR (LTFR Supplement filing). AEP Ohio proposes that the LTFR Supplement filing be consolidated, for purposes of hearing and decision, with the Turning Point Charge filing. To the extent it is necessary to implement the above-described approach, the Company requests a waiver of Rule 4901:1-35-03(C)(3) or (C)(9)(b), Ohio Admin. Code.

Additional details on the proposed rider and the Turning Point project are discussed in the testimony of Company witnesses Nelson, Godfrey, Roush and Mitchell.

6. Alternative Energy Rider

The proposed ESP includes establishment of a bypassable Alternative Energy Rider (AER). The Company is proposing to begin recovery of REC expense via the AER instead of the FAC starting in the proposed ESP. REC expense is the identified renewable value of cost associated with acquiring or creating renewable energy. The energy and capacity costs of renewable energy resources would continue to be recovered through the FAC. Additional details on the proposed rider are discussed in the testimony of Company witnesses Nelson, Moore and Mitchell.

7. Interruptible Service Rates

The proposed ESP includes modification and continuation of Interruptible Service Rates. AEP Ohio is proposing to entirely replace Schedule Interruptible Power – Discretionary (IRP-D) and Rider Emergency Curtailable Service (ECS) and eliminate Rider Price Curtailable Service (PCS). Riders IRP-D and ECS offer customers the opportunity to select the combination of interruptible services which best fit their needs. These offerings are intrinsically linked to AEP Ohio's obligations under the Fixed Resource Requirement alternative under the Reliability Assurance Agreement of PJM Interconnection, LLC. Therefore, AEP Ohio's proposed compensation to customers for being willing to interrupt is based upon the same capacity rates charged to CRES providers for their use of the Company's capacity resources. Additional details on the proposed rider are discussed in the testimony of Company witness Roush.

8. Rate Security Rider

The proposed ESP includes establishment of a bypassable Rate Security Rider (RSR), in recognition of the unique needs of commercial, industrial, and manufacturing customers, particularly those with energy intensive operations. Those customers rely on predictable and relatively stable electricity prices to support ongoing investment in their businesses. To enable a longer term, reduced pricing option for this limited segment of customers, AEP Ohio will commit to offer the ESP price for non-fuel generation service, less a stated discount, for an extended term of three additional years for each customer who, during the election period, makes an election to take SSO service from AEP Ohio for the entire (extended) term, subject to an early termination fee. Upon making such an election, the Company would enter into a standardized agreement with that customer and that customer would be eligible to receive the discount that

would be administered through the RSR. As discussed in the testimony of Company witnesses Hamrock and Roush , there are other limitations and conditions that apply to the RSR.

AEP Ohio wants to make clear that it is not requesting to extend the term of the proposed ESP through its proposal of the RSR's extended term. Rather, AEP Ohio is proposing the RSR such that customer agreements can be offered and entered into during the term of the proposed ESP. The fact that the term of the customer agreement will go beyond the term of the proposed ESP term does not change the 29-month term of the proposed ESP. AEP Ohio submits that § 4905.31, Ohio Rev. Code, is the basis for approval of the individual customer agreements. While AEP Ohio could file the individual customer agreements for approval in a similar manner that is followed for its mercantile agreements (via EL-EEC cases), AEP Ohio would prefer that the Commission utilize its authority under § 4905.31, Ohio Rev. Code, to approve the proposed RSR as part of the ESP such that it would incorporate a pre-approved standard customer agreement. There would be no "delta revenue" created under the RSR; non-participating customers do not pay for the discount and the Company would not recover the discount that is administered through the Rate Security Rider.

Additional details on the proposed rider are discussed in the testimony of Company witnesses Hamrock and Roush.

9. Facility Closure Cost Recovery Rider

The proposed ESP includes establishment of a nonbypassable Facility Closure Cost Recovery Rider (FCCRR). Due to the likelihood that some generation facilities will need to close during the ESP term, the Company proposes to establish a rider that would be funded and reconciled to actual cost on an annual basis. Closure costs categories include, but are not limited to, materials and supplies unique to the facility, environmental liabilities requiring action upon

facility closure, mitigation costs required by applicable existing or future environmental regulations, and legacy pension and benefit requirements; for facilities requiring early closure, costs may include undepreciated balances. Such closure costs would be offset by any salvage or proceeds related to the facilities' assets, materials and supplies, etc. Additional details on the proposed rider are discussed in the testimony of Company witnesses Thomas, Moore and Mitchell.

10. Carbon Capture and Sequestration Rider

The proposed ESP includes establishment of a Carbon Capture and Sequestration Rider (CCSR). AEP Ohio is requesting to recover its share of Phase I of the front-end engineering and design (FEED) study. The study, or Phase I of the Commercial Scale CCS project, is essential to the industry and the Company because: a) coal is an essential part of the current and future generation of electricity because of its abundance and versatility; b) the coal industry plays a significant role in the economy by the creation of jobs, and; c) provides a promising way of addressing current and future greenhouse gas regulation/legislation. Additional details on the proposed rider and CCS are discussed in the testimony of Company witnesses Nelson and Hamrock.

11. Green Power Portfolio Rider

The proposed ESP includes establishment of an optional Green Power Portfolio Rider (GPPR). The Company is proposing this voluntary option for customers that wish to purchase a larger proportion of their electricity from renewable resources than the levels required under S.B. 221. The GPPR gives customers the option to purchase 25%, 50%, 75% or 100% of their energy usage from renewable resources, with the resulting RECs being used for AEP Ohio's compliance with Section 4928.64, Revised Code. Customers that elect this option would be exempt from the

AER. All amounts collected under the GPPR would offset the costs paid by all other customers through the AER. To the extent necessary, the Company requests a waiver from the double counting prohibition found in Rule 4901:1-40-01(M), Ohio Admin. Code, in order to implement this program. Additional details on the proposed rider are discussed in the testimony of Company witnesses Hamrock and Roush.

12. Generation NERC Compliance Cost Recovery Rider

The proposed ESP includes establishment of a Generation NERC Compliance Cost Recovery Rider (NERCR). The Company is proposing this nonbypassable rider to recover generation-related costs to meet compliance requirements imposed by NERC. Additional details on the proposed rider are discussed in the testimony of Company witnesses Thomas, Mitchell and Moore.

13. Alternative Generation Rates for any “Bridge” period until merger closing

In the unlikely event that proposed merger of CSP and OPCo does not close by the 4th Quarter of 2011, the two companies propose alternative generation and POLR rates to be implemented during any “bridge” period starting in January 2012 until after the merger closing. These alternative contingency rates are discussed in the testimony of Company witnesses Hamrock and Roush.

14. Pool Termination or Modification Provision

On December 17, 2010 OPCo, CSP and other parties to the Interconnection Agreement (AEP Pool) provided written notice to each other of their mutual desire to terminate the existing agreement on three years notice in accordance with Article 13.2. The Interim Allowance Agreement (IAA) would be terminated concurrently with the AEP Pool. AEP has committed to enter into discussions with this Commission and other state commissions and stakeholders

(stakeholders) concerning the termination and whether any new affiliate agreement should replace it. These discussions are expected to continue through 2011 and perhaps longer. It cannot be known at this time, what, if any, agreement(s) may replace the current AEP Pool. Since the Company cannot predict the outcome of the discussions and subsequent FERC filings, it is desirable to have the ability to adjust rates for a significant change in the Company's generating cost resulting from either the elimination of the AEP Pool or from the substitution of a new agreement. Therefore, the Company is proposing the provision to recover any significant increase in costs if that were to occur during the term of this ESP plan, as further described in Company witness Nelson's testimony.

B. Provider of Last Resort Charge and Shopping Rules

The proposed ESP includes establishment of a nonbypassable Provider of Last Resort (POLR) charge. AEP Ohio is maintaining the current provisions concerning the process by which customers can switch to a Competitive Retail Electric Service (CRES) provider and return from a CRES provider to the standard offer service. This includes continuing its existing Commission-approved switching rules, switching charges and minimum stay provisions. Company witness Thomas discusses specific provisions regarding the ability of customers to relinquish their ability to return to standard offer service and avoid certain otherwise nonbypassable charges. Additional details of the POLR charge are discussed in the testimony of Company witness Thomas.

C. Transmission Rates

The Company proposes to retain the Transmission Cost Recovery Rider (TCRR) mechanism as it is presently comprised. Continuation of the TCRR is discussed in the testimony

of Company witnesses Mitchell and Moore. Annual filings for the TCRR will comply with the requirements of Chapter 4901:1-36, Ohio Admin. Code.

D. Distribution Rates

1. Distribution Investment Rider

The proposed ESP includes establishment of a Distribution Investment Rider (DIR). The purpose of this rider is to provide capital funding for distribution assets needed to support distribution asset management programs, distribution capacity and infrastructure additions driven by customer demand and support the continued implementation of advanced technology including AEP Ohio's gridSMART® initiative. Once established, the rider rate will be updated periodically. Additional details on the proposed rider are discussed in the testimony of Company witnesses Hamrock, Kirkpatrick, Moore and Mitchell.

2. gridSMART® Rider

The proposed ESP includes continuation of the gridSMART® Rider. While the rate is changing as part of the ESP to reflect one rate for the merged company, this is the same rider approved and addressed by the Commission in Case Nos. 08-917-EL-SSO, 08-918-EL-SSO and 10-164-EL-RDR. The rider rate will continue to be updated periodically. Additional details on the proposed rider are discussed in the testimony of Company witnesses Sloneker, Moore and Mitchell.

3. Enhanced Service Reliability Rider

The proposed ESP includes continuation of a Enhanced Service Reliability Rider (ESRR). While the rate is changing as part of the ESP to reflect one rate for the merged company, this is the same rider approved and addressed by the Commission in Case Nos. 08-

917-EL-SSO, 08-918-EL-SSO and 10-163-EL-RDR, updated to reflect the anticipated program costs in 2012-2014. The rider rate will continue to be updated periodically. Additional details on the proposed rider are discussed in the testimony of Company witnesses Kirkpatrick, Moore and Mitchell.

E. Energy Efficiency/Peak Demand Reduction Rider

The proposed ESP includes modification and continuation of a Energy Efficiency/ Peak Demand Reduction Rider (EE/PDR). While the rate is changing as part of the ESP to reflect one rate for the merged company, this is the same rider approved and addressed by the Commission in Case Nos. 08-917-EL-SSO, 08-918-EL-SSO, 09-1089-EL-POR and 09-1090-EL-POR. The rider rate will continue to be updated periodically. Additional details on the proposed rider are discussed in the testimony of Company witnesses Sloneker, Moore and Mitchell.

F. Economic Development Rider

The proposed ESP includes continuation and modification of a nonbypassable Economic Development Rider (EDR). The rate is changing to reflect one rate for the merged company, but this is the same rider approved and addressed by the Commission in Case Nos. 08-917-EL-SSO, 08-918-EL-SSO, 09-1095-EL-RDR and 10-1072-EL-RDR. The rider rate will continue to be updated periodically. Additional details on the proposed rider are discussed in the testimony of Company witnesses Hamrock, Moore and Mitchell.

As further discussed in the testimony of Company witness Hamrock, the new AEP Ohio Growth Fund will provide resources for attracting new businesses and helping AEP Ohio's existing business customers expand. The fund will be created from shareholder funds of as much as \$25 million over the term of the ESP, contingent upon certain conditions set forth in the testimony of Company witness Hamrock. Anticipated uses of these funds include but are not

limited to; short term rate incentives (*i.e.*, for startups and expansions), infrastructure investment, and direct support for public-private partnerships in the state and local economic development arena.

G. Continuation of Statutory and Existing Miscellaneous Riders

The Company plans to continue implementing other existing riders during the term of the proposed ESP.

V. New Accounting Deferrals and Recovery of Existing Regulatory Assets

Beginning in 2012, the Company plans to begin recovering the deferred fuel regulatory asset associated with the original ESP's phase in plan approved by the Commission in Case Nos. 08-917-EL-SSO and 08-918-EL-SSO. A rider, the nonbypassable Phase-In Recovery Rider as described by Company witnesses Nelson and Moore, will be designed to recover the phase-in deferral on a per-KWh basis from all customers. The impacts of the combined FAC and this deferral are virtually equivalent to charging each operating company's customers their standalone FAC and deferral costs. At the end of 2011, it is estimated that the phase-in deferred fuel balance for OPCo will be \$643 million and there will not be a balance for CSP. Company witness Mitchell provided details regarding the components of this balance for OPCo. The Company plans to begin recovery of the phase-in deferred fuel balance based on a separate rider rate filing later this year when the balance will be more accurately known. The Company plans to make this rider rate filing in conjunction with the 3rd quarter 2011 FAC filing. The rider will be effective January 1, 2012 as provided for in the Commission's order in Case Nos. 08-917-EL-SSO and 08-918-EL-SSO and will continue through December 31, 2018.

The proposed ESP includes approval for accounting deferrals including a major storm damage recovery mechanism proposal discussed in the testimony of Company witnesses Kirkpatrick, Moore and Mitchell.

The proposed ESP includes approval for accounting deferrals including a plug-in electric vehicle (PEV) cost proposal discussed in the testimony of Company witnesses Sloneker, Moore and Mitchell.

The proposed ESP includes approval for accounting deferrals for future recovery of net book value of retired meters related to the expansion of gridSMART[®] discussed in the testimony of Company witnesses Kirkpatrick and Mitchell.

VI. Work Papers

Filed with this Application is a complete set of work papers, in compliance with Rule 4901:1-35-03(G), Ohio Admin. Code. The work papers include all pertinent documents prepared by the Company for the Application and an explanation, narrative or other support of the assumptions used in the work papers. The work papers are marked, organized, and indexed according to the exhibits to which they relate. Data contained in the work papers is footnoted so as to identify the source document used.

VII. Waiver Requests

Under Rule 4901:1-35-02(B), Ohio Admin. Code, the Commission may grant requests to waive any requirement of Chapter 4901:1-35 for good cause shown. As discussed in Paragraph IV.A.5 above, to the extent it is necessary to implement the described approach regarding approval of the GRR and the Turning Point project, the Company requests a waiver of Rule 4901:1-35-03(C)(3) or (C)(9)(b), Ohio Admin. Code. To the extent that the relief requested in this application requires a waiver of any other filing requirements found in Chapter Rule 4901:1-

35, Ohio Admin. Code, the Company requests such a waiver. Further, while not a filing requirement, the Company described above in Paragraph IV.A.11 a request, to the extent necessary to implement the GPPR, a waiver from the double counting prohibition found in Rule 4901:1-40-01(M), Ohio Admin. Code.

VIII. Service of the Application

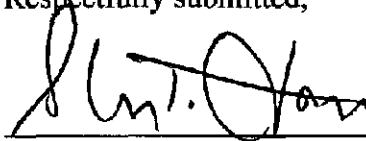
As required by Rule 4901:1-35-04(A), Ohio Admin. Code, the Company is providing, concurrent with the filing of this Application and any waiver requests, notice of the filings to each party in AEP Ohio's most recent SSO proceeding, Case Nos. 08-917 and 918-EL-SSO. The notice to those parties provides an electronic copy of the filing on a compact disk states that a copy of the Application and any waiver requests are available through the AEP Ohio and the Commission's websites, at the Company's main office, and at the Commission's offices.

In accordance with Rule 4901:1-35-04(B), Ohio Admin. Code, attached as Attachment 2 to this Application is a proposed notice for newspaper publication that fully discloses the substance of the Application, including projected rate impacts, and that prominently states that any person may request to become a party to the proceeding.

WHEREFORE, AEP Ohio requests that the Commission find and order as follows:

1. That the Company's proposed ESP is more favorable in the aggregate as compared to the expected results that would otherwise apply under section 4928.142 of the Revised Code."
2. That the Company's ESP be approved, including all accounting authority needed to implement the ESP as proposed;
3. That the Company's proposed tariffs be approved; and
4. That the Commission issue such other orders as may be just and proper.

Respectfully submitted,



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**Counsel for Columbus Southern Power
Company and Ohio Power Company**

Attachment 1



850 Tech Center Drive
Gahanna, Ohio 43230
(614) 716-1000

JOSEPH HAMROCK
President & Chief Operating Officer

January 27, 2010

The Honorable Chairman Steven R. Lesser
The Honorable Commissioner Valerie A. Lemmie
The Honorable Commissioner Paul A. Centolella
The Honorable Commissioner Cheryl Roberto
Public Utilities Commission of Ohio
180 East Broad Street
Columbus, Ohio 43215-3793

RE: *In the Matter of the Application of AEP Ohio*, Case No. 11-346-EL-SSO and Case No. 11-348-EL-SSO

Dear Chairman and Commissioners:

On behalf of the thousands of men and women of AEP Ohio I respectfully present our proposed Electric Security Plan (ESP) for your consideration. The environment in Ohio has evolved since the passage of SB 221 nearly three years ago, and we now find Ohio at a critical juncture. We are well into an era that requires significant policy decisions that will affect long-term economic opportunities for all Ohioans: decisions that pit the need for critical investment in electric generating assets against the volatility of current market mechanisms that may offer short-term benefits for customers, but with little promise of long-term investment and energy security; decisions that will set the tone for investment in the State, not just for utilities, but also for Ohio's manufacturers and other employers who depend on secure, reliable, and predictable electricity supplies as a basis for sustained investment and employment in the State. We trust that your balanced and thorough consideration of these matters as presented in this ESP will lead to sustained prosperity not just for the portions of Ohio that we serve, but ultimately for all Ohioans.

Since the passage of S.B. 221, CEOs of Ohio's investor-owned utilities have consistently indicated publicly that, they could see no path to investment in new generating assets under Ohio's current framework. The question before this Commission now is perhaps larger; can the current environment sustain needed investment in any generating assets, particularly the existing fleet that has served Ohioans so well for decades. The net effect is that there is a distinct risk Ohio could become an importer of electric power. As utilities face major decisions regarding whether to retire, retrofit, or replace existing assets, the regulatory framework adopted by this Commission will largely define the environment for those decisions. A framework biased toward current short-term market mechanisms will likely lead to retirement of critical assets, an irreversible course that will leave the State exposed to tighter supplies and the associated increases in market prices. And although they involve unique regulatory regimes, other states such as New Jersey and Maryland clearly recognized the need for long-term price certainty associated with generation capacity have undertaken substantial efforts to address that important set of issues. Because the loss of Ohio generation assets also reflects certain, though perhaps gradual, loss of Ohio jobs and a major loss of economic activity in some of Ohio's most vulnerable regional economies, AEP Ohio asks the Commission to take these same issues head on in Ohio as well. If left unaddressed, everybody would eventually lose. Under Market Rate Offers, the difference is perhaps only a more defined path to market prices, though likely ending ultimately with the same result for the State... a gradual loss of investment and jobs to surrounding states, and volatility for customers and investors.

Underpinning this perspective on the future is the fact that Ohio is increasingly viewed as one of the riskiest regulatory environments in the nation for electric utility investors. With growing uncertainty reflected in Federal and State policies regarding the future of coal, the potential for shale gas production in the region to cause a shift in market fundamentals, and the opportunity for customers to choose alternative suppliers, investment in Ohio is uniquely risky. And yet, Ohio utilities are subject to additional forms of risk through a vague retroactive test on earnings. These and other policies can favor competitive suppliers who do not carry the same long-term obligation to serve customers or invest in Ohio. This unique combination of risks increased by State policies is offset perhaps

only by the potential for nonbypassable recovery of new investments in supply and environmental compliance under certain circumstances, and the potential for recovery of plant closure costs when assets should be retired. This ESP proposal requests your consideration of such mechanisms to help reduce the risks that are of such grave concern to investors. Additionally, through the Turning Point Solar project, the ESP requests your support and regulatory recovery of significant new investment and creation of hundreds of new manufacturing jobs in Ohio. Of course, our shared goal is to balance the short- and long-term interests of all stakeholders through this proposal so that critical long-term investments can be made more confidently on both sides of our meters.

Under an imbalanced environment related to these policy decisions, the risks could easily outweigh the potential opportunities for investors (and ultimately customers), and the market rate offer could become the more appropriate course for AEP Ohio to choose. We currently prefer not to take that path, though our ultimate decision will necessarily reflect the manifestation of key policies embodied in Commission rulings, including the ultimate ruling on this proposed ESP. With great respect for the weight of these decisions, we request your consideration of the proposed ESP.

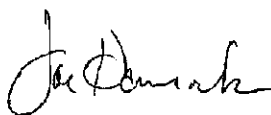
Building on more than a century of the privilege of serving our customers in 900 communities across 63 of Ohio's 88 counties, the men and women of AEP Ohio stand ready to continue that long tradition of service. We believe there is a path to a more secure and prosperous future for Ohio, a path that requires a broader and longer-term view of core policy issues than may be popular in this moment. This ESP proposal offers a solution that reflects current policies in the form of rates designed to be competitive with market prices, while preserving a path to sustained investment and longer-term price certainty for AEP Ohio's customers who need such certainty to compete in the global economy. In addition, a new AEP Ohio Growth Fund, which includes \$10 million per year in AEP shareholder contributions, will create significant private sector economic development resources to work in partnership with State and Local agencies and other private sector leaders to attract new investment and associated job growth across our service territory. We envision these resources providing direct support to the new JobsOhio program. We also propose to continue our significant support for less fortunate members of our communities by expanding our Partnership with Ohio fund, which is also funded by AEP shareholders.

This plan reflects a single set of tariffs for all AEP Ohio customers, reflecting the anticipated merger of Columbus Southern Power into Ohio Power. While the ESP includes a small base generation rate increase (less than 2% of total rates in 2012 and less than 3% in 2013), the move to a market-based rate design, consistent with state policy, will result in varying impacts for different customer groups. We are proposing a transitional mechanism to moderate these effects through the twenty-nine month term of this plan, and we have embedded other mitigating designs in the plan as well. The proposed POLR rate is standardized for all customers, and the methodology incorporates the effect of switching rules, resulting in a lower rate than would otherwise have been required. As anticipated, completing the current phase-in of FAC costs, and initiating the previously approved collection of the deferrals created by that phase-in will result in additional rate impacts for customers during the term of this plan, so we discuss the benefits of a securitization option to help mitigate those impacts.

Beyond the core generation components, we are also proposing continuation or expansion of our gridSMART programs, energy efficiency and demand response programs, and enhanced distribution investment programs, which have already proven beneficial to customers. We believe that all of these factors, perhaps most importantly the support for economic development goals we share with all Ohioans, contribute to an Electric Security Plan that is more favorable than a Market Rate Offer. We hope that you will agree.

The people of AEP Ohio look forward to working together with you and our partners across Ohio to implement this plan.

Sincerely,



Joseph Hamrock
President and Chief Operating Officer
AEP Ohio

cc: Kimberly W. Bojko, Chief of Staff, Public Utilities Commission of Ohio

Attachment 2

LEGAL NOTICE

Columbus Southern Power Company (CSP) and Ohio Power Company (OPCo) are subsidiary electric utility operating companies of American Electric Power Company, Inc. They conduct their combined business in Ohio as "AEP Ohio," and they are proposing to merge into one company. AEP Ohio has filed with the Public Utilities Commission of Ohio (PUCO) Case No. 11-346-EL-SSO and 11-348-EL-SSO, *In the Matter of the Application of Columbus Southern Power Company and Ohio Power Company for Authority to Establish a Standard Service Offer Pursuant to §4928.143, Ohio Rev. Code, in the Form of an Electric Security Plan*, and Case No. 11-349-EL-AAM and 11-350-EL-AAM, *In the Matter of the Application of Columbus Southern Power Company and Ohio Power Company for Approval of Certain Accounting Authority*. In these cases the Commission will consider AEP Ohio's request for approval of its new Electric Security Plan (ESP) that includes its standard service offer (SSO), effective with the first billing cycle of January 2012, through the last billing cycle of May 2014. The ESP, which includes the SSO pricing for generation, also addresses provisions regarding distribution service, economic development and job retention, alternative energy resource requirements, energy efficiency requirements and other matters. The SSO presents redesigned generation rates by customer class. In addition, the SSO rates are presented in two formats: one, as emanating from a combined company (pending the successful merger application of CSP and OPCo currently under consideration at the PUCO); second, as the individual companies CSP and OPCo. Rates for some customer classes will increase and rates for other classes will decline; however, on average for all customer classes, CSP customers will experience a 5 percent total generation rate increase (as a percentage of total bills) during the ESP period, while OPCo customers will see a 3.1 percent increase. AEP Ohio proposes to recover other costs through riders during the ESP period; however, those costs and the subsequent rate impacts are not known at this time.

Any person may request to become a party to the proceeding.

Further information may be obtained by contacting the Public Utilities Commission of Ohio, 180 East Broad Street, Columbus, Ohio 43215-3793, viewing the Commission's web page at <http://www.puc.state.oh.us>, or contacting the Commission's call center at 1-800-686-7826.

EXHIBIT NO. _____

BEFORE
THE PUBLIC UTILITIES COMMISSION OF OHIO

In the Matter of the Application of)	
Columbus Southern Power Company and)	
Ohio Power Company for Authority to	)	Case No. 11-346-EL-SSO
Establish a Standard Service Offer	)	Case No. 11-348-EL-SSO
Pursuant to §4928.143, Ohio Rev. Code,)	
in the Form of an Electric Security Plan.)	
In the Matter of the Application of)	
Columbus Southern Power Company and	)	Case No. 11-349-EL-AAM
Ohio Power Company for Approval of	)	Case No. 11-350-EL-AAM
Certain Accounting Authority.)	

DIRECT TESTIMONY OF
JOSEPH HAMROCK
ON BEHALF OF
COLUMBUS SOUTHERN POWER COMPANY
AND
OHIO POWER COMPANY

Filed: January 27, 2011

INDEX TO DIRECT TESTIMONY OF
JOSEPH HAMROCK

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8. Components and Objectives of the Electric Security Plan.....	17
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BEFORE
THE PUBLIC UTILITIES COMMISSION OF OHIO
DIRECT TESTIMONY OF
JOSEPH HAMROCK
ON BEHALF OF
COLUMBUS SOUTHERN POWER
AND
OHIO POWER COMPANY

1 **PERSONAL DATA**

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

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

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

6 A. I am employed by the American Electric Power Service Corporation (AEPSC), a
7 unit of American Electric Power (AEP). My title is President and Chief
8 Operating Officer of AEP Ohio. AEP Ohio is an operating unit of AEP and is
9 comprised of Columbus Southern Power Company (CSP) and Ohio Power
10 Company (OPCo), hereby collectively referred to as AEP Ohio or the Company.

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

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

1 **Q. WHAT IS YOUR EDUCATIONAL AND PROFESSIONAL**
2 **BACKGROUND?**

3 A. I earned a bachelor of engineering degree in electrical engineering in 1985 from
4 Youngstown State University. In 1999, I earned a master's degree in business
5 administration from the Massachusetts Institute of Technology in Cambridge
6 where I was a Sloan Fellow.

7 I joined AEP in 1986 as an electrical engineer and have worked over the
8 years in transmission and distribution planning as well as commercial and
9 industrial customer services. In Ohio, I am a registered professional engineer and
10 have held several positions including Director-Strategic Development, Executive
11 Assistant to E. Linn Draper Jr. (AEP's former Chairman, President and Chief
12 Executive Officer), Senior Vice President, General Services, and Senior Vice
13 President and Chief Information Officer (CIO). I have served in my current role
14 as President and Chief Operating Officer of AEP Ohio since January 2008.

15 **Q. HAVE YOU PREVIOUSLY SUBMITTED TESTIMONY BEFORE A**
16 **REGULATORY AGENCY?**

17 A. Yes. I have testified before the Public Utilities Commission of Ohio
18 (Commission) in AEP Ohio's Electric Security Plan (ESP) cases which are Case
19 No. 08-917-EL-SSO (CSP) and Case No. 08-918-EL-SSO (OPCo). Recently, I
20 filed testimony before the Commission in the Significant Excessive Earnings Test
21 (SEET) Case No. 10-1261-EL-UNC. Additionally, I submitted testimony before
22 the Public Utility Commission of Texas (PUCT) in PUC Docket No. 33309.

23

1 **PURPOSE OF TESTIMONY**

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

3 A. I am AEP Ohio's overall policy witness in the proposed ESP case which covers
4 the period from January 1, 2012 to May 31, 2014. My testimony will address a
5 number of policy topics relating to the proposed ESP filing. Topics to be covered
6 include, but are not limited to:

- 7 • Merger filing status;
- 8 • Witnesses in the ESP filing and their sponsored testimonies;
- 9 • AEP Ohio's long-term strategy;
- 10 • AEP as a industry leader;
- 11 • Objectives and components of the ESP filing;
- 12 • Unique risks within the state of Ohio; and
- 13 • AEP Ohio's support for economic development and low income customers.

14 **Q. ARE YOU SPONSORING ANY EXHIBITS AS A PART OF YOUR**
15 **TESTIMONY?**

16 A. Yes, I am sponsoring Exhibit JH-1.
17

18 **BACKGROUND**

19 **Q. PLEASE BRIEFLY DESCRIBE OHIO SENATE BILL 221 AND AEP**
20 **OHIO'S PREVIOUSLY FILED ESP CASE.**

21 A. Senate Bill 221 (S.B. 221) required electric utilities, beginning January 1, 2009, to
22 provide consumers with a standard service offer (SSO), consisting of either an
23 ESP or a market rate offer (MRO). Electric utilities may simultaneously apply for

1 both an MRO and an ESP, except where an electric utility has an approved MRO.
2 The law also provides customers with the right to choose suppliers, while the
3 incumbent utility remains obligated as the provider of last resort (POLR) for all
4 customers within its service territory regardless of each customer's current choice
5 of supplier. It is my understanding that under the statute, the standard by which
6 the Commission is to evaluate a proposed ESP is to determine whether the ESP is
7 more favorable in the aggregate than the expected results under an MRO. In
8 addition to these pricing options, S.B. 221 created a significantly excessive
9 earnings test (SEET), which introduced an entirely new risk for investors in Ohio
10 utilities. These constructs taken together have created a form of regulation which
11 is unique to Ohio and is proving to be quite dynamic and uncertain for utilities
12 and customers alike.

13 On July 31, 2008, AEP Ohio filed an application for a SSO in the form of
14 an ESP in Case Nos. 08-917-EL-SSO and 08-918-EL-SSO. On March 18, 2009,
15 the Commission issued an Opinion and Order (ESP Opinion and Order)
16 modifying and approving the Companies' ESP for the years 2009 through 2011.
17 On July 23, 2009, the Commission issued an entry on rehearing in the case. AEP
18 Ohio now respectfully requests that the Commission review and consider our
19 proposed ESP filing for the 29-month period January 1, 2012 through May 31,
20 2014 (2012-2014) timeframe.

21 **Q. WHAT ARE THE BARRIERS TO CONTINUING TO INVEST IN**
22 **GENERATION RESOURCES AND OFFER AN ESP-BASED SSO IN THE**
23 **STATE OF OHIO?**

1 A. There are a few fundamental barriers facing any utility attempting to offer a SSO
2 through an ESP that need to be addressed; ultimately each barrier is in need of
3 Commission direction to ensure the ability to attract the adequate investment
4 needed to provide the framework to offer a SSO in the form of an ESP. These
5 central issues involve risks related to environmental compliance, facility closure,
6 new generation investment, and recovery of capacity costs (currently pending
7 before the Commission in Case No. 10-2929-EL-UNC). If left unaddressed or
8 addressed in an adverse manner, by the Commission, the barriers limit the ability
9 of an Ohio utility to operate on a sustained basis under the ESP framework.
10 Without clarity by the Commission to overcome these Ohio regulatory challenges
11 as perceived by the investor community¹, the future of AEP Ohio generation
12 investment will be significantly altered and AEP Ohio will be pushed to offer a
13 SSO in the form of a MRO.

14 More specifically, Commission approval of nonbypassable treatment for
15 long-term generation investment is a critical finding needed by the Commission to
16 sustain such necessary investment. As discussed in greater detail below in my
17 testimony and through the testimony submitted by other Company witnesses, the
18 areas that need reasonable Commission approval include environmental
19 compliance costs, generation facility closure costs, and new generation resource
20 investment recovery. For example, without assurance of recovery of these items,
21 AEP Ohio must decide today whether to make substantial investments to comply
22 with environmental requirements in the face of potential loss of customers during

¹ Per Industry Overview of Electric Utilities and Competitive Power 1/18/2011 Research Analyst Report, Steve Fleishman, Bank of America Merrill Lynch research analyst.

1 periods of low market price levels, or to close a facility. At the same time, again
2 with little assurance of recovery, AEP Ohio would face the risky prospect of
3 building new generation resources to meet customer needs, while facing the same
4 risk of customer migration. Without the Commission being clear to the
5 investment community and to AEP Ohio that it will support recovery of these
6 necessary steps, the capital needed to ensure the utility is positioned to provide the
7 services needed under an ESP will continue to be harder to attract. Over time,
8 AEP Ohio will be forced to substantially decrease generation investment within
9 the state, thereby decreasing Ohio jobs, tax revenues and growth potential to not
10 only AEP Ohio generation, but with impacts across the entire supply chain.

11 Beyond the need for a clear indication of the Commission's support for
12 investment in generation resources and environmental compliance, the other core
13 policy issue in need of Commission support is recovery of existing capacity costs
14 through wholesale charges to Competitive Retail Electric Service (CRES)
15 providers. Without sustained recovery of capacity costs, AEP Ohio would be
16 providing CRES providers an anticompetitive subsidy. The subsidy would
17 undermine the explicit state policy referenced in §4928.02 (G), Ohio Rev. Code,
18 and allows for CRES providers to pay a much lower rate than AEP Ohio tariff
19 customers for use of the same capacity resources. Approval of AEP Ohio's
20 proposed capacity option ensures that Ohio CRES providers, that do not provide
21 their own capacity to meet their obligations within AEP Ohio's territory, are not
22 being unfairly subsidized. The Commission has an open docket, Case No. 10-
23 2929-EL-UNC, the outcome of which will ultimately bear upon the question of

1 whether AEP Ohio can sustain an ESP-based SSO. Thus, only with favorable
2 Commission treatment addressing the material portions of each investment barrier
3 discussed above will the Commission ensure the ability to attract adequate
4 investment needed to provide the regulated framework to offer a SSO under an
5 ESP.

6 **Q. HOW WILL THE COMMISSION ADEQUATELY ADDRESSING THESE**
7 **BARRIERS PROMOTE INVESTMENT IN THE STATE OF OHIO?**

8 A. By eliminating Ohio regulatory uncertainty associated with generation investment
9 and allowing AEP Ohio to recover costs associated with capacity, the
10 Commission will provide the investment community with more certainty and
11 open the doors to increased investment within the state of Ohio. AEP Ohio
12 prefers to remain in a properly designed regulated ESP as opposed to a SSO in the
13 form of a MRO. However, the Commission must commit to allowing an ESP to
14 work and not allow ad hoc changes from the regulatory system that prevent a
15 utility from recovering its full cost. For example, even states that have long
16 advocated the provision of generation service at market rates such as New Jersey,
17 with proposed legislation in Senate Bill 2381², and Maryland, under Case No.
18 9214 *In the Matter of Whether New Generating Facilities are Needed to Meet*
19 *Long-Term Demand for Standard Offer Service*, recognize that there is a need for
20 long-term price certainty associated with capacity.

² New Jersey Senate Bill 2381 exhorts, "To address the lack of incentives under the reliability pricing model, the construction of new, efficient generation must be fostered by State policy that ensures sufficient generation is available to the region, and thus the users in the State in a timely and orderly manner" "Fostering and incentivizing the development of a limited program for new electric generation facilities will help ensure sufficient capacity to stabilize prices to assist the State's economic development and create opportunities for employment in the energy sector while helping to reduce the cost and volatility of electricity prices in New Jersey."

1 Without Commission support for full cost recovery, it would be imprudent
2 and irresponsible for AEP Ohio to invest long-term capital into an unclear,
3 unstable cost recovery environment. Financial analysts have outlined the
4 regulatory insecurity within Ohio as evidenced in reports of downgrades for Ohio
5 utilities as of January 2011³. Effectively, without the Commission granting full
6 cost recovery and adequately addressing the barriers within the Ohio
7 unregulated/regulated market, the Commission will be preventing AEP Ohio from
8 sustaining generation investment within the state of Ohio.

9
10 **MERGER PROPOSAL FOR CSP AND OPCO PENDING**

11 **Q. HOW HAS THE PROPOSED MERGER OF CSP AND OPCO BEEN**
12 **ADDRESSED THROUGHOUT THIS ESP FILING?**

13 A. The proposed ESP has been developed as a merged filing, given the proposed
14 merger of CSP and OPCo, known collectively as AEP Ohio, that is currently
15 pending. The proposed merger between CSP and OPCo is found in the
16 Application for Authority to Merge and Related Approvals in Case No. 10-2376-
17 EL-UNC. All Company witnesses will refer to the operating companies as
18 "Company" or "AEP Ohio" and provide data and exhibits on a merged basis.
19 While the proposed application and supporting exhibits are presented for the
20 merged company, the documentation in the case and accompanying work papers

³ Citi 1/14/2011 Report: American Electric Power Co Inc (AEP) Downgrading as Ohio Regulatory Uncertainty Continues to Rise; J.P.Morgan 1/5/2011 Report: Downgrading DUK and AEP on Ohio Uncertainty; Macquarie (USA) 12/14/2010 Report: American Electric Power- Trapped in Ohio, the heart of it all.

1 include sufficient information for the ESP to be evaluated for OPCo and CSP
2 independently if needed.

3 Additionally, as clarified in the proposed merger application, both OPCo
4 and CSP will continue to provide retail electric services to customers within their
5 respective pre-merger territories until such time as the Commission approves new
6 rates, terms and conditions for the merged Company. If the merger is not closed
7 by the fourth quarter of 2011, then the Companies propose to charge the same
8 rates for CSP and OPCo as are being proposed in the ESP, pending the merger
9 closing, adjusted as appropriate to reflect the independent companies and rate
10 zones. If the merger is not closed by June 30, 2012, the Companies will file
11 appropriate amendments to provide separate rate plans for each of the Companies.
12

13 **WITNESSES IN THE CASE AND SPONSORED TESTIMONY**

14 **Q. HOW IS THE PROPOSED ESP FILING ORGANIZED?**

15 A. AEP Ohio has ten witnesses supporting various key issues for the proposed 2012-
16 2014 ESP filing. The following table – Table 1: Witnesses in the 2012-2014
17 ESP- summarizes and serves to introduce the witnesses, the general ESP subject
18 area they are sponsoring, and a brief description of their testimony.

Table 1: Witnesses in the 2012-2014 ESP

Witness	General Subject Area	General Description of Testimony
Joseph Hamrock	General Policy Witness Market Transition Rider (MTR) Green Power Portfolio Rider (GPPR) Economic Development Rider (EDR) Rate Security Rider (RSR)	<ul style="list-style-type: none"> • AEP strategy and industry leadership • AEP Ohio objectives, ESP components • Economic development & low income support
Philip Nelson	Fuel Adjustment Clause (FAC) Phase-In Recovery Rider (PIRR) Generation Resource Rider (GRR) Alternative Energy Rider (AER) Environmental Investment Carrying Cost Rider (EICCR) Carbon Capture and Sequestration Rider (CCSR) Pool termination & modification	<ul style="list-style-type: none"> • Cost recovery mechanisms for fuel, purchased power, and deferred fuel recovery • Generation resource, alternative energy renewable energy credit, and environmental rider components • Carbon capture and sequestration (CCS) • Pool termination and modification provision
Renee Hawkins	Securitization of Deferred Fuel	<ul style="list-style-type: none"> • Rationale and benefits of securitization of Deferred Fuel
Jay Godfrey	Renewable Portfolio Standard (RPS) and RPS approval process	<ul style="list-style-type: none"> • Ohio RPS compliance activities • New RPS contract process proposal
Thomas Kirkpatrick	Distribution Investment Rider (DIR) Enhanced Service Reliability Rider (ESRR) Storm Damage Recovery	<ul style="list-style-type: none"> • Overview and description of the Distribution investment rider, which includes investment in Distribution programs and continuing gridSMART® costs & enhanced reliability rider • Storm damage
Karen Sloneker	gridSMART®, Energy Efficiency (EE) Peak Demand Response (PDR) Plug-In Electric Vehicles (PEV)	<ul style="list-style-type: none"> • Completion of gridSMART® Phase 1 Rider and status • Collaborative of EE/PDR status and recovery through the existing rider • Introduction of PEV tariff proposal and recovery options
Thomas Mitchell	Regulatory accounting for certain riders including , but not limited to: Generation NERC Compliance Cost Recovery Rider (NERCR) Facilities Closure Cost Recovery Rider (FCCR)	<ul style="list-style-type: none"> • Regulatory accounting details for proposed riders
Andrea Moore	Rate design of : gridSMART® Rider, TCRR, FAC, AER, PIRR, EE/PDR, EDR, ESRR, EICCR, DIR, NERCR, FCCR, PEV, Provider of Last Resort (POLR) Rider, Storm Damage Recovery Mechanism	<ul style="list-style-type: none"> • Rate recovery design for continuation of certain riders, for proposed changes or additions to current riders, and/or recovery of new riders/tariff proposals • Pool termination and modification provision
David Roush	Tariffs and Rate Design for certain riders such as the MTR, GPPR, RSR, Standard Offer Generation Service Rider (GSR)	<ul style="list-style-type: none"> • Tariff rate design, generation rate realignment, rate terms and conditions (T&C), green power portfolio rate
Laura Thomas	Market Rate Offer (MRO) Test, POLR, FCCR, and NERCR	<ul style="list-style-type: none"> • ESP vs. MRO price development, POLR charge rationale, facilities closure concepts, generation NERC compliance cost recovery

1 The riders the witnesses are sponsoring in this case help ensure the
2 recovery of prudently incurred costs, and are consistent with other Ohio utility
3 riders that are in existence today. For example, in Case No. 07-478-GA-UNC,
4 Opinion and Order (April 9, 2008) and Entry on Rehearing (June 9, 2008), the
5 Commission approved a rider for Columbia Gas of Ohio that provides a funding
6 source to support Columbia's riser replacement, customer service line
7 replacement, and accelerated main replacement programs, which were initiated in
8 early 2008. In Case No. 10-388-EL-SSO, Opinion and Order (August 25, 2010),
9 as part of its approval of the Combined Stipulation in FirstEnergy's most recent
10 SSO case, the Commission approved the proposed Distribution infrastructure
11 rider, DCR, and a rider to recover the costs of FirstEnergy's smart grid plan. In
12 Case No. 09-543-GE-UNC, Opinion and Order (May 13, 2010), approving the
13 stipulation that established Duke Energy Ohio's distribution infrastructure cost
14 recovery mechanism, including a provision for the recovery of smart grid costs.

15
16 **LONG TERM STRATEGY**

17 **Q. WHAT IS AEP OHIO'S VISION FOR THE FUTURE?**

18 A. AEP Ohio believes that safe, reliable, and reasonably-priced electricity is a
19 critical component to the economic vitality of our nation, particularly in the state
20 of Ohio. Within Ohio, energy intense manufacturing and industrial firms have
21 long been the foundation of economic activity. Today, many of those firms face
22 increasingly fierce global competition and volatile markets, which impact their
23 short and long-term strategies. AEP Ohio understands that predictable energy

1 prices are essential to sustain these manufacturers' competitiveness. While the
2 competitive landscape is changing for these customers, the fundamental drivers of
3 the electricity industry are changing dramatically as well, and AEP plays a key
4 role in those changes. Through various state regulatory commissions, multi-
5 jurisdictional legislative processes, and collaboration with our partners and
6 stakeholders, AEP is helping to improve the way that electricity is generated,
7 transmitted, distributed and consumed to help position our customers for
8 sustained growth. National energy policy changes are underway or anticipated,
9 and AEP has already embraced some of these changes through investments in
10 clean energy production initiatives; environmental retrofits to existing assets;
11 transmission infrastructure reliability enhancements; comprehensive energy
12 efficiency programs; and by taking an active part in educating and communicating
13 impacts of electricity proposals within various policy arenas. Perhaps most
14 importantly, AEP Ohio advocates a gradual and orderly transition through any
15 changes so that the cost impact can be mitigated for customers.

16 **Q. HAS AEP OHIO TAKEN INTO CONSIDERATION THE COST TO**
17 **CUSTOMERS OF IMPLEMENTING ITS PLAN?**

18 A. While the economic situation has been difficult over the last several years, there
19 are signs of slow improvement. AEP Ohio realizes that while many customers are
20 constrained in the short-term by the economic hardships of today, these same
21 customers expect adequate power quality and service reliability, along with
22 options regarding implementation of environmental and renewable regulations.
23 And, as always, customers want safe and affordable energy that meets their needs.

1 Thus, AEP Ohio has responded within the proposed ESP with base generation
2 rates that more closely reflect the structure of market conditions. AEP Ohio
3 recognizes that the proposed changes in rate structure will have varying rate
4 impacts on the generation rates paid by different customer classes. Therefore, the
5 proposed ESP features a market transition mechanism designed to mitigate the
6 effect of large rate changes for affected customer classes. Please see Company
7 witness Roush for further detail on the Market Transition Rider. AEP Ohio's
8 proposed ESP filing strikes the right balance between all factors while
9 safeguarding our customers and stakeholders against market risks and providing
10 for sustained economic development within the state of Ohio.

11 **Q. PLEASE SUMMARIZE HOW S.B. 221 IMPACTS AEP OHIO IN**
12 **ACHIEVING ITS PLAN FOR THE FUTURE**

13 A. The passage of S.B. 221 has adjusted AEP Ohio's plans for the future.
14 Effectively, in Ohio's current environment, a realignment of long-term strategy
15 for all Ohio utilities is in order to adapt business models in the face of
16 increasingly dynamic Ohio market conditions. For example, while CSP and
17 OPCo are two distinct Ohio legal entities, the entities have operated as one
18 business unit for nearly two decades. A number of provisions of S.B. 221, such
19 as the advanced and alternative energy standards and the energy efficiency
20 standards, must be managed at the individual operating company, requiring AEP
21 Ohio to incur costs and track program spending and results at a more detailed
22 level. These requirements can lead to extra administrative burdens for AEP Ohio
23 and the Commission. Thus, AEP Ohio has recently applied with the Commission

1 to merge its two Ohio operating companies. Separately, the merger application
2 process will continue over the next few months through associated filings with the
3 Federal Energy Regulatory Commission (FERC) in Docket No. EC11-37-000.
4 These steps and outcomes, which are anticipated to provide benefits to our
5 customers, also advance the state of Ohio policy requirements as reflected in S.B.
6 221. Some of the anticipated benefits of the merger include common Ohio
7 customer programs and performance standards as well as consolidation of
8 reporting and performance management processes and credit metrics.

9 Additionally, S.B. 221 and Ohio's Renewable Portfolio Standard (RPS)
10 impact AEP Ohio investment planning to meet compliance mandates. AEP
11 Ohio's announcement of a long-term pact with Turning Point Solar LLC, a new
12 Ohio joint venture company, to help orchestrate the largest commercial solar
13 development east of the Rocky Mountains represents a significant action to
14 comply with state standards. Through its support of this project, AEP Ohio is
15 playing a proactive, instrumental role with advancing renewable energy while
16 helping with locating the facility on approximately 650 acres within the state to
17 create new Ohio jobs. The economic opportunities associated with this activity
18 for the state of Ohio are the result of AEP Ohio's commitment and adherence to
19 S.B. 221 requirements. Please see Company witness Godfrey's testimony for
20 additional detail associated with this solar investment project.

21 Finally, AEP Ohio continues to develop and implement energy efficiency
22 and demand response programs, gridSMART® initiatives, distribution reliability
23 programs, environmental investment initiatives, and economic development

1 programs which allow for a balanced and progressive approach to conducting
2 business within the requirements of S.B. 221. Many of the programs are
3 continuations from the initial 2009-2011 ESP, while some new proposals, such as
4 the Alternative Energy Rider (AER), reflect innovative adaptations to an
5 increasingly dynamic market. With a deliberate, balanced approach, AEP Ohio
6 believes the adapted long-term plan reflected in our proposed ESP provides
7 stable, predictable pricing for Ohioans while managing the inherent risks of the
8 marketplace.

9
10 **AEP AS AN INDUSTRY LEADER**

11 **Q. HOW DO AEP AND AEP OHIO MAINTAIN ENERGY INDUSTRY**
12 **LEADERSHIP?**

13 A. Throughout its century-plus history, AEP has led the industry through
14 enhancements and technological advances to the generation, transmission, and
15 distribution components of the electric industry. Some examples of these
16 advancements are the first supercritical coal-fired generating plant, development
17 and construction of 765-kV transmission lines, and deployment of sodium-sulfur
18 (NAS) batteries. AEP has also created new and innovative ways to provide power
19 for today while preparing for the needs of tomorrow. Our commitment to
20 environmental compliance is evidenced by our focus on finding reasonable,
21 achievable, and affordable solutions to meet increasingly stringent state and
22 federal energy regulations that properly address environmental issues in a
23 realistic, cost effective manner.

1 Additionally, in implementing the Commission's Alternative Energy
2 Portfolio Standard rules, AEP Ohio led a DSM collaborative during the 2009-
3 2011 ESP period to develop energy efficiency and demand response programs for
4 all customer segments, as outlined in Case No. 09-1089-EL-POR and Case No.
5 09-1090-EL-POR. Through implementing these programs, AEP Ohio customers
6 have the potential to save approximately \$630 million in reduced electricity bills
7 over the life of the programs, helping to reduce power plant emissions. As our
8 Portfolio Status Report indicates, AEP Ohio's energy efficiency and peak demand
9 response programs were very successful in 2009, achieving the benchmark
10 requirements for both areas.

11 In response to S.B. 221, AEP Ohio has demonstrated its leadership in the
12 industry by embracing and harnessing new generation resources such as wind,
13 biomass and solar to comply with Ohio's renewable portfolio standard. In
14 August 2010, AEP Ohio initiated a process that would not only build solar and
15 wind facilities in Ohio, but help the alternative energy supply chain grow and
16 develop in the state. The goal is to increase alternative energy jobs in the state of
17 Ohio and across the entire electricity supply chain. Ohio's first utility-scale solar
18 power facility, an 80-acre project located in Wyandot County, produces 10
19 megawatts (MW) of energy. All of the output and renewable energy credits from
20 the Wyandot project are committed to AEP Ohio through a long-term purchased
21 power contract. Please see the testimony of Company witness Godfrey for further
22 details on the Wyandot contract.

1 **COMPONENTS AND OBJECTIVES OF THE ESP**

2 **Q. WHY DOES THE TIMEFRAME OF AEP OHIO'S PROPOSED ESP END**
3 **ON MAY 31, 2014?**

4 A. AEP Ohio has filed the proposed ESP to cover the 29-month period from January
5 1, 2012 through May 31, 2014 since the May date better aligns with PJM
6 Interconnection's (PJM) annual planning cycle which also concludes May 31 of
7 every year.

8 **Q. WHAT IS THE PRIMARY OBJECTIVE FOR AN ESP?**

9 A. As discussed in the Commission's first ESP Opinion and Order for AEP Ohio, the
10 primary objective of an ESP is to stabilize rates and support the economic
11 development of the state of Ohio.

12 **Q. WHY IS AEP OHIO SUBMITTING AN ESP?**

13 A. The proposed AEP Ohio ESP incorporates commitments and programs that
14 balance and stabilize the interests of both customers and investors over the 2012-
15 2014 timeframe and into the future. The plan establishes a competitive ESP offer
16 price that supports infrastructure investment, which helps establish long term
17 energy security for customers. Further, the proposed ESP continues to support
18 compliance with existing benchmarks concerning advanced energy, renewable
19 energy, and energy efficiency and demand response programs. The ESP aligns
20 with AEP's long term vision, promotes S.B. 221 state policies, provides
21 environmental benefits, and supports economic development within the state of
22 Ohio.

1 As will be evident throughout the proposed ESP testimony detail of the
2 Company witnesses, AEP Ohio is submitting this ESP to provide stability for
3 customers by providing a comprehensive, full range solution to issues that are
4 broader than a simplistic focus on a SSO for competitive electric retail services
5 only. The proposed ESP also addresses issues that will help sustain critical
6 investment in Ohio's electricity infrastructure which will support jobs for Ohioans
7 and an essential tax base to fund Ohio's ongoing needs.

8 **Q. WILL AEP OHIO SUBMIT AN MRO IF THE PROPOSED ESP IS NOT**
9 **ADOPTED?**

10 A. AEP Ohio intends to file an MRO if the Commission materially modifies the
11 proposed ESP. The terms of the proposed ESP offer AEP Ohio customers
12 financial stability and a reasonable electricity rate while offering investors the
13 opportunity for reasonable financial stability in a uniquely risky environment.
14 Each of the major components of the proposed ESP are critical to AEP Ohio's
15 future and need to be addressed in order for the Company to remain in a regulated
16 ESP plan. Substantial investment is needed in order to maintain and replace AEP
17 Ohio's generation assets into the future. Based on planned unit retirements and
18 environmental requirements, timely and certain recovery of generation
19 investments is needed in order for AEP Ohio to remain in a regulated ESP plan.
20 Thus, even though an MRO eliminates the possibility of going back to an ESP
21 plan in the future, without the terms of the proposed ESP favorably approved by
22 the Commission, AEP Ohio will be pushed into an MRO proposal.

1 **Q. WHAT OTHER GENERATION-RELATED COSTS ARE CRITICAL FOR**
2 **AEP OHIO TO ADDRESS THROUGH ITS ESP?**

3 A. In addition to ensuring recovery of environmental compliance and new generation
4 resource costs, a regulated SSO price must also provide for recovery of facility
5 closure costs. Moreover, AEP Ohio needs to recover its renewable and advanced
6 energy compliance costs and would like to invest in Ohio-based environmental
7 and advanced energy generation resources provided it receives timely and certain
8 cost recovery. In addition, AEP Ohio needs to timely recover its fuel costs,
9 POLR costs, and energy efficiency and peak demand reduction compliance costs
10 in order to prevent regulatory lag. Regulatory lag in recovery of investment can
11 mean that necessary funding will not be available for needed capital investment in
12 the near term. If the Commission is not committed to providing timely and
13 certain recovery of such generation investments, then AEP Ohio will need to take
14 its generation assets to market through an MRO in order to better match the risks
15 and rewards of making such long-term generation investments. The MRO
16 scenario would also necessitate the legal separation of AEP Ohio's generation
17 assets as envisioned by SB 3.

18 **Q. ARE THERE ANY OTHER MAJOR COMPONENTS OF THE**
19 **PROPOSED ESP?**

20 A. Yes. Another major component of the proposed ESP is the rate design
21 realignment that will allow AEP Ohio to better reflect its costs in base generation
22 rates.

1 **Q. SHOULD THE COMMISSION TAKE A SHORT-TERM VIEW OF THIS**
2 **CASE BASED ON CURRENT MARKET PRICES FOR ELECTRICITY**
3 **AND FUTURE GENERATION RELATED-COSTS?**

4 A. No. I would hope that the Commission takes a long-term view of these issues and
5 recognizes the importance of electric utility investment in Ohio-based resources
6 that will serve Ohio electric load for many years to come. I believe this is the best
7 path for ensuring reliability of electric supply while maintaining rate stability into
8 the future for our customers. This action will thereby enable the State of Ohio to
9 promote economic development which will retain and attract jobs and investment
10 in Ohio's economy. Applying that long-term view clearly yields the conclusion
11 that the proposed ESP should be adopted.

12 **Q. IS THERE CAUSE FOR CONCERN THAT THE COMMISSION MAY**
13 **NOT BE INCORPORATING SUCH LONG-TERM CONSIDERATIONS?**

14 A. Perhaps. In the initial ESP cases involving AEP Ohio, the Commission denied
15 the request for authority to transfer the Darby and Waterford generating stations.
16 CSP had obtained the stations under deregulation and was denied authority to
17 transfer those assets in the original ESP case. Further, CSP was denied any
18 incremental revenue to support those significant generation investments during
19 the ESP. In another case, under a provision that was approved as part of the ESP
20 decision, OPCo filed an application in Case No. 10-1454-EL-RDR proposing
21 recovery of plant closure costs for Unit 5 of the Sporn Generating Station and
22 requesting timely financial and accounting relief by the end of 2010; the end of
23 2010 has come and gone without a decision or even a procedural schedule having

1 been made in that case. The Commission also recently opened Case No. 10-2929-
2 EL-UNC and established an interim state compensation mechanism for payment
3 by CRES providers for use of AEP Ohio's capacity resources that is not adequate.
4 The trajectory of these cases does present some concern about the level of
5 regulatory support for AEP Ohio making long-term investments that maintain and
6 expand AEP Ohio's generation resources to provide a long-term reliable supply of
7 electricity at stabilized rates. Regardless of those prior cases, however, the
8 outcome of this case will be the true test and will be the decision that significantly
9 impacts the future path for AEP Ohio. I am hopeful that the Commission will
10 recognize the strategic importance of this case and choose the path of promoting
11 investment and maintaining rate stability – by adopting the proposed ESP.

12 **Q. IF THE PROPOSED ESP IS NOT ADOPTED AND AEP OHIO**
13 **ESTABLISHES ITS SSO RATES UNDER AN MRO, HAS AEP OHIO**
14 **PROJECTED WHAT ITS RETAIL GENERATION RATES WOULD BE?**

15 **A.** Yes, AEP Ohio has developed the resulting customer rates that would occur under
16 an MRO. The overall level of rates under an MRO would increase relative to the
17 proposed ESP rates based on the calculations in Company witness Thomas'
18 Exhibit LJT-2.

19 The rate design under an MRO would follow the same structures proposed
20 for the ESP rates, which are designed to mimic market pricing models. However,
21 the market transition rider and the optional rate extension plan would not be
22 available under an MRO, and the ability to fund low income programs and
23 economic development activities would have to be reevaluated by the Company.

1 Please see the testimony of Company witness Roush for more detail on rate
2 design matters.

3 **Q. PLEASE SUMMARIZE THE MAJOR COMPONENTS OF THE ESP IN**
4 **THIS CASE**

5 A. The 2012-2014 AEP Ohio ESP contains a balanced set of customer programs,
6 investment proposals, supply options, and associated rate mechanisms. In
7 addition, AEP Ohio proposes to continue supporting low-income customers
8 through a proposed extension of the Partnership with Ohio Fund, while also
9 launching a new AEP Ohio Growth Fund aimed at supporting economic
10 development throughout AEP Ohio service territory.

11 Customer benefits include continuation and expansion of the
12 gridSMART® programs, which offer customers advanced energy information and
13 control through a modernized distribution infrastructure which also supports
14 improved service reliability. Company witness Kirkpatrick discusses these
15 investments, as well as a comprehensive distribution investment plan designed to
16 enhance system performance and reliability for customers. This investment plan
17 also reflects a continuation of the successful vegetation management program that
18 was previously approved by the Commission. Among the new features in this
19 ESP is a renewable power option for qualifying customers who want to source
20 significant portions of their energy usage from AEP Ohio's renewable portfolio.
21 Company witness Roush discusses this offering through the Green Power
22 Portfolio Rider. A new tariff to support customers who choose plug-in electric

1 vehicles is discussed by Company witness Sloneker along with AEP Ohio's
2 innovative energy efficiency programs that will continue through the ESP period.

3 The proposed ESP supports ongoing investment in Ohio, not only in the
4 delivery infrastructure as noted above, but also for AEP Ohio's generating assets.
5 Taken together the supply and delivery business segments form the foundation of
6 AEP Ohio's substantial economic impact in the state, which is estimated to
7 exceed \$2 billion annually. These activities include payroll taxes associated with
8 thousands of Ohio jobs, purchases of Ohio goods and services, taxes that provide
9 critical funding for Ohio schools, infrastructure, and public services, and
10 substantial philanthropic support across Ohio.

11 Investments in the generation business have become extremely risky in
12 Ohio due to a combination of market dynamics, uncertain environmental policy,
13 and Ohio's unique regulatory framework. Left unaddressed, these factors will
14 likely lead to a significant loss of generation investment in Ohio, particularly
15 since surrounding states offer more supportive environments for those
16 investments. This ESP proposes to partially mitigate those risks by continuing
17 environmental cost recovery for new environmental investments on AEP Ohio
18 generating assets, and through nonbypassable recovery of certain investments that
19 would not be likely without such assurance of recovery. Company witness
20 Nelson addresses these topics in his testimony.

21 **Q. CAN YOU SUMMARIZE THE RATE PROPOSALS INCLUDED IN THE**
22 **PROPOSED ESP?**

1 A. The overall framework of rates proposed in this ESP reflects continuation of or a
2 modification of a number of mechanisms including: the fuel adjustment clause
3 (FAC), Provider of Last Resort (POLR) option, Environmental Investment
4 Carrying Cost Rider (EICCR), Transmission Cost Recovery Rider (TCRR),
5 Economic Development Rider (EDR), Energy Efficiency and Peak Demand
6 Response (EE/PDR) rider, gridSMART® Rider, and Enhanced Service Reliability
7 Rider (ESRR). New mechanisms proposed in this ESP include: Generation
8 Resource Rider (GRR), an Alternative Energy Rider (AER), Standard Offer
9 Generation Service Rider (GSR), Market Transition Rider (MTR), Distribution
10 Investment Rider (DIR), Generation NERC Compliance Cost Recovery Rider
11 (NERCR), Phase-In Recovery Rider (PIRR), Facilities Closure Cost Recovery
12 Rider (FCCR), Green Power Portfolio Rider (GPPR), Carbon Capture and
13 Sequestration Rider (CCSR), Rate Security Rider (RSR), and a plug-in vehicle
14 tariff, a storm damage recovery mechanism, and a pool termination and
15 modification provision. A comprehensive schedule of rate mechanisms is found
16 in Exhibit DMR-4 to the testimony of Company witness Roush. Details on the
17 accounting treatment for certain of these mechanisms can be found in the
18 testimony of Company witness Mitchell.

19 **Q. CAN YOU BRIEFLY SUMMARIZE THE PROPOSED ESP RATE**
20 **DESIGN?**

21 A. The overall ESP pricing reflects a more favorable option in the aggregate than the
22 expected MRO results as discussed and supported by Company witness Thomas.
23 For customers with both demand and energy metering, the rate design no longer

1 reflects AEP Ohio's legacy tariff structures, opting instead for a design that is
2 more reflective of current market structures, which typically reflect costs in
3 energy (KWh) rather than demand (KW) billing determinants. This approach
4 offers customers a more straightforward comparison to market offers, and
5 facilitates a shift toward rates and structuring that is consistent with the
6 framework constructed by S.B. 221 for all customer classes. Since this approach
7 to rate design modifies current rate structuring, AEP Ohio's customers will
8 experience varying changes to their total bill. In recognition of the need for
9 predictable rates with modest changes over time, the plan proposes a number of
10 mechanisms for mitigating rate impacts. A securitization plan discussed by
11 Company witness Hawkins would reduce the impact of collecting deferred costs.
12 The revenue-neutral MTR will provide transitional charges and offsetting credits
13 to mitigate the impact for customers most affected by the shift to market-based
14 rates as explained in the testimony of Company witness Roush.

15 The base generation rates also reflect a new green power option for
16 customers who want to source more of their requirements from AEP Ohio's
17 renewable portfolio. These rate options reflect a preset blend of AEP Ohio's
18 renewable portfolio costs (all sources), and the corresponding generation rate
19 from the associated tariffs. This approach has the added benefit of reducing rates
20 for other customers by shifting renewable portfolio costs away from the recovery
21 mechanisms that apply for all customers.

1 **Q. IN ADDITION TO MITIGATING RATE IMPACTS, HOW WILL AEP**
2 **OHIO PROVIDE SUPPORT TO LOW INCOME CUSTOMERS DURING**
3 **THE ESP PERIOD?**

4 A. AEP Ohio proposes continuation of the Commission's previously-approved
5 Partnership with Ohio Fund at an increased level that helps mitigate the impact of
6 the lingering economic downturn for AEP Ohio's low-income customers. In the
7 proposed ESP, a total of approximately \$6 million in 2012, \$6 million in 2013,
8 and \$2.5 million in 2014 will be shareholder funded over the proposed ESP period
9 contingent on the Company's annual actual earnings results. For example, after
10 the books close in December 2011, the mean of the most recent comparable group
11 for the SEET earnings will be compared to the annual actual 2011 AEP Ohio
12 return-on-equity (ROE). Provided that the actual annual ROE is greater than the
13 comparable group mean, then the Partnership With Ohio annual obligation will be
14 funded incrementally each year.

15 The funding will support a number of programs including the Neighbor to
16 Neighbor Fund that helps qualifying customers pay their electricity bills. AEP
17 Ohio's Partnership With Ohio Fund has also provided substantial support to food
18 banks and United Way funded programs across the AEP Ohio territory, as well as
19 an innovative set of programs to support education and job retraining for
20 customers affected by the economic downturn.

21 **Q. PLEASE SUMMARIZE WHY THE PROPOSED ESP IS REASONABLE**

22 A. AEP Ohio's 2012-2014 ESP best serves the public interest by offering a price that
23 is more favorable in the aggregate than the expected results under an MRO. This

1 is substantiated by the MRO test discussed and represented in Company witness
2 Thomas's testimony. In addition, the proposed ESP offers programs such as the
3 Turning Point project, the Partnership With Ohio Fund, and the tariff options that
4 support Ohio's economic development efforts, offer customers price stability, and
5 that align to the provisions as set forth in state of Ohio policy reflected in Section
6 4928.02(A), Ohio Revised Code, which requires reasonably priced retail electric
7 service. Further, the decision to use a MRO is permanent, exposing customers to
8 future market prices that are volatile and uncertain. AEP Ohio believes the
9 proposed ESP is reasonable and it is in our customer's best interest to accept the
10 proposed ESP solution that offers aggregate benefits such as our commitment to
11 economic development, environmental capital investments, distribution
12 infrastructure investments, innovative mitigation of rate impacts, renewable
13 power options, and a more stable, reasonably priced retail service offer.

14 **Q. PLEASE DESCRIBE THE POLR OBLIGATION**

15 A. As a part of Ohio legislation, Ohio shopping customers are free to choose a
16 generation service provider from CRES providers, but can continue to rely on
17 their incumbent utility should they choose to return or should the CRES provider
18 default on their obligations to the customer. AEP Ohio is exposed to generation
19 service load loss when market prices are low, but generation load recovery when
20 market prices are high. AEP Ohio doesn't have a guarantee of sufficient earnings,
21 or even cost recovery if market prices are low. While customers may benefit in
22 the short run when market prices are low, in the long run, customers face the risk

1 of high market prices which are likely to occur as the economy recovers and as
2 utility generation is retired.

3 Since customers have the option to take service from the Company, the
4 Company bears the risk of providing that option. POLR charges collect the cost
5 of that option, not the cost of the underlying generation and energy needed to
6 serve the customer. Those costs are recovered through other generation rates for
7 customers who take service from the Company or through charges from a CRES
8 provider. This structure, where one party is holding the opportunity for financial
9 benefit, while the other party is holding the risk of financial loss, is the premise
10 behind AEP Ohio's proposed mechanism to recover the cost of providing its
11 POLR obligation under a nonbypassable rider. This is further predicated on the
12 fact that CRES providers do not assume the POLR risk. Additionally, I have been
13 advised by Counsel that this regulatory treatment is consistent with Section
14 4928.02(G), to recognize the continuing emergence of competitive electricity
15 market through development of flexible regulatory treatment. For more detail on
16 this topic, please see the testimony of Company witness Thomas.

17 **Q. PLEASE ELABORATE ON AEP OHIO'S POSITION REGARDING**
18 **RENEWABLES STANDARD RESOURCE REQUIREMENTS.**

19 A. AEP Ohio has complied with the renewable resource requirements set forth in
20 Section 4928.64 (B)(2), Ohio Revised Code, and has contracted with wind and
21 solar developers to invest in applicable renewable resources and achieve the
22 necessary levels of compliance in the most cost effective manner available. In the
23 proposed ESP, these contracts and additional renewable pacts will be secured to

1 meet future compliance goals and help spur Ohio economic development.
2 Additionally, the 2012-2014 ESP contains a proposed approval process to obtain
3 regulatory contract approval. Please see Company witnesses Godfrey and Nelson
4 for specifics regarding renewable supplies and the proposed contract approval
5 process.

6 **Q. PLEASE ELABORATE ON THE GPPR RIDER**

7 A. Today, there is an increased customer awareness surrounding renewable energy.
8 As a result, AEP Ohio proposes to offer its customers an option to choose to
9 purchase more of their supply from renewable energy sources. Through new
10 renewable power options, customers can purchase at least 25% of their energy
11 from AEP Ohio's renewable supply portfolio. Customers who choose these
12 options would be exempt from the proposed AER. As mentioned earlier this
13 would further reduce the cost of overall renewable compliance requirements for
14 other customers. Please see the testimony of Company witness Roush for more
15 details on the GPPR rider.

16
17 **UNIQUE RISKS WITHIN THE STATE OF OHIO**

18 **Q. FROM THE PERSPECTIVE OF AEP OHIO, WHAT ARE SOME RISKS**
19 **ASSOCIATED WITH UTILITY INVESTMENT IN THE STATE OF**
20 **OHIO?**

21 A. Aspects such as time of year, economic conditions, or physical location can
22 impact the ranking of risks. From the perspective of AEP Ohio during the
23 proposed 2012-2014 ESP, some of the most prevalent risks include customer

1 migration, the cost of compliance with new and anticipated environmental
2 regulations, customer expectations of sustained low power costs, and a stagnant
3 economy. In addition, even with AEP Ohio's proven ability to maintain some of
4 Ohio's lowest electricity rates while continuing to attract substantial investment to
5 the state, the continuing uncertainty associated with the SEET creates significant
6 additional risk for investors.

7 **Q. CAN YOU EXPLAIN THE CUSTOMER MIGRATION RISKS MORE**
8 **FULLY?**

9 A. Yes. Over the last few years, Ohio market prices have dropped which has
10 increased the potential for customer switching. While in the short-term, customer
11 switching can economically benefit certain customers, the electric utility is
12 required to stand ready to serve should those customers return to AEP Ohio. As
13 noted previously, AEP Ohio believes that these charges to provide a standard
14 service offer price option for all customers at all times, including those who have
15 switched electricity providers, but are still located within the AEP Ohio service
16 territory (*i.e.*, the POLR charges), should be recovered in a nonbypassable rider.
17 Please see Company witness Thomas for more detail on AEP Ohio's POLR
18 obligation.

19 AEP Ohio's risk to ensure compliance with state mandates as customers
20 migrate continues to be of great concern. The bypassability of renewable
21 compliance standards through customer shopping is another risk associated with
22 customer migration. The significant infrastructure investment required to comply
23 with environmental regulations should instead be recovered through

1 nonbypassable rate mechanisms. Today, incumbent utilities face key decisions
2 regarding whether to invest to comply with such mandates on existing units or to
3 simply close the facilities since the additional cost may be bypassable for
4 shopping customers. Clearly, the ability of Ohio's utilities to attract the necessary
5 capital for such long-term investments will be greatly improved should a
6 reasonable regulatory recovery environment exist. Please see the testimony of
7 Company witness Nelson for a description of the proposed nonbypassable EICCR
8 and the GRR.

9 **Q. IN THE LONG TERM, WILL SUBSTANTIAL GENERATION-RELATED**
10 **INVESTMENTS BE FEASIBLE IN OHIO WITHOUT SUCH**
11 **APPROPRIATE AND SUSTAINABLE RATE RECOVERY**
12 **MECHANISMS IN PLACE?**

13 **A.** No. I do not think that substantial generation-related investments will be made in
14 Ohio absent a timely and sustainable path for cost recovery. In my opinion, that
15 is why the General Assembly chose to include within S.B. 221 a provision for
16 recovery of a nonbypassable charge for the life of environmental and generation
17 resource investments in Ohio. Even though S.B. 221 largely continues the notion
18 of competitive generation service, I believe the General Assembly has recognized
19 the need for a hybrid approach that also includes a regulated path for encouraging
20 generation investments in Ohio. By proposing an ESP with a regulated SSO
21 price, AEP Ohio is attempting to explore that path more fully.

22 **Q. DOES ENVIRONMENTAL COMPLIANCE WITH OHIO ELECTRICITY**
23 **GENERATION PRESENT RISKS FOR AEP OHIO?**

1 A. Yes. The risk for generating electricity with AEP Ohio-owned facilities is timely
2 recovery of costs associated with compliance of federal and state mandated
3 environmental rules and regulations as well as funding needed operations and
4 maintenance requirements for aging facilities. With heightened focus on
5 renewable energy resources and greenhouse gas (GHG) emissions, AEP Ohio is
6 acutely aware of the challenges with continuing operation of coal-fired generating
7 power plants. While we are in compliance with all currently applicable federal
8 and state environmental regulations, a recent rule regarding permitting of GHG
9 emission sources (Tailoring Rule) continues to place emphasis on regulation of
10 GHG emissions. Also, proposed or anticipated rules further regulating SO₂ and
11 NO_x (Transport Rule), mercury and acid gases (HAPs Rule), residuals of coal
12 combustion (CCR Rule), and once-through cooling (316(b) Rule) of coal-fired
13 units will present additional financial burdens for AEP Ohio and its ratepayers.
14 In addition to these financial burdens, AEP Ohio will face additional cost
15 recovery regulatory risk since each new term of an ESP equates to existing
16 projects and/or mechanisms requiring re-review, new filings, and new
17 Commission Orders to obtain cost recovery. Given the risks described above,
18 AEP Ohio will have to decide whether to invest in long-term environmental
19 compliance mandates on existing units or to simply retire these facilities in the
20 face of potential customer migration.

21 **Q. WILL NEW TECHNOLOGIES BE NEEDED TO ADDRESS THESE**
22 **COMPLIANCE MANDATES?**

1 A. Conventional SO₂ and NO_x reduction technologies can be implemented if needed
2 to comply with the requirements of the proposed Transport Rule and anticipated
3 HAPs Rule. Conversion of ash handling systems from wet to dry will be
4 expensive, but the technology already exists. The greatest uncertainty from a
5 technology availability standpoint is associated with reducing emissions of CO₂
6 beyond the capability of any production efficiency gains. Currently, Appalachian
7 Power Company (APCo) – an affiliate of AEP Ohio – is developing, in
8 partnership with Alstom Inc., a technology to remove CO₂ from flue gas and
9 sequester it underground. The process has been validated and a follow-up project
10 is under development to scale the technology for commercial purposes. This
11 activity has received a grant from the Department of Energy (DOE) for
12 reimbursement of 50% of the project costs and is projected to be in-service at the
13 end of 2015. The CCS project is expected to have benefits associated with CO₂
14 reduction for other AEP coal-fired generating units beyond APCo independently.
15 Since certain states, like Ohio, have a long standing alignment between the coal
16 industry and economic viability, the CCS project can yield benefits for the coal
17 industry and the state of Ohio as a whole. Please see my Exhibit JH-1 for a
18 conference paper discussing the CCS project, its technology and concepts.

19 Currently, discussions are underway between APCo and other AEP
20 operating companies regarding the shared benefits across the AEP system
21 associated with this project. Overall, the Mountaineer plant offers the ideal
22 geology, plant scrubbing equipment, and other requirements to quickly and
23 economically advance the CCS project at a decreased cost across the entire AEP

1 system. Further, as I have been advised by Counsel, the CO₂ reduction
2 technology project would align to Section 4928.02(J), Ohio Revised Code, to
3 provide coherent, transparent means of giving appropriate incentives to
4 technologies that can adapt successfully to potential environmental mandates and
5 would align to the recovery criteria of the proposed CCSR. Please see the
6 testimony of Company witness Nelson for further detail on this rider.

7 **Q. HOW IS AEP OHIO IMPACTED FINANCIALLY BY THESE**
8 **CHALLENGES?**

9 A. Due to the rapid changes within the electric utility industry, AEP Ohio is not only
10 challenged to invest in new technologies to advance the state RPS standards, but
11 to accelerate investment into replacing aging infrastructure. Without approval of
12 separate riders to recover incremental capital carry costs for incurred
13 environmental investments or infrastructure investment, significant recovery lag
14 may result. Regulatory lag in recovery of capital investment further compounds
15 the risk that sufficient capital funding will not be available for needed capital
16 investment. Lag will become more financially burdensome as the cost of
17 environmental compliance or infrastructure investment escalates. However, the
18 riders proposed in this ESP, such as the EICCR or the DIR, reduce the timeframe
19 to recover cash outlays for capital and O&M requirements. Please see the
20 testimony of Company witness Nelson for the EICCR details and the testimony of
21 Company witness Kirkpatrick for DIR details.

22 **Q. WHAT OTHER STEPS HAS AEP OHIO TAKEN TO ADDRESS THESE**
23 **UNCERTAIN CHALLENGES?**

1 A. AEP Ohio was granted authority by the Commission to corporately separate the
2 Company's distribution, transmission, and generation functions. While during the
3 prior 2009-2011 ESP period, the Company was granted functional separation, a
4 separate docket, Case No. 09-464-EL-UNC, established certain audit procedures
5 to review the Company's controls. In June 2010, the Commission concluded that
6 AEP-Ohio has complied with their corporate separation plans and, provided
7 Commission approval, can request authority to sell or transfer certain generating
8 assets. Please see the following detail from the June 2010 Order:

9 Accordingly, based on the auditor's evaluation and the Commission's
10 directives set forth herein, we conclude that AEP-Ohio has, in all material
11 aspects, implemented their corporate separation plans in compliance with
12 Section 4928.17, Revised Code, and the orders of this Commission.
13 Further, the Companies' corporate separation plans reasonably comply
14 with the rules set forth in Chapter 4901:1-37, O.A.C. The Commission
15 reminds AEP-Ohio that pursuant to Rule 4901:1-37-09, O.A.C., the
16 Companies shall not sell or transfer generation assets without prior
17 Commission approval.
18

19 In March 2010, joint applications under Case Nos. 10-245-EL-UNC, 10-
20 246-EL-UNC, and 10-247-EL-AIS, were filed by AEP Ohio requesting that the
21 Commission declare AEP Ohio Transmission Company (OHTCo), a
22 transmission-only company, to be a public utility under Ohio statutory law and
23 subject to Commission jurisdiction. On December 29, 2010, the Commission's
24 Finding and Order in the OHTCo case concluded that the creation of OHTCo
25 does not create corporate complexity sufficient to warrant denial and that the
26 application should be approved given various provisions. While certain
27 conditions and authorizations are required in this Order, one provision includes
28 filing within 45 days of the Order date, a revised corporate separation plan to

1 reflect the existence of OHTCo. Through a supplemental filing to be made in a
2 separate case, AEP Ohio intends to demonstrate consistent assurance that AEP
3 Ohio's implementation of their corporate separation plans are in compliance with
4 Section 4928.17, Revised Code, and that the plans reasonably comply with the
5 rules set forth in Chapter 4901:1-37, O.A.C.

6 **Q. IS THE SEET VIEWED AS AN ADDITIONAL RISK?**

7 A. First, let me address some background on the SEET process. AEP Ohio recently
8 initiated Case No. 10-1261-EL-UNC to fulfill its obligation to make a 2009 SEET
9 filing. AEP Ohio determined that the threshold for significantly excessive
10 earnings based on the comparable risk group of publicly traded firms is above the
11 CSP and OPCo ROEs for 2009, even before excluding earnings associated with
12 off-system sales (OSS). OSS are the opportunity wholesale sales by the AEP
13 system made pursuant to rates approved by the FERC versus S.B. 221 which
14 focuses on retail sales. In that proceeding, AEP Ohio also demonstrated that
15 various additional factors, including the capital requirements of future
16 investments that have been committed for Ohio, also suggest that significantly
17 excessive earnings did not exist in 2009 for CSP or OPCo. However, in January
18 2011, the Commission ruled that CSP had significantly excessive earnings in
19 2009 and ordered CSP to credit to customers' benefit \$42.7 million. Annual
20 SEET proceedings inherently pose financial risk and uncertainty that exacerbates
21 the substantial ongoing uncertainty for AEP Ohio's investors and for the
22 Companies' management.

1 **AEP OHIO'S SUPPORT FOR ECONOMIC DEVELOPMENT**

2 **Q. PLEASE DISCUSS AEP OHIO'S PROPOSAL FOR SUPPORTING**
3 **ECONOMIC DEVELOPMENT IN OHIO.**

4 A. AEP Ohio has a long history of support for economic development in its service
5 territory. The proposed ESP includes a continuation of that support as well as
6 significant new investment in programs and customer offerings. A new AEP
7 Ohio Growth Fund could provide up to \$25 million in shareholder contributions
8 over the term of this ESP. These funds would provide resources for attracting
9 new businesses and helping AEP Ohio's existing business customers expand. The
10 fund will be created from company contributions in three annual installments
11 contingent upon the threshold criteria proposed for the Partnership With Ohio
12 Fund discussed previously in my testimony. These installments, proposed at \$10
13 million annually in 2012 and 2013, and \$5 million in 2014 are anticipated to be
14 used for: direct support to the JobsOhio plan, short term rate incentives (i.e. for
15 startups and expansions), infrastructure investment, and direct support for other
16 public-private partnerships in the state and local economic development arena.

17
18 **Q. DOES THE ESP PROVIDE A RATE SECURITY PLAN TO FOSTER**
19 **BUSINESS INVESTMENTS AND EMPLOYMENT GROWTH FOR**
20 **EXISTING BUSINESS CUSTOMERS?**

21 A. Yes. As discussed previously, many AEP Ohio commercial, industrial, and
22 manufacturing customers, particularly those with energy intensive operations, rely
23 on predictable and relatively stable electricity prices to support ongoing

1 investment in their businesses. In recognition of the unique needs of these
2 customers, AEP Ohio is offering a rate security extension option in conjunction
3 with the proposed ESP. To enable a longer term, reduced pricing option for this
4 limited segment of customers, AEP Ohio will discount the non-fuel generation
5 portion of customer bills by 15%, and commit to extend the ESP price structure
6 for non-fuel generation service for an extended term of three additional years with
7 a fixed increase of 5% in each of the last three years. Eligibility will be limited to
8 customers with certain characteristics who, during the election period, make an
9 election to remain with AEP Ohio for the entire (extended) term subject to a fee
10 for early termination. This offer will be available to a limited portion of AEP
11 Ohio's total load commencing on the date that this ESP proposal is implemented
12 without modification under Commission authority. The election period will begin
13 in November 2011 (presuming the Commission has approved the proposed ESP
14 by then), which is two months in advance of the expected implementation of this
15 proposed ESP, and will be open for the first three months after implementation of
16 the ESP. This one-time offer to current AEP Ohio customers provides a
17 substantial value for eligible customers in the form of discounts and longer term
18 rate certainty, which is designed to help retain and attract customers who depend
19 on such certainty for investment decisions. Please see the testimony of Company
20 witness Roush for further detail on the Rate Security Rider.

21 **Q. PLEASE DISCUSS AEP OHIO'S UNIQUE APPROACH TO**
22 **IMPLEMENTING RPS REQUIREMENTS WITHIN OHIO**

1 A. AEP Ohio continues to strengthen relationships at the state, regional, county, city
2 and local levels of government by understanding and supporting their respective
3 economic plans and activities. One of these activities came to fruition with the
4 announcement of major investment in a solar energy facility in 2010. As
5 discussed previously, AEP Ohio's investment with the Turning Point solar
6 facility, as detailed by Company witness Godfrey, is projected to create
7 approximately 600 jobs in construction and facility management, and 300 new,
8 permanent manufacturing jobs within the state. The Turning Point venture is
9 estimated to be the largest commercial solar development east of the Rocky
10 Mountains with 49.9 MW of solar generation. Construction and commercial
11 operation of the solar generating facility will be phased in over a three year
12 period. Approximately 20 MW is expected to be in operation by the end of 2012,
13 with an additional 15 MW by 2013 year end, and the remaining 14.9 MW by
14 2014 year end. Further, I have been advised by Counsel that the Turning Point
15 venture, along with similar ventures, align to Section 4928.02(C), Ohio Revised
16 Code, which promotes diversity of electricity supplies and suppliers.

17 AEP Ohio chose this approach to comply with Ohio's solar power
18 standard while maximizing the economic development value within the state of
19 Ohio. AEP Ohio helped to drive this value through direct investment, a long term
20 commitment to purchase the output of the project, and a collaborative approach
21 with state and local officials that links the project to new jobs for Ohioans. In
22 addition, the use of approximately 650 acres of AEP Ohio land for this facility
23 further evidences and proves AEP Ohio's commitment to the state of Ohio.

1 Additionally, as previously discussed, regulatory recovery of the above renewable
2 energy resource investment is proposed through the nonbypassable GRR. I have
3 been advised by counsel that investment in generation resources aligns to S.B.
4 221 requirements which allows for nonbypassable regulatory cost recovery for
5 these investment types. Please see Company witnesses Nelson and Roush for
6 additional details on the GRR.

7 **Q. PLEASE DESCRIBE AEP OHIO'S PROPOSAL TO EXTEND ITS**
8 **ECONOMIC DEVELOPMENT PROGRAM.**

9 A. As is evident above, AEP Ohio is committed to assisting Ohio with economic
10 development opportunities. While AEP Ohio has proven its contribution and
11 support of Ohio job growth, successful economic development requires a
12 collaborative effort among legislators, state and local leaders, and business
13 developers across the state. AEP Ohio desires to continue the existing EDR
14 mechanism as previously accepted by the Commission, throughout the proposed
15 ESP timeframe from 2012-2014.

16 **CONCLUSION**

17 **Q. PLEASE SUMMARIZE YOUR TESTIMONY.**

18 A. Today, it is critical that utilities work collaboratively with federal and state
19 regulators, legislators and other stakeholders to create an environment that
20 encourages sustained long term investment, while maintaining reasonable prices
21 for consumers. AEP continues to face multiple industry challenges and decisions
22 at not only the federal level, but across multiple jurisdictions as well. Balanced
23 energy legislation and policies are critical during this time of change. AEP Ohio

1 is significantly affected by the dynamic state of the industry, as well as the
2 uniquely risky investment climate in the state of Ohio. This proposed ESP
3 attempts to strike a balance that reflects these unique circumstances.

4 The AEP Ohio proposed ESP offers a reasonable and prudent pricing plan
5 that provides our customers stability and balance over the 2012-2014 timeframe
6 as we face energy and environmental challenges together. The proposed ESP best
7 serves the public interest by offering a price that is favorable to the comparable
8 MRO, offers financial stability, continues the emphasis on energy efficiency and
9 renewable supplies, and aligns to Ohio policy in Section 4928.02, Ohio Revised
10 Code, that benefit AEP Ohio customers. The proposed ESP not only supports the
11 provisions of S.B. 221, but provides projects and programs that benefit customers
12 while attempting to maintain an investment climate that attracts capital to support
13 the long term investment needs of the state. Perhaps most importantly, the
14 proposed ESP promotes economic development and expands support for low
15 income customers. AEP Ohio believes it is in our customer's best interest to
16 accept the proposed ESP solution that offers a host of short and long-term benefits
17 such as our substantial commitment to economic development, environmental
18 capital investments, and a more stable, reasonably priced retail service offer. We
19 have a vested interest in the communities and people that we are privileged to
20 serve. Acceptance of our proposed ESP will ensure our ability to sustain
21 important commitments to the future of Ohio.

22 **Q. DOES THAT CONCLUDE YOUR DIRECT TESTIMONY?**

23 **A.** Yes.

COAL-GEN
Pittsburgh, PA, USA - August 10-12, 2010

**CCS project: Chilled Ammonia process at
the AEP Mountaineer Plant**

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ABSTRACT

The development of CO₂ capture technologies is being pursued by US, European, and other global suppliers in collaboration with utility companies, academia and universities as well as Governments particularly in the US (Department of Energy), Europe, Canada and Australia. Several post-combustion solutions are currently being developed in the World. Among the most interesting is Alstom's Chilled Ammonia process, which continues to be tested on several pilot and validation facilities. This paper will be oriented to utility and industrial companies that would like to prepare for the CCS challenge and understand the key features of CO₂ capture technologies. The paper will first describe the Chilled Ammonia process and provide an update on the progress being made at both the We Energies and E.ON Karlshamn Field Pilots. Finally, the development and initial operation of the AEP Mountaineer CO₂ Capture Product Validation Facility and Geologic Storage Project will be discussed.

The Field Pilot at WE Energies, sized to capture over 15,000 metric tonnes/year of CO₂ at full capacity, commenced operations in June 2008. Tests ended in October 2009 and the gathered operating experience has resulted in a greatly improved understanding of the process and the numerous interactions with the power plant. The Field Pilot at the E.ON Karlshamn location was commissioned in April of 2009 and captures CO₂ emissions from a boiler combusting a high sulfur fuel oil. Finally, the information on the start-up, commissioning, and initial operation of the "Product Validation Facility" (PVF) at American Electric Power's (AEP) Mountaineer (MTN) Power Plant will be provided.

The AEP MTN PVF is designed to treat a 20 MWe slipstream of combustion flue gases from an existing coal-fired boiler that are taken downstream of the existing selective catalytic reduction (SCR) and wet flue gas desulfurization (WFGD) systems. The project scope includes CO₂ capture, compression, and storage in two geologic reservoirs with injection wellheads located on the plant property. AEP has been working with Battelle to develop the geologic storage system. This unit was inaugurated in September 2009 and is capable of capturing and storing 100,000 metric tonnes per year of CO₂. This unit represents a major step in the technology scale-up process.

1 Introduction to CO₂ emissions abatement potential and status today

In its World Energy Outlook 2009¹, the IEA estimates in its baseline scenario that the world power-generation installed base will increase by ca. 73% by 2030 and electricity generation will increase at the same pace. In this scenario, fossil fuels represent a major share of the power generation, with slightly more than two thirds of the electricity generated in 2030 coming from coal, oil and gas. The development of such fossil-fuelled lead to a sharp increase of CO₂ emissions: as a consequence, they are seen as increasing by c. 50% by 2030, reaching c. 18Gt of CO₂ emitted with coal remaining the main contributor of CO₂ emissions, gas being second.

The May 2007 "IPCC Summary for Policymakers" gives a maximum target of 450 ppm CO₂ Greenhouse Gas (GHG) concentration in the atmosphere in order to limit the long-term surface temperature increase to 2°C by 2100.

The level of CO₂ emissions envisaged in the IEA Reference Scenario is not compatible with this objective: although it does not forecast what the future will be, as it does not include potential future regulations and actions taken to address this issue, it does, however, highlight the strong dependency on fossil fuels for electricity production and that this trend will persist, as fossil-fuelled power plants will continue to be built worldwide and especially in developing countries.

To address this challenge and to reduce emissions to a level compatible with such an objective, a portfolio approach incorporating the best technical and economical solutions will be required. Although energy efficiency (supply and demand side) as well as renewable and nuclear energy must be pursued under all realistic scenarios, cutting CO₂ emissions from large-scale fossil fuel based power generation sources will need to play a major role as the global demand for energy grows.

In the WEO 2009, the 450-ppm scenario describes a route to reaching this target through a mix of measures to be applied across the entire economy (figure 1).

¹ World Energy Outlook 2009, International Energy Agency (IEA), Paris – France.

Change in 2030 Power generation CO₂ emissions

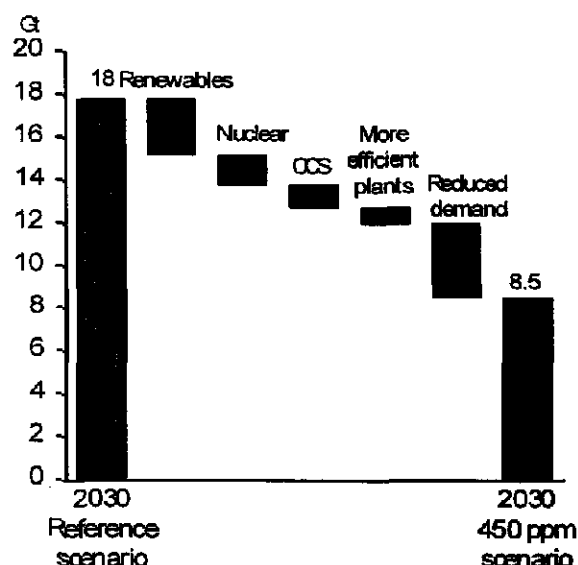


Figure 1: IEA WEO 2009

Power generation is the major sector contributing to CO₂ emissions reductions compared with the IEA Reference Scenario; 9.3 Gt CO₂ per year of saving, out of a total of 13.8 Gt. This saving comes from: reduced demand; further development of renewables; further nuclear deployment; use of more efficient coal and gas power plants; and finally, CO₂ capture and storage (CCS), itself accounting for 1.1 Gt CO₂ per year reduction by 2030, and for 5.5 Gt CO₂ per year in 2050². In order to achieve

this reduction of 1.1 Gt CO₂ per year by 2030, the IEA WEO 2009 estimates that 232 GW of coal and gas plant installed worldwide should be equipped with CCS by that date, assuming 90% capture rate.

This clearly implies that, to sustain fossil fuels as a primary energy resource for power in some regions, CCS must be included. More precisely, the IEA estimates that in the OECD and European Union, CCS should be installed on 90% of the coal capacity additions between 2020 and 2030, and on 25% of new capacity in emerging countries³.

To reach the 5.5 Gt CO₂ per year target envisaged for 2050, CCS will need to have been installed on 1140 GW of the installed base. Consequently CCS technology must be demonstrated rapidly and then deployed commercially on a large scale. In parallel, we must ensure that from now on, all future power plants are designed and built in such a way that CCS facilities can be readily retrofitted once the technology is technically and commercially mature.

² Technology Roadmap, Carbon Capture and Storage, International Energy Agency (IEA), 2009, Paris – France

³ Brazil, China, Russia, South Africa, and the countries of the Middle East.

Status of CCS development

CCS in the Power generation sector can capitalise on a series of components technologies that have been developed and commercially used in the Oil & Gas industry for decades.

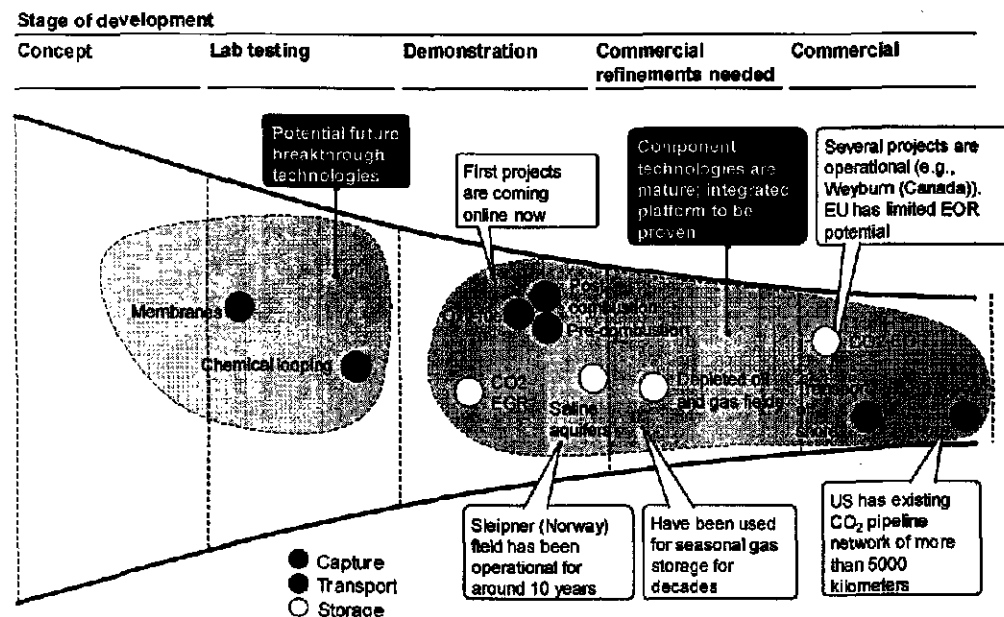


Figure 2: McKinsey Carbon Capture & Storage: Assessing the Economics, 2008

Capture technologies, which are slightly less advanced along the CCS chain including CO₂ capture, transport and storage, have been used already in industry such as the natural gas processing industry for decades. Although components are mature, the application of these technologies in the Power sector is new and has some technical and scale-up challenges, but this is not fundamental research (see figure 2). There are various capture technologies under development, the closest to the commercial stage being Post-combustion, Oxy-combustion and Pre-combustion. We will see in the following chapter an example of development path of capture technologies.

On transport of CO₂, onshore pipeline has been used since the 1970's to carry CO₂ from industrial or natural sources to oil fields to be used to increase oil production through Enhanced Oil Recovery projects. In the US alone, more than 5,000km of CO₂ pipeline is operated today, without major difficulty.

On deep geological storage of CO₂, benefiting from large-scale operation in the US, EOR is significantly advanced. Other options, like pure storage in depleted oil and gas fields, or the most promising saline reservoir are slightly less advanced. Numerous large scale demonstration projects are currently on-going (Sleipner, Snohvit, Otway...). All component technologies, especially in the monitoring field, are developed today.

The first demonstration projects before pre-commercial size are currently coming online followed by a significant pipeline of large-scale project (>100MW), which will complete the development of CCS technologies. As of January 2010, and resulting from the compilation of available published listings and internal Alstom data, we have identified worldwide 67 credible large-scale CCS potential demonstration projects (>100MW), in various stages of advancement. While limited information is available on those projects, we estimated that they already account for 15 to 20 GW of CCS potential. A first conclusion is that this represents a huge effort of the industry to scale-up the needed technologies and make them available as soon as a proper regulation will drive their installation.

Half of these projects are in Europe (35/67), owing both from the UK competition and the pre-announcement of a 10-12 EU Flagship program, which have triggered considerable interest and pre-feasibility studies. A second conclusion is that early government signals on CCS funding is attracting enough interest from the industry for the first phase of deployment. The three most advanced technologies are all represented (cf. figure 3), leading to the third

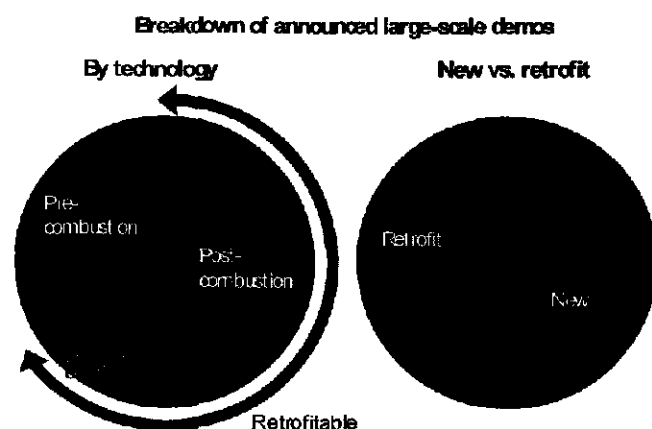


Figure 3: Breakdown of announced large-scale demos – Source: Alstom

conclusion that the European Union recommended technology portfolio approach to large-scale cost discovery could be applied worldwide. New projects represent the majority of these large-scale projects (i.e. 54 out of the 67 projects identified) however addressing the installed base in this early ramp-up period is also necessary.

Finally, it also appears from this screening that the most represented technology is post-combustion (34/68 projects) in comparison to pre-combustion and oxy-combustion. This is related to the ability of post-combustion to do partial flow capture, enabling to target large size plants while minimizing investments (no boiler modification) and risks during the demonstration phase. However, this distortion will disappear at the commercial stage and oxy-combustion should ramp-up at a similar rate than Post CO₂ emission reduction.

We will now focus on the Chilled Ammonia post capture technology, through a description of the process, an update on the chilled ammonia field validation units and on the related progress in the development of this technology, and a status on the AEP Mountaineer CO₂ Capture Product Validation Facility and Geologic Storage pilot Project.

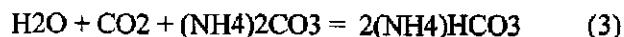
2 Description of the Chilled Ammonia process

The configuration of CAP at each of the three locations where it has been deployed is very similar. Since this paper is intended to focus on the Product Validation Facility at AEP Mountaineer, the process description presented in this section will be based on that facility.

2.1 Process chemistry

The Chilled Ammonia Process is based on the chemistry of the Ammonia-CO₂-H₂O system and the ability of ammoniated solution to absorb CO₂ at low temperature and to release the CO₂ at moderately elevated temperature.

The primary CAP chemical reactions for CO₂ capture are presented in Equations 1–3. During absorption, CO₂, ammonia, and water combine to form ammonium carbonate and ammonium bicarbonate. These reactions are exothermic. During regeneration, the absorption reactions are reversed as heat is added to release CO₂.



In addition to the primary reactions involving CO₂ capture and release, a secondary reaction between ammonium bicarbonate and ammonia forms ammonium carbamate in the reversible reaction presented as Equation 4.



During operation, ammonium carbamate reaches equilibrium with ammonium carbonate and circulates through the CAP unit operations with a minimal impact on the overall energy consumption because the sensible heat is recovered via heat integration.

2.2 CAP Unit Operations

As configured for the Mountaineer Process Validation Facility, the Chilled Ammonia Process (CAP) consists of the following unit operations:

- Flue gas conditioning and ammonia capture
- Absorbers for CO₂ capture
- Water Wash for ammonia capture
- Regenerator for CO₂ release
- Stripper for ammonia recovery and wash water conditioning
- CO₂ Dehydration and Compression
- Refrigeration System

The overall unit is configured as shown in the Figure 4:

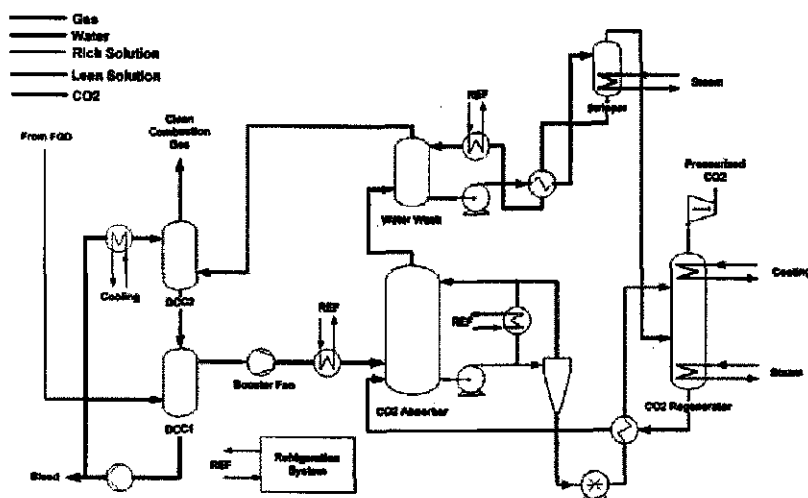


Figure 4 - Chilled ammonia process flow diagram

2.2.1 Flue Gas Conditioning

The AEP MTN PVF takes a flue gas slipstream downstream of the WFGD for feed. This stream contains between 10 and 13% CO₂ depending on the power output of the plant. It is saturated with moisture at the operating temperature of between 125 and 135°F. Also present are residual contaminants such as SO₂, HCl, and particulate matter (PM).

The Flue Gas Conditioning system consists of two packed bed sections and a circulation loop through an evaporative cooling tower. The flue gas is cooled in this system to condense moisture. In addition, sulfuric acid is added to capture residual ammonia from the water wash. Sulfuric acid reacts with ammonia to form ammonium sulfate (AS). To control the AS concentration, a portion of this circulating stream is sent to tankage as a by-product.

2.2.2 Absorbers

Conditioned flue gas is introduced to the absorption step where CO₂ is captured with an ammoniated solution consisting of the following compounds:

- Ammonia
- Ammonium Carbonate
- Ammonium Bicarbonate
- Ammonium Carbamate
- Water

Depending on the temperature and concentration of the carbonates and bicarbonates relative to the amount of ammonia, solids may form at different locations in the absorber bed. The measurement used to estimate the likelihood of solids precipitation is the R Value. R Value is the ratio of moles of ammonia ions to moles of CO₂ ions present in the ionic solution. The lower the R Value, the richer the solution is in CO₂ and the likelihood that solids would form is increased. The higher the R Value, the leaner the solution in CO₂ and the likelihood of ammonia emissions increases. Operation of the absorption system in the non-solids mode depends on maintaining the overall R Value in the absorber liquid inventory constant through the injection of sufficient lean solution from the regenerator to balance the amount of CO₂ absorbed.

The Absorption System at the AEP MTN PVF consists of two absorption vessels, each with a different primary function in treating the flue gas. Absorber A is the primary vessel where CO₂ is captured. In this vessel, ammoniated solution is contacted with the flue gas over a packed bed to achieve the mass transfer needed to absorb CO₂. Heat generated by the exothermic absorption reaction is removed from the process with the High Temperature refrigerated chiller that is placed in the recirculation loop. Absorber B is designed to capture residual ammonia leaving Absorber A.

2.2.3 Water Wash

Depending on the Absorber operating temperature and the strength of the ionic solution, the residual flue gas leaving the absorbers contains significant levels of ammonia. This ammonia must be captured and returned to the process in order to maintain a sustainable operation. The Water Wash column is designed to absorb this ammonia and return it to the process.

2.2.4 Regeneration

Rich ammoniated solution is pumped to 300 psig to enter a series of heat exchangers to recover heat from the lean ammoniated stream leaving the regenerator. In the Regenerator column, as heat is applied, CO₂ evolves. The composition of the vapor stream leaving the Regenerator is a function of temperature, pressure, the relative concentrations of CO₂, ammonia and water in solution. One of the benefits of regeneration at high pressure is that it takes advantage of the presence of CO₂ with its high vapor pressure relative to ammonia and water. CO₂ evolves from solution first and tends to suppress the evolution of ammonia and water. As a result of this phase equilibrium phenomena, the vapor leaving the regenerator tends to be primarily CO₂ with small amounts of ammonia and water.

2.2.5 Ammonia Recovery Stripper

Feed to the ammonia recovery stripper comes from three sources:

- Saturated water from the Water Wash (Continuous)
- Saturated solution from the Regenerator overhead (Continuous)
- Lean Solution from the Absorbers (Intermittent, to maintain water balance.)

Because of these different sources, the concentration of ammonia and CO₂ in the water varies. In addition to stream composition, the stripper system operating pressure is a consideration as well. We Energies, E.ON Karlshamn, and the AEP Mountaineer facility were all designed to operate at 330 psig. When this concept was tested at We Energies and E.ON Karlshamn, it was found that operating at lower pressure made it easier to drive off CO₂ and ammonia because of the relationship of their vapor pressure to that of water. Over time, this operating mode reduced the concentration of ammonia in the stripped water to the point where the water wash and the regenerator overhead began to function as expected. The lower pressure operation is now the preferred concept.

2.2.6 CO₂ Dehydration and Compression

The CO₂ captured at the AEP Mountaineer facility TN PVF is sequestered in one of two on-site wells located on-site.

At equilibrium under design temperature and pressure conditions, the CO₂ leaving the regenerator is expected to be greater than 99.5% pure while containing less than 2500 ppmv moisture and less than 10 ppmv ammonia. As the design of the sequestration system progressed, the preferred moisture content was reduced to less than 600 ppmv. Different approaches were evaluated for achieving this moisture level. Because of the availability of chilling, the approach taken was to reduce the temperature of the CO₂ to less than 45°F.

The CO₂ product stream leaving the regenerator at 300 psig is compressed to 1500 psig using a two-stage reciprocating compression system. The fluid leaving the compression system is transported to a metering area where a multistage pump can increase injection pressure where it is pressured to 3000 psig max for injection. Alternatively, the multi-stage pump can be bypassed with CO₂ sent directly for injection in one of two sequestration wells.

2.2.7 Refrigeration Systems

The AEP MTN PVF is provided with two refrigeration systems for low temperature and high temperature applications. Because of site restrictions, these systems use R-410A as a refrigerant instead of the preferred anhydrous ammonia. In addition, to improve system efficiency, a pump designed to circulate refrigerant when ambient temperatures are sufficiently low to shut-off the refrigeration compressors has been provided.

3 Update on the chilled ammonia field units - Progress in the technology development

3.1 WE Energies Field Validation Unit

The Chilled Ammonia field pilot was located at the We Energies' Pleasant Prairie Power Plant ("P4"), located in Pleasant Prairie, Wisconsin, US. P4 is retrofitted with a wet Flue Gas Desulphurization system to control SO₂ emissions. Engineering for the field pilot was initiated in March 2007 with equipment purchases and delivery continuing through to March 2008. (See Figure 5)



Figure 5: Alstom WE Energies field pilot

This facility was constructed in association with the Electric Power Research Institute (EPRI) representing a global community of 37 utility companies. The plant processed a 5 MWth equivalent slip stream of flue gas and captured CO₂ at a rate of 15,000 t CO₂/yr. The program, which was completed on October 31, 2009, satisfied the "Proof of Concept" objectives for the project. The major technology issues addressed by this project included:

- Would CAP unit operations be effective with coal fired flue gas?
- What levels of CO₂ capture could be demonstrated?
- What quality CO₂ could be produced?
- Could ammonia emissions be controlled?
- Could CO₂ rich ammoniated solution be regenerated at elevated pressures?
- Would energy utilization fall within design parameters?
- Were there any mechanical and material selection issues that need to be addressed?

The key success factors that were demonstrated during this run included:

- CO₂ Capture Efficiency at 90%,
- Consistent production of CO₂ at 300 psig without gas compression

- CO2 Product Quality greater than 99%,
- Residual Ammonia in the flue gas of less than 10 ppmv.

In addition to the evaluation of the process parameters, operational benchmarks achieved during the program included:

- 7700 hours of operation over a 16 month period
- Understanding the relationship between key operating parameters
- Impact of power plant transients on CAP operation
- Materials selection criteria confirmed

This test program provided a deeper understanding the process and the relationships between the different unit operations that need to be balanced in order to achieve a sustained operation.

3.2 E.ON Karlshamn Field Validation Unit

The E.ON Karlshamn Field Validation Unit was designed in parallel with the WE Energies Field Pilot. While similar in size and design, the E.ON Karlshamn Pilot offers additional depth to Alstom's development program. This facility captures CO2 from an oil-fired boiler with higher SO_x and NO_x emissions. (See Figure 6) Design improvements have been made to the water wash system. Finally, this pilot plant is equipped with additional instrumentation that will refine Alstom's understanding of the process.



Figure 6: Karlshamn Power Plant (Sweden)

The unit began operations in April 2009 and has been in service for over 2000 hours. During the period in service, the unit demonstrated much of the same capabilities as those reported for WE Energies. These included:

- CO2 Capture Efficiency at 90%,
- Consistent production of CO2 at 300 psig without gas compression
- CO2 Product Quality greater than 99%,
- Residual Ammonia in the flue gas of less than 10 ppmv.

In addition, this facility demonstrated the concept of high pressure stripping and provided extensive operating experience.

4 AEP Mountaineer Product Validation Facility

Details on the two Alstom chilled ammonia field pilots have been reported in previous sections. The information generated in the design and operation of those facilities was incorporated into the AEP Mountaineer PVF design.



Figure 7: AEP's Mountaineer Power Generating Station, New Haven, WV

4.1 Power Plant Background

Located on the Ohio River near New Haven, West Virginia, the Mountaineer Plant complex consists of one 1,300 MW net super-critical coal-fired unit that began service in 1980. (See Figure 7)

The plant was initially equipped with an electrostatic precipitator (ESP). It was later retrofitted with more advanced AQCS equipment including SCR, WFGD, and a sulfur trioxide (SO₃) Mitigation System.

Mountaineer Plant is one of AEP's best operating plants having the distinction of 607 days of continuous operation from 1985-1987. AEP chose to demonstrate the CAP technology at Mountaineer due to the existing pollution control equipment on the Mountaineer unit and an existing 9,200-foot geologic characterization well drilled on-site in 2003 as part of the Department of Energy (DOE) Ohio River Valley Project.

4.2 Project Overview

In September 2007, Alstom and AEP started the CCS project with preliminary engineering, project planning, and permitting activities. Procurement of long lead time items started in December 2007. Preliminary site activities started in March 2008 with utility tie-ins occurring during a scheduled Mountaineer unit outage.

Detailed engineering started in April 2008, followed closely by relocation of ancillary facilities and site preparation starting in May 2008. Construction of the CAP and shallow drilling for the storage system started in June 2008. The units were mechanically complete in August 2009; CO₂ was captured in September 2009. CO₂ was injected in October 2009 making the AEP MTN PVF the first integrated CCS system on a coal fired power plant.

4.3 AEP Mountaineer Scope

The PVF treats a slipstream of power plant flue gas using Alstom's Chilled Ammonia Process. The flue gas is taken from a location downstream of an existing WFGD system. The unit is designed to capture and store approximately 100,000 metric tons of CO₂ annually and treats approximately 50,000 SCFM of flue gas, or 1.5% of the total plant flue gas flow. The project scope is segmented into two primary areas – Capture and Storage. Responsibility for the components in each of these areas is summarized as follows:

4.3.1 CO₂ Capture

1. Flue gas handling (Alstom)
2. Utilities to and from the PVF (AEP)
3. Monitoring and control system (Alstom)
4. PVF island steel (Alstom)
5. Cooling and cleaning system (Alstom)
6. CO₂ absorption system (Alstom)
7. CO₂ regeneration system (Alstom)
8. CO₂ compression for CO₂ transportation (Alstom)
9. Handling of PVF bleed stream (AEP)

4.3.2 CO₂ Storage

1. CO₂ transport pipeline (AEP)
2. Pump to reach injection pressure (AEP)
3. Finish existing well for injection (Battelle)
4. Install second injection well (Battelle)
5. Install monitoring wells (Battelle)
6. Monitoring, mitigation, and accounting (MMA) system (Battelle)

4.4 Design Basis

The design basis for this facility is presented in Table 2.

Table 2 Mountaineer PVF CO ₂ Capture Design Basis		
Parameter	Unit	Value
Flue Gas Temperature	°F	129
Flue Gas Pressure	In H ₂ O	-1.5 to 1.0
Flue Gas Flow Rate	Scfm	50,584
CO ₂ Concentration	Vol%	10.61

Table 2: Mountaineer basic design parameters

Absorber A captures the bulk of the flue gas CO₂. Absorber B is a polishing step primarily designed to reduce NH₃ slip. The CO₂ capture objective is 100000 tonnes/yr.

4.5 Commissioning and Start-Up

The AEP MTN PVF started capturing CO₂ from power plant flue gas .on September 1, 2009. On October 1, 2009, CO₂ was injected in the wells. The combination of capture and storage of CO₂ from flue gas from a coal-fired power plant was demonstrated for the first time. As of May 2010 over 10000 tonnes of CO₂ has been captured and over 4500 tonnes of CO₂ has been stored.

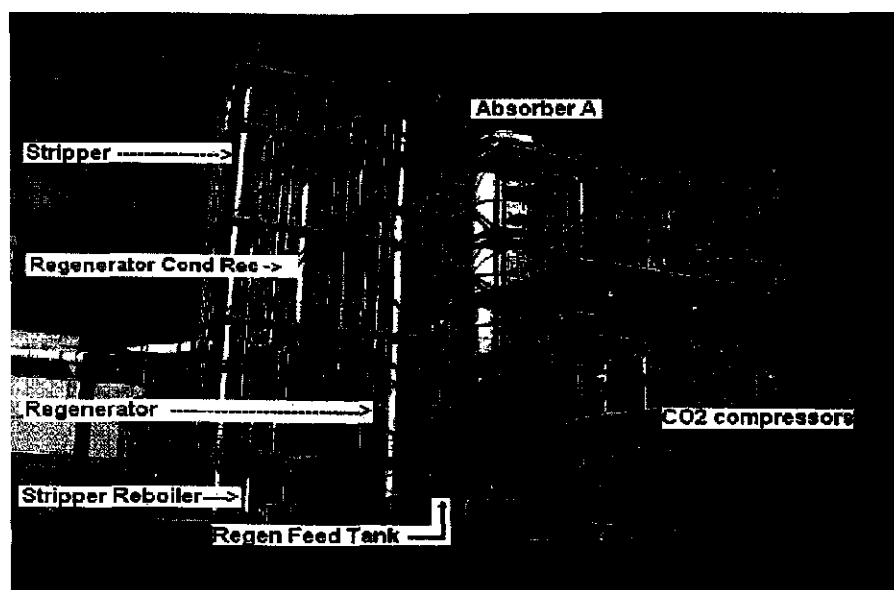
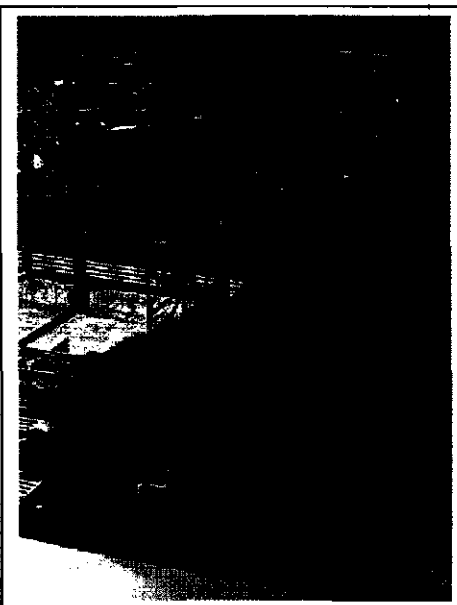


Figure 8 AEP Mountaineer Product Validation Facility

4.6 Unit Operations at AEP Mountaineer

The AEP Mountaineer facility incorporated several design improvements that were developed as a result of the design and initial operation at We Energies. These include:

- Two absorber system to capture 75% of the flue gas CO₂ achieving the total objective of 100000 tonnes/yr.
- The Water Wash was reduced from three recirculated beds in series at We Energies to two beds. The top bed is once through and serves as a polishing stage. The lower bed is a re-circulated system where the primary amount of NH₃ is absorbed. The Water Wash uses stripped water to absorb NH₃ from the residual flue gas. Water used to capture NH₃ is sent to the stripper, which releases the ammonia for return to the process.
- The AEP Mountaineer regenerator system configuration is the same as the system at WE Energies. CO₂ rich solution from the absorber is heated against the lean solution and fed to the regenerator column. A kettle type steam reboiler adds the marginal heat needed to release CO₂ from the rich solution and pressure the system to 300 psig. Flashed CO₂ is chilled to reduce its moisture content prior to entering the compressor. Lean solution is returned to absorber.



•

Figure 9 – Regenerator/Stripper System

- The stripper at AEP MTN is designed to operate at 300 psig. Unlike We Energies, this system uses a steam thermosyphon reboiler to supply heat to the system. Proper stripper operation remains the key to maintaining CAP water balance and to keep ammonia in the system.
- The refrigeration system removes the heat from the CO₂ absorption. This system includes direct gas cooling with Refrigerant and free cooling during the months with lower ambient temperatures. Two R-410a refrigeration systems are provided, Low Temperature for NH₃ capture and High Temperature to remove heat of reaction. The benefits of free cooling can be seen in Figure 10. By installing a pump, liquid refrigerant can be circulated when the ambient temperature drops below 35°F. This permits the compressors to be turned off with a significant reduction in energy utilization.

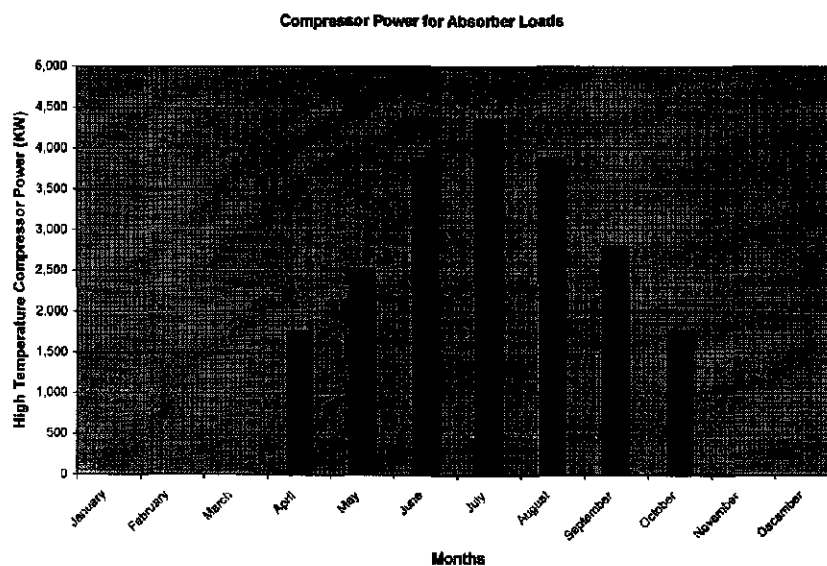


Figure 10: Potential Benefits from Free Cooling

- CO₂ exits top of regenerator at 300 psig with less than 50 ppmv NH₃. Moisture in this stream is reduced to less than 600 ppmv in a CO₂ chiller prior to compression. Dry CO₂ product is pressured up to 1500 psig in a reciprocating compressor.

4.7 AEP Mountaineer Commissioning and Start-Up Experience

Given the scale-up considerations and the fact that this is a first of a kind installation incorporating both CO₂ capture and storage, the commissioning plan required a slow ramp-up of the system. This was to ensure a proper understanding of all process and equipment operating characteristics in a structured manner. During this initial ramp-up phase, several issues were identified, some of which are outlined below:

- Utilization of solid reagent to build ammonia concentration
- Chiller reliability and operation at turndown rates
- Compressor reliability and operation at turndown rates
- Rich Solution Regenerator Feed Temperature Gradient
- Flue Gas Moisture Condensation

The net result of these issues is that the sustained operating load has been limited to 60-75% until all rectification actions have been completed. The current expectation is that design rates will be achieved in June 2010. Although the flowrates have been below design, the captured CO₂, which is proven to be at or above design rates, continues to be compressed and injected into the two on-site wells. The injection and testing of the two wells is a critical goal of the Mountaineer Product Validation Facility.

4.8 AEP Mountaineer Test Plan

The primary objective of the AEP MTN test program is to demonstrate that the CAP can meet key operating performance indicators and to develop the tools needed to support:

- Process Design
- Mechanical Equipment Design
- Material Selection
-
-

The test program will be segmented into three modes:

- Short-term tests to investigate process parameters
- Long-term tests to confirm process stability
- Equipment performance

The objectives to be demonstrated during the operation include:

- Validate CO₂ removal efficiency
- Validate CO₂ product quality
- Validate system reliability
- Minimize energy consumption
- Evaluate steam delivery temperature
- Minimize process refrigeration demand
- Minimize chilled water utilization
- Minimize ammonia consumption
- Control ammonia emission to atmosphere
- Minimize ammonium sulfate disposal rate

4.9 CO₂ Handling & Storage

Taking control of the supercritical CO₂ at the outlet of Alstom's compressor is one of the key interface points between AEP and Alstom. AEP installed the 4-inch carbon steel pipe at Alstom's compressor outlet. Carbon steel is an acceptable material for the transport system due to the low moisture content (< 600 ppm) and low ammonia levels (< 50 ppm) in the CO₂ product stream. Moisture or ammonia concentrations above these values could lead to corrosion or erosion issues over time requiring specialized materials of construction and frequent maintenance. Super-critical CO₂ is transported via pipeline approximately 1,200 feet to the injection wells. The CO₂ can then be injected into one or both of two injection wells or sent to a booster pump to increase the CO₂ pressure to up to 3000 psig for injection.

The key objective of the storage project is validating CO₂ injection and storage in the geologic reservoirs. Geologic formations need to be both porous and permeable in order to serve as storage reservoirs. In general, sandstone formations make excellent geologic storage reservoirs, whereas dolomite, shale, and limestone formations are excellent caprock for geologic storage. At Mountaineer, the CO₂ will be injected into one or both of two reservoirs: the Rose Run Sandstone, approximately 7,800 ft below ground; and the Copper Ridge B-Zone, approximately 8,200 ft below ground.

Data collected from the storage efforts of this project will be compared with modelling results and predicted CO₂ behavior. Battelle's modelling simulations based on the seismic survey, well logging, and core and reservoir testing data from the first well, AEP-1, will be validated and tuned based on this real-world information.

This project offers a rare opportunity for authenticating a large pool of data collected during characterization. Following the active injection period, the CO₂ placed below ground will continue to be monitored for migration and confinement for up to 20 years in accordance with the Underground Injection Control (UIC) permit.

4.10 Storage Permitting

Permitting this first-of-a-kind CO₂ storage project with the appropriate West Virginia agencies was another key task for the storage project. The list of permits for the project included:

- Underground Injection Control (UIC) – WV DEP
- Well work permits for drilling deep wells – WV DEP
- NPDES permit modification – WV DEP

- Storm Water Construction Permit – WV DEP
- Corps permit notification – Corps of Engineers

The two most significant permits for the storage project were the well work permits needed to drill the monitoring and injection wells and the Underground Injection Control (UIC) Permit needed to operate the CO₂ injection wells. Well work permits are needed in West Virginia for deep wells that are used for geologic characterization or other non-producing deep wells. AEP submitted the monitoring well work permit applications in March 2008 and received them in June 2008. AEP submitted the injection well work permit applications in July 2008 and received them in August 2008.

The UIC Permit for this project is a Class V experimental well permit. It is important to note that the permitting activities for this project were undertaken prior to establishment of a new permitting classification for CO₂ injection. AEP filed the project UIC permit application on February 8, 2008 and received the permit in May 2009. The Department of Energy (DOE)-sponsored Ohio River Valley Project provided most of the information needed for this permit. The UIC permit also includes modelling data from Battelle's proprietary STOMPCO₂ model, including a map showing the 3,490 ft radius which indicates the extent of the CO₂ plume projected on the surface ("Area of Review"), which was based on several conservative assumptions. This area assumes that all of the CO₂ is injected in to one zone at the maximum capture rate.

For geologic storage of CO₂, there are several questions and concerns that need to be addressed before programs are implemented on a commercial scale basis, such as:

- Who owns the rights to the pore space in the geologic reservoirs thousands of feet under ground? How can those rights be acquired and /or utilized to support commercial storage projects?
- Are uniform federal standards needed to govern storage requirements in order to facilitate the use of interstate formations?
- How will liability protection be handled during project operation, post-closure, and ultimately during the long-term stewardship period?

- What are the risks and liability complications for situations when CO2 or pressure effected zone from one source combines underground with CO2 or pressure effected zone from other source(s)?

For the Mountaineer CO2 storage project, AEP owns most of the property and mineral rights within the Area of Review. AEP is researching pore space usage mineral rights issues for the property not owned by AEP and is working with West Virginia to craft language that addresses corrective action during the term of the UIC permit. Questions regarding third party liability and insurance coverage are also still being reviewed.

4.11 Storage Results

To date, over 4500 tonnes of CO2 have been injected into the injection wells. Injection has been accomplished using only the compressor at an average rate of 5 tonnes/hour. Through May 2010, the Copper Ridge formation has accepted the CO2 better than expected with low injection pressures (~1100 psi) and little increase in the formation pressure (~60 psi increase). The Rose Run formation did not initially accept the CO2 as well as expected, but its performance has improved recently with injection pressures around 1100 psi and formation pressure increases around 200 psi. A series of marker tests have been run to verify CO2 containment within the reservoirs and to monitor the condition of the wells with positive results.

5. Conclusion

Alstom and American Electric Power are operating the MTN PVF and have successfully captured and stored CO2. The unit is being brought up to design conditions and in conjunction with EPRI, measurements will be made on the following key performance indicators:

- CO2 Removal Efficiency
- Energy consumption
- Product quality
- Operating Reliability

While it is still early in the program at Mountaineer, from the three Chilled Ammonia facilities that have operated to date, the ability of the process to capture CO₂, produce a high quality CO₂ stream, and sequester that stream in an underground well while not losing excess quantities of solvent to the environment have been demonstrated. The next step as the test plan proceeds at AEP Mountaineer is to evaluate the energy utilization and the ability of individual equipment items to operate reliably.

EXHIBIT NO. _____

BEFORE
THE PUBLIC UTILITIES COMMISSION OF OHIO

In the Matter of the Application of)	
Columbus Southern Power Company and)	
Ohio Power Company for Authority to	)	Case No. 11-346-EL-SSO
Establish a Standard Service Offer	)	Case No. 11-348-EL-SSO
Pursuant to §4928.143, Ohio Rev. Code,)	
in the Form of an Electric Security Plan.)	
In the Matter of the Application of)	
Columbus Southern Power Company and	)	Case No. 11-349-EL-AAM
Ohio Power Company for Approval of	)	Case No. 11-350-EL-AAM
Certain Accounting Authority)	

DIRECT TESTIMONY OF
PHILIP J. NELSON
ON BEHALF OF
COLUMBUS SOUTHERN POWER COMPANY
AND
OHIO POWER COMPANY

Filed: January 27, 2011

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PHILIP J. NELSON**

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BEFORE
THE PUBLIC UTILITIES COMMISSION OF OHIO
DIRECT TESTIMONY OF
PHILIP J. NELSON
ON BEHALF OF
COLUMBUS SOUTHERN POWER COMPANY
AND
OHIO POWER COMPANY

1 **PERSONAL DATA**

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

3 A. My name is Philip J. Nelson. My business address is 1 Riverside Plaza, Columbus,
4 Ohio 43215.

5 **Q. PLEASE INDICATE BY WHOM YOU ARE EMPLOYED AND IN WHAT**
6 **CAPACITY.**

7 A. I am employed as Managing Director of Regulatory Pricing and Analysis in the
8 Regulatory Services Department of American Electric Power Service Corporation
9 (AEPSC), a wholly owned subsidiary of American Electric Power Company, Inc.
10 (AEP). AEP is the parent company of Columbus Southern Power Company (CSP)
11 and Ohio Power Company (OPCo), referred to collectively as AEP Ohio, or the
12 Company.

13 **BUSINESS EXPERIENCE**

14 **Q. PLEASE BRIEFLY DESCRIBE YOUR EDUCATIONAL BACKGROUND**
15 **AND BUSINESS EXPERIENCE.**

16 A. I graduated from West Liberty University in 1979 receiving a Bachelor of Science
17 Degree in Business Administration, majoring in accounting. In 1979, I was employed
18 by Wheeling Power Company, an affiliate of AEP, in the Managerial Department. At

1 Wheeling Power, I was responsible for rate filings with the Public Service
2 Commission of West Virginia (PSC), for resolving customer complaints made to the
3 PSC, as well as for preparation of the Company's operating budgets and capital
4 forecasts. In 1996 I transferred to the AEP-West Virginia State Office in Charleston,
5 West Virginia as a senior rate analyst. In 1997 I transferred to AEPSC as a senior
6 rate consultant in the Energy Pricing and Regulatory Services Department, with my
7 primary responsibility being the oversight of OPCo's and CSP's Electric Fuel
8 Component (EFC) filings. In 1999 I transferred to the Financial Planning Section of
9 the Corporate Planning and Budgeting Department where I helped prepare AEP
10 financial forecasts. I held various positions in the Corporate Planning and Budgeting
11 Department until my transfer to Regulatory Services in February, 2010.

12 **Q. WHAT ARE YOUR RESPONSIBILITIES AS MANAGING DIRECTOR OF**
13 **REGULATORY PRICING AND ANALYSIS?**

14 A. My department supports regulatory filings across the AEP system in the areas of cost of
15 service, rate design, cost recovery trackers and tariff administration. It also provides
16 expert witness testimony on AEP's east and west power pools as well as technical
17 advice and support for power settlements and performs financial analysis of changes to
18 AEP's generation fleet. In addition, my department provides support and filing of
19 generation and transmission formula rate contracts.

20 **Q. HAVE YOU EVER SUBMITTED TESTIMONY AS A WITNESS BEFORE A**
21 **REGULATORY COMMISSION?**

1 A. Yes. I have testified before the Virginia State Corporation Commission and the
2 Public Service Commission of West Virginia on behalf of Appalachian Power
3 Company, before the Public Service Commission of West Virginia on behalf of
4 Wheeling Power Company, before the Indiana Utility Regulatory Commission on
5 behalf of Indiana Michigan Power Company and before the Public Utilities
6 Commission of Ohio (Commission) on behalf of Columbus Southern Power
7 Company (CSP) and Ohio Power Company (OPCo).

8 **PURPOSE OF TESTIMONY**

9 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS PROCEEDING?**

10 A. The purpose of my testimony is to address the current Fuel Adjustment Clause (FAC)
11 and the Company's request to continue the FAC in this ESP. I will discuss the
12 Company's plan for recovering the fuel rate phase-in deferral. I propose a new
13 Alternative Energy Rider (AER) which will segregate the Renewable Energy Credit
14 (REC) value from Renewable Energy Purchase Agreements (REPAs). I discuss the
15 creation of a new rider to recover costs associated with investment in new generation
16 resources dedicated to retail customers, the Generation Resource Rider (GRR). I
17 address the Company's proposal to continue the existing Environmental Investment
18 Carrying Cost Rider (EICCR) with certain modifications. I discuss the Company's
19 proposal for a process to get Commission approval for acquisition of renewable
20 resources in a timely manner. I propose a rider to recover the Company's share of
21 Carbon Capture and Sequestration costs (CCSR). I sponsor a pool termination or
22 modification provision to recover potential increases in rates needed as a result of
23 termination of the AEP Interconnection Agreement (AEP Pool) and to reflect any

1 new agreement that may take its place. Also, I provide pro forma financial statements
2 that show the effect of the ESP on the Company for the duration of the plan.

3 **Q. WHAT EXHIBITS ARE YOU SPONSORING IN THIS PROCEEDING?**

4 A. I am sponsoring Exhibits PJN-1 through PJN-3:

5 Exhibit PJN-1 provides additional information on the FAC as required by Ohio
6 Administrative Code (O.A.C.) 4901:1-35-03(C)(9)(a).

7 Exhibit PJN-2 provides Levelized Capital Carrying Cost Rates

8 Exhibit PJN-3 provides Pro Forma financials, assumptions and methodology

9 **THE FUEL ADJUSTMENT CLAUSE (FAC)**

10 **Q. PLEASE REVIEW THE CURRENT FAC.**

11 A. The Companies' current FAC began in 2009 as part of the 2009-2011 ESP. The FAC
12 recovers the actual cost of fuel, purchased power, including capacity and other
13 variable production costs such as environmental variable costs.

14 **Q. PLEASE REVIEW THE ACCOUNTS INCLUDED IN THE CURRENT FAC.**

15 A. The following is a list of accounts that are currently included in the FAC along with a
16 brief description of each account.

- 17 • **501 Fuel** – This account includes the cost of fuel and transportation costs used
18 in the production of steam for generation of electricity. For the Companies,
19 this is the vast majority of variable costs associated with energy production.
20 The fees associated with the FAC audit are also charged to this account.

- 21 • **502 Steam Expenses (Environmental subaccounts)** – This account includes
22 the cost of material and expenses used in the production of steam for the
23 generation of electricity. In recent years the majority of the expenses recorded

1 in this account have been for chemicals used in environmental equipment such
2 as selective catalytic reduction (SCR) equipment and flue gas desulfurization
3 (FGD) equipment. These chemicals are referred to as environmental
4 consumables and include lime, limestone, trona, and urea. Lime and
5 limestone are used in FGDs to remove sulfur from the post combustion
6 process. Urea is the primary chemical agent used in the removal of NO_x.
7 Trona is necessary to hinder the formation of SO₃, where an FGD and SCR
8 are used in tandem. Any new environmental-related chemicals that may be
9 required in the future will be included in the FAC.

- 10 • **509 Allowances** – This account records the cost of emission allowances to
11 cover the emission of effluents such as SO₂ and NO_x.
- 12 • **518 Nuclear Fuel Expense** – This account includes the net amortization of
13 the cost of nuclear fuel assemblies. The Companies do not own or operate a
14 nuclear generating plant, are not currently incurring this cost, and are not
15 expecting to incur this expense in the foreseeable future.
- 16 • **547 Fuel** – This account includes the cost of fuel used in facilities other than
17 steam electric generation, such as a simple cycle gas peaking unit. Fuel costs
18 for combined cycle gas plants are recorded in Account 501.
- 19 • **555 Purchased Power** – This account records the cost of electricity purchases
20 including transactions under the AEP Pool and renewable energy contracts. It
21 includes both energy and demand or capacity charges. PJM Interconnection
22 L.L.C. (PJM) ancillary services that are recorded in Account 555 are not

1 included in the FAC, but are included in the Transmission Cost Recovery
2 Rider (TCRR).

- 3 • **507 Rents (Applicable subaccounts only)** – If a purchased power contract or
4 unit power sale is required to be recorded as a lease per accounting rules, then
5 the demand charge associated with the purchased power contract may be
6 recorded in this account. Currently, there are no demand charges recorded in
7 this account for the Companies.
- 8 • **557 Other Expenses (Power Supply – applicable subaccounts only)** – This
9 account records the cost of renewable energy credits (RECs) to meet the
10 renewable requirements of S.B. 221.
- 11 • **411.8 Gains from Disposition of Allowances and 411.9 Losses from**
12 **Disposition of Allowances** – If gains or losses are experienced on the sale or
13 other disposition of emission allowances, they are recorded in these accounts.
14 Regular sales of allowances occur at the annual EPA auction resulting in gains
15 each year. Sales to third parties are periodically made and settlements under
16 the Federal Energy Regulatory Commission (FERC) approved AEP Interim
17 Allowance Agreement (IAA) can result in gains and losses.
- 18 • **Other Accounts and subaccounts** – If environmental, fuel, purchased power
19 and renewable expenses or taxes are recorded in accounts or subaccounts not
20 specifically mentioned in this testimony, the Companies may include them in
21 the FAC. For example a carbon tax could be implemented and recorded in a
22 tax account. Clearly, such a federally mandated carbon or energy tax would
23 be recoverable through the FAC.

1 **Q. IS THE COMPANY PROPOSING TO CONTINUE THE FAC IN THIS ESP?**

2 A. Yes. However, the Company is proposing to modify the FAC by removing Account
3 557 and the REC expense from the fuel clause, and recovering REC expense through
4 a new AER. In addition, bundled purchased power products, or REPAs, currently
5 recorded in Account No. 555, will be split into their REC and non-REC components.
6 The REC component will be recovered through the AER and the non-REC portion
7 will continue to be recovered through the FAC. I will discuss the AER later in this
8 testimony. In addition, the Company will include in the AER the capital carrying
9 costs associated with the solar panels installed on several of the Company's service
10 centers that are also currently included within FAC Account 557.

11 **Q. IN ADDITION TO THE INFORMATION YOU HAVE ALREADY**
12 **PROVIDED ON THE FAC, ARE YOU PROVIDING ANY ADDITIONAL**
13 **INFORMATION PURSUANT TO O.A.C. 4901:1-35-03(C)(9)(a)?**

14 A. Yes Exhibit PJN-1 provides additional information as specified in this section of the
15 O.A.C., including the generating plants that the FAC cost pertains to and a narrative
16 pertaining to the Company's procurement policies and procedures regarding FAC fuel
17 costs.

18 **PHASE-IN DEFERRED FUEL BALANCE**

19 **Q. WOULD YOU BRIEFLY DESCRIBE THE COMPANIES' EXPERIENCE**
20 **WITH THE FAC UNDER THE CURRENT ESP?**

21 A. As expected, the rate phase-in plan (rate cap) played a significant role in the FAC
22 quarterly filings made under the current ESP. The rate cap prevented the Companies,
23 particularly OPCo, from increasing the fuel rate to the level necessary to recover its

1 actual fuel expense. This resulted in the under-recovery of fuel expense and the
2 recording of a fuel deferral balance for both CSP and OPCo during the first two years
3 of the current ESP

4 **Q. WHAT IS THE ESTIMATED PHASE-IN DEFERRED FUEL BALANCE FOR**
5 **EACH COMPANY AT THE END OF THE CURRENT ESP PERIOD,**
6 **DECEMBER 2011?**

7 A. At the end of 2011, it is estimated that the phase-in deferred fuel balance for OPCo
8 will be \$643 million, including carrying charges. CSP is not expected to have a
9 phase-in deferred fuel balance at the end of 2011. The order in Case No. 10-1261-
10 EL-UNC (SEET Case) eliminated the 2010 deferred fuel balance by applying the
11 significantly excessive earnings determined in the SEET case first against the FAC
12 fuel deferral of \$18.7 million. In 2011 CSP will be able to adjust it's FAC rates to
13 match it's FAC cost and still remain under the phase-in rate cap.

14 **Q. HOW WILL THE RATE PHASE-IN DEFERRED FUEL BALANCES BE**
15 **RECOVERED FROM CUSTOMERS?**

16 A. Beginning in January 2012, the Company will begin recovery of the phase-in
17 deferrals from customers over a seven-year period as approved in the Commission's
18 order in Case Nos. 08-EL-917-SSO and 08-EL-918-ESP (ESP Order). The Phase-In
19 Recovery Rider (PIRR) will be designed to recover the phase-in fuel deferral on a
20 KWh basis from all customers. I have been advised by counsel that the phase-in
21 recovery will be on a nonbypassable basis, with carrying charges as required by Sec.
22 4928.44, Ohio Revised Code and the Commission's ESP Order.

1 **Q. HAS THE COMPANY CONSIDERED ALTERNATIVES TO MINIMIZE THE**
2 **IMPACT TO CUSTOMERS OF COLLECTING THE PHASE-IN DEFERRAL**
3 **IN 2012 AND FUTURE YEARS?**

4 A. Yes. The Company believes it may be in the best interest of customers to securitize
5 the phase-in balance and collect the balance over a period longer than seven years, a
6 provision in the current ESP, and to start the collection of the deferred balance at a
7 later time. Company witness Hawkins will further explain the securitization of the
8 deferred fuel balance and Company witness Mitchell will address the recovery of the
9 deferrals. It is my understanding that the securitization provision of the current
10 statute will need to be amended to permit securitization in a manner that will benefit
11 the Company and its customers.

12 **Q. WHAT IS THE COMPANY'S PLAN FOR RECOVERY OF THE PHASE-IN**
13 **DEFERRED FUEL BALANCE?**

14 A. The Company plans to seek recovery of the phase-in deferred fuel balance in a
15 separate rider filing later this year when the balance can be more accurately
16 estimated. The Company plans to make this rider filing in conjunction with the 3rd
17 quarter 2011 FAC filing. The rider will be effective January 1, 2012 as provided for
18 in the Commission's order in the current ESP and will continue through December
19 31, 2018.

20 **Q. PLEASE EXPLAIN HOW THE FAC WILL BE AFFECTED BY THE**
21 **PROPOSED MERGER OF CSP AND OPCO?**

22 A. The merged Company is proposing to have a single FAC rate schedule which in its
23 simplest form will reflect the summation of the FAC costs of the separate companies.

1 **Q. HOW DOES OPCO'S ESTIMATED 2011 FAC COLLECTION RATE**
2 **COMPARE TO CSP'S ESTIMATED 2011 FAC COLLECTION RATE?**

3 A. Currently, the OPCo FAC collection rate is lower than the rate for CSP, but a
4 significant portion of the difference is attributable to the rate cap which ends
5 December 31, 2011. The rate cap has not allowed OPCo to raise its fuel rate to
6 recover its full fuel cost and sizable deferrals will continue in 2011. For example, the
7 average OPCo FAC collection rate for 2011 is expected to be about \$28/MWH after
8 the application of the 8% rate cap for 2011 while the FAC cost for 2011 is estimated
9 to be \$31/MWH. Therefore, a sizable increase in the FAC rate for OPCo customers
10 will happen in 2012 regardless of the merger, since FAC recovery rates will be set to
11 match FAC cost, thus eliminating any new FAC phase-in deferrals beginning in 2012.

12 **Q. IS THE COMPANY PROPOSING THAT A SINGLE PHASE-IN RECOVERY**
13 **RIDER APPLY TO ALL THE CUSTOMERS OF THE MERGED COMPANY?**

14 A. Yes. AEP Ohio is proposing to recover the fuel deferral from all the customers of the
15 merged company.

16 **Q. WILL THIS PROPOSAL PRODUCE A FAIR AND REASONABLE RESULT**
17 **FOR CSP'S CUSTOMERS SINCE THE DEFERRED BALANCE WAS**
18 **CREATED BY OPCO'S CUSTOMERS?**

19 A. Yes, this will produce a fair and reasonable result for all customers. The result of
20 charging CSP customers the total FAC rate, including the phase-in recovery, is
21 virtually equivalent to charging CSP customers their standalone FAC rate. The same
22 holds true for OPCo customers. As shown below, when the FAC costs are considered

1 together with the phase-in recovery, the result does not disadvantage one set of
2 customers over the other.

Merged View of FAC Costs and Phase-In Recovery

		<u>CSP</u>	<u>OPCo</u>	<u>Total</u>
2011 Est. FAC Cost	\$000	\$ 659,091	\$ 807,726	\$ 1,466,817
2011 Est. Non-Shopping Retail Load	Gwh	18,349	26,215	\$ 44,564
Average FAC Rate	\$/MWH	\$ 35.92	\$ 30.81	\$ 32.91
Phase-In Recovery Rate	\$/MWH	\$ -	\$ 5.15	\$ 2.86
3 Total Rate	\$/MWH	\$ 35.92	\$ 35.96	\$ 35.77

4 **THE ALTERNATIVE ENERGY RIDER (AER)**

5 **Q. DID YOU PARTICIPATE IN A WORKING GROUP WITH THE PUCO**
6 **STAFF AND OTHER PARTIES CONCERNING THE POSSIBILITY OF**
7 **REMOVING RENEWABLE COSTS FROM THE FAC AND RECOVERING**
8 **THEM IN A SEPARATE RIDER?**

9 A. Yes. The working group was a result of the settlement in Case Nos. 09-1089-EL-
10 POR and 09-1090-EL-POR and the Company had meetings resulting in rather in-
11 depth discussions with various interested parties.

12 **Q. WAS A CLEAR CONSENSUS REACHED AS A RESULT OF THE**
13 **DISCUSSIONS?**

14 A. No, there was no clear consensus reached on the various topics discussed, however, I
15 believe there was a general consensus reached on selected items, including the desire
16 to separately identify and recover REC costs which are currently recovered in the
17 FAC.

18 **Q. WHAT MECHANISM IS THE COMPANY PROPOSING FOR THE**
19 **RECOVERY OF REC EXPENSE IN THIS ESP?**

1 A. The Company is proposing to begin recovery of REC expense, associated with REPAs
2 or acquired directly, via the AER starting in the proposed ESP. REC expense is the
3 identified renewable value of cost associated with renewable energy. The energy and
4 capacity portions of renewable energy would continue be recovered under the FAC.
5 The derived REC values will flow through the REC inventory and be charged to
6 Account No. 557 (Other Power Supply Expense) which is used today for identified
7 REC expense and is currently included in the FAC. The Company will recover the
8 REC expense through the AER and, therefore, will no longer include this expense or
9 account in the FAC. The advantages will be that a separate REC charge will be
10 identifiable on the customer's bill, and the separate rider may more easily allow for the
11 collection of costs through a different rate design or distribution by tariff if so desired
12 by the Commission. The REC expense recoverable by the AER is bypassable for those
13 customers who switch to another supplier. The Company will make a quarterly filing
14 of the AER in conjunction with the FAC. If an audit of AER is required, it would be
15 most efficient to have that done by the same auditor that performs the FAC audit.

16 **Q. HOW WILL THE REC EXPENSE BE DETERMINED WHEN PURCHASED**
17 **AS PART OF A BUNDLED RENEWABLE PRODUCT (I.E., REPA)?**

18 A. To segregate the REC component of a REPA, the Company will allocate the purchase
19 price into three components (energy, capacity, and REC value) using a residual method.
20 The Company will use a monthly average PJM market price to value the energy
21 component. Capacity will be valued using the capacity price relevant to AEP Ohio's
22 Fixed Resource Requirement (FRR) designation. The remaining value would then be

1 the cost of the REC. A simple (residual) example, using the \$70 REPA value as above,
2 is outlined below.

Delivered Unit	Market Value
Energy	\$35 (from PJM)
Capacity	\$12 (FRR)
REC	\$23 (Remaining value)
Total	\$70

4
5 **Q. HOW DOES THE COMPANY PROPOSE TO DETERMINE THE REC VALUE**
6 **OF SELF-GENERATED RECS SUCH AS THOSE CREATED FROM**
7 **BURNING BIOFUELS?**

8 A. From a conceptual perspective, the identified incremental cost associated with creating
9 a REC would be the cost basis for the REC. For biofuels, the quantity of RECs will be
10 determined based on Rule 4901:1-40-1(G), O.A.C. and the formula used by the
11 Commission in Docket Nos. 10-387-EL-REN and 10-0911-EL-REN. The value of the
12 REC will be determined based on: a) the difference in cost between the renewable fuel
13 and the fuel being replaced; b) the heat content of the renewable fuel; c) the
14 concentration of the renewable fuel and; d) the heat rate of the unit consuming the
15 blended product.

16 A simple example calculation of how a REC would be valued when blending
17 biodiesel with fuel oil is:

1 ((Difference in cost of the biodiesel and fuel oil \$/gallon/heat content of the
2 product Btu/gallon)*1,000,000 Btu/mmBtu*Plant Heat Rate
3 mmBtu/MWh)/Biodiesel concentration = \$/MWh.

4 An example of the calculation using the components as described in Table 3 follows.

5 Table 3- Self-generated REC valuation

Component	Value
Fuel Oil (price/gallon)	\$2.53
Biodiesel (price/gallon)	\$2.63
Delta (price/gallon)	\$0.10
Heat Content (Btu/gallon)	136,000
Biodiesel Concentration	20%
Plant Heat Rate (mmBtu/MWh)	10.0

6
7 The calculation would then be:

8
$$((\$0.10/136,000)*1,000,000*10)/20\% = \$36.76 \text{ REC value.}$$

9 In the above example, because the blend is only 20% biofuel, there would need to be 5
10 MWh generated to receive one REC.

11 **Q. WOULD THE IMPLIED REC VALUE RESULTING FROM THE ABOVE**
12 **DESCRIBED METHODS ALSO BE THE REC VALUE USED FOR THE**
13 **PURPOSES OF CALCULATING THE 3% COST CAP?**

14 **A.** Yes, for consistency the Company submits that the same implied REC value should
15 be used for the cost cap calculation under rule 4901:1-40-07 O.A.C. In addition, any
16 RECs associated with the Generation Resource Rider (GRR) discussed later in this
17 testimony would also be included in the cost cap calculation.

1 **Q. DOES THE GREEN POWER PORTFOLIO RIDER (GPPR) PROPOSED BY**
2 **COMPANY WITNESS ROUSH HAVE ANY IMPACT ON REC EXPENSE**
3 **AND THE ALTERNATIVE ENERGY RIDER?**

4 A. Yes, any incremental program revenue received from customers who choose to
5 participate in the GPPR will be credited against REC expense and reduce the AER
6 rate charged to other customers.

7 **Q. IS THE COMPANY PROPOSING TO PROVIDE GRANTS TO CUSTOMERS**
8 **TO INSTALL RENEWABLE EQUIPMENT AND WHAT IS THE COMPANY**
9 **PROPOSING FOR RECOVERY OF ANY SUCH GRANTS?**

10 A. Yes, the Company has filed Case Nos. 09-1871, 09-1872, 09-1873, and 09-1874 with
11 the Commission outlining a proposed Renewable Energy Technologies program and
12 REC Purchase Program. These applications have not yet been approved by the
13 Commission. To the extent these requests are approved, the Company proposes that
14 the expense of these programs flows through the AER.

15 **Q. IS THE COMPANY PROPOSING TO INCLUDE IN THE AER THE**
16 **CARRYING COSTS ON CAPITAL EXPENDITURES THAT ARE RELATED**
17 **TO THE PRODUCTION OF RECS?**

18 A. Yes. The Company's position is that if it makes capital expenditures that result in
19 RECs that are used to meet the Ohio renewable statute, and the capital expenditures
20 are directly related to production of the RECs, then the capital carrying costs
21 associated with the investment should be included in the AER.

22 **Q. WILL THE AER RECOVER ANY OTHER EXPENSES AND COMPLIANCE**
23 **COSTS IN ADDITION TO THOSE MENTIONED ABOVE?**

1 A. Yes it will include any other prudently-incurred costs of achieving the advanced
2 energy benchmarks. For example, OPCo is currently discussing an arrangement with
3 Marathon Petroleum Company LP (Marathon) that involves the commitment of
4 certain non-electric energy savings (also known as white certificates) by this
5 mercantile customer toward achievement of OPCo's advanced energy benchmarks. If
6 the Commission approves the proposed arrangement in Case No. 10-2777-EL-AEC
7 (or another similar agreement), the payment to Marathon would be another example
8 of compliance cost that would be recovered through the AER.

9 **ENVIRONMENTAL INVESTMENT CARRYING COST RECOVERY RIDER**
10 **(EICCR)**

11 **Q. IS THE COMPANY PROPOSING CONTINUATION OF THE EICCR RIDER**
12 **THAT WAS APPROVED IN THE CURRENT ESP?**

13 A. Yes. The EICCR rider will continue to recover the incremental environmental capital
14 carrying costs incurred after 2009 as these are being recovered today, however the
15 Company is proposing some modifications. First, the Company is proposing that it
16 be permitted to forecast the cost, with a subsequent periodic true-up, rather than
17 continue with the lag that occurs today. Second, there are certain operating and
18 maintenance expenses (O&M) associated with environmental equipment that are not
19 being recovered through either the current environmental rider or the FAC, such as
20 O&M associated with FGD and SCR equipment, that the Company seeks to include
21 beginning in 2012.

22 Also, the Company is requesting the EICCR to be nonbypassable as
23 contemplated by section 4928.143(B)(2)(b). The Company believes it is in the best

1 interests of Ohio retail ratepayers for the Company to be able to recover
2 environmental investments from the total retail customer base. If environmental
3 recovery becomes uncertain, the risk of making significant new environmental
4 investment increases, and it may result in additional or earlier retirements of
5 generating facilities. This may put pressure on generation supply in Ohio and may
6 result in higher market prices.

7 **Q. PLEASE EXPLAIN IN MORE DETAIL THE LAG ASSOCIATED WITH THE**
8 **CURRENT RIDER.**

9 A. The EICCR was approved by the Commission in the 2009-2011 ESP. The language
10 in the ESP Order directed the Companies to request, through an annual filing, the
11 recovery of carrying costs after the environmental investments have been made. In
12 the Company's first filing under this provision of the 2009-2011 ESP, the EICCR
13 rates did not go into effect until late August 2010 and reflected costs associated with
14 2009 environmental capital expenditures. Under this approach, carrying costs for
15 capital expenditures made in 2011, the last year of the current ESP, will not be
16 recovered until 2012 after the current ESP term expires.

17 **Q. IN THE PROPOSED ESP, HOW IS THE COMPANY PROPOSING TO**
18 **TREAT THE ENVIRONMENTAL INVESTMENTS MADE DURING THE**
19 **2009-2011 ESP INCLUDING ANY EXPENDITURES MADE IN 2011?**

20 A. In the proposed ESP, the Company is proposing to cease making filings using the
21 current lag method (although there will be a filing in 2012 to recover carrying charges
22 on 2011 incremental investment under the current ESP and the current method). The
23 Company will design a rate to be effective January 1, 2012 based on the average

1 incremental environmental expenditures made through 2012 and the expected O&M
2 expense associated with environmental equipment for 2012. Any difference between
3 actual environmental costs and recovery will be deferred and trued-up each February,
4 beginning with February 2013, as discussed by Company witness Moore. The
5 EICCR rate the Company is requesting to begin on January 1, 2012 is shown in
6 Exhibit AEM-1 attached to Company witness Moore's direct testimony filed in this
7 case.

8 **CARBON CAPTURE AND SEQUESTRATION RIDER (CCSR)**

9 **Q. IS THE COMPANY PROPOSING TO RECOVER THE AEP OHIO SHARE**
10 **OF THE COMMERCIAL SCALE CARBON CAPTURE AND**
11 **SEQUESTRATION (CCS) FACILITY BEING DEVELOPED AT**
12 **APPALACHIAN POWER COMPANY'S MOUNTAINEER PLANT SITE?**

13 **A.** Yes. The Company is proposing a new rider to recover costs associated with CCS.

14 **Q. PLEASE DESCRIBE THE CCS PROCESS.**

15 **A.** The commercial scale process to be deployed by AEP uses Alstom Inc.'s patented
16 chilled ammonia technology to capture CO₂ generated in the combustion process.
17 The CO₂ is then compressed and piped for storage into a deep geologic formation
18 underlying the plant. The commercial scale CCS system at Mountaineer will be
19 capable of capturing and sequestering up to 1,500,000 metric tons of CO₂ per year.
20 For further detail, please refer to Exhibit JH-1 attached to Company witness
21 Hamrock's testimony.

22 **Q. WHAT EXPENDITURES IS THE COMPANY REQUESTING RECOVERY**
23 **OF DURING THE TERM OF THIS ESP?**

1 A. The Company is requesting that it be permitted to recover AEP Ohio's share of the
2 Phase I Front-End Engineering and Design (FEED) study for this project.

3 **Q. PLEASE DESCRIBE THE CCS FEED STUDY.**

4 A. The CCS FEED study being conducted by AEP is to provide the following
5 deliverables:

- 6 • Preliminary engineering: properly define the system, equipment sizes,
7 specifications, line sizing and other information to support the cost estimate and
8 the National Environmental Policy Act (NEPA) process;
- 9 • +/- 25% Cost Estimate: conduct a detailed cost estimate to increase confidence in
10 the project cost estimate and economically evaluate the benefits of installing CCS
11 on AEP's coal fired power plants;
- 12 • NEPA: Any project that receives government funding must conduct an
13 assessment that evaluates potential impacts or benefits to the environment,
14 economy, society, etc. The deliverables for this process are an Environmental
15 Impact Statement, most of which could be used on other CCS projects, and a
16 Record of Decision from the DOE which would release government funding for
17 detailed engineering, procurement, and construction activities; and
- 18 • Geologic Characterization Study: Validates the continuity of the area geology.

19 **Q. WHAT ARE THE BENEFITS THAT MAY BE REALIZED AS A RESULT OF**
20 **THE CCS FEED STUDY?**

21 A. The study, or Phase I of the Commercial Scale CCS project, is essential to the electric
22 utility industry and the Company because: a) coal is an essential part of the current
23 and future generation of electricity because of its abundance and versatility; b) the

1 coal industry plays a significant role in the economy by the creation of jobs, and; c) it
2 provides a promising way of addressing current and future greenhouse gas
3 regulation/legislation.

4 **Q. WHAT IS THE EXPECTED COST OF THE CCS FEED STUDY?**

5 A. It is currently estimated that the FEED study will cost approximately \$47 million and
6 will be shared among all the AEP operating companies with coal-fired generation.
7 After deducting the DOE Clean Coal Initiative funding, the amount of capital to be
8 expended by AEP operating companies, including AEP Ohio, is \$23.5 million. Based
9 on an allocation of AEP Ohio coal-fired generation to total AEP coal-fired
10 generation, the AEP Ohio share of capital is \$10.9 million, and the annual retail 2012
11 revenue requirement is approximately \$1.6 million using a 14.95% capital carrying
12 charge rate.

13 **Q. HOW WAS THE OHIO ALLOCATION FOR THIS STUDY CALCULATED?**

14 A. The allocation to AEP Ohio is based on the ratio of AEP Ohio's megawatts of coal-
15 fired capacity to the total coal-fired capacity of the AEP system for the coal units that
16 are able to be retrofit with this technology and are fully controlled, or are scheduled to
17 be fully controlled with SCR and FGD technology.

18 **Q. WHAT IS THE TOTAL EXPECTED COST OF THE COMMERCIAL SCALE**
19 **CCS PROJECT AND WHAT IS AEP OHIO'S SHARE?**

20 A. The total cost for the CCS project is not known at this time and the FEED study will
21 provide a detailed estimate. However, preliminary estimates for the total capital
22 project cost would be about \$610 million with an estimated in-service date of 2015.
23 There is an estimated annual O&M requirement of approximately \$58 million

beginning with the in-service date. Applying the same ratios as applied to the FEED Study cost produces an AEP Ohio revenue requirement of approximately \$46 million. The Company is requesting that the CCSR be nonbypassable. The table below shows the calculations just described.

CCS - Phase I Estimates

	<u>FEED Study</u>	<u>\$Millions</u>	
		<u>Total CCS Project Est Capital</u>	<u>O&M</u>
<u>Carbon Capture Phase I:</u>			
Commercial Scale Carbon Capture Phase I	47.0	610.0	58.0
Federal Stimulus Grant Offset	(23.5)	(305.0)	-
Net Capital Expenditure Phase I	23.5	305.0	58.0
Ohio Companies' Allocation Factor	46.5%	46.5%	46.5%
Ohio Companies' Share	10.9	141.8	27.0
Retail Allocation Factor	95.6%	95.6%	95.6%
Ohio Retail Share	10.4	135.6	25.8
Annual Carrying Cost Rate - 25 Year Life	14.95%	14.95%	
		20.3	25.8
Annual Revenue Requirement	1.6		46.1

GENERATION RESOURCE RIDER (GRR)

Q. PLEASE DESCRIBE THE GRR RIDER BEING PROPOSED BY THE COMPANY IN THIS FILING.

A. AEP Ohio is proposing to establish a nonbypassable rider which will recover the cost of new generation resources, including renewable capacity that the Company owns or operates for the benefit of Ohio customers. This rider is nonbypassable and will be

1 designed to recover renewable and alternative capacity additions, as well as more
2 traditional capacity constructed or financed by the Company and approved by the
3 Commission. This rider would also be used to recover any major investments that
4 extend the life or increase the capacity of existing generation, or investments made to
5 replace older, smaller coal fired units with new gas fired capacity.

6 **Q. WHAT TYPES OF COSTS WILL THE GRR RIDER INCLUDE?**

7 A. The rider will recover O&M, capital carrying costs and lease payments associated
8 with the Company's investment in facilities dedicated to serving Ohio retail
9 customers.

10 **Q. WHY DOES THIS RIDER INCLUDE LEASE PAYMENTS?**

11 A. A project may be financed through a lease rather than a direct capital investment by
12 the Company. Also for accounting purposes, when certain conditions are met,
13 purchased power contracts are treated as capital leases and included on the balance
14 sheet. Further, I am advised by counsel that, the lessee on a capital lease is generally
15 considered the owner of the leased facility. Moreover, lease payments are capital
16 costs and are a long-term obligation of the Company and, therefore, belong in a
17 nonbypassable rider as provided for in S.B. 221.

18 **Q. COMPANY WITNESS GODFREY DISCUSSES THE TURNING POINT**
19 **SOLAR PROJECT, WOULD THE COSTS ASSOCIATED WITH THIS**
20 **PROPOSED PROJECT BE RECOVERED UNDER THIS RIDER?**

21 A. Yes, the Turning Point project is expected to be owned and operated by the Company
22 and if the Commission approves the project, the Company will seek recovery of its
23 costs under the GRR.

1 **Q. IS THE COMPANY SEEKING APPROVAL OF THE PROPOSED TURNING**
2 **POINT PROJECT?**

3 A. Yes, the Company is seeking authority to include the project in the GRR. The
4 Company updated its integrated resource plan in the Company's Supplement To The
5 2010 Long-Term Forecast Report (or "2010 LTFR Supplement") to the Public
6 Utilities Commission of Ohio Case No. 10-501-EL-FOR and 10-502-EL-FOR which
7 was filed on December 20, 2010. The Commission will determine the need in that
8 docket. Recovery of the cost will be through a nonbypassable charge for the life of
9 the facility. At a later date, the Company will make a filing with this Commission
10 proposing a rate upon completion of the definitive agreements. This rate will be
11 adjusted and trued up periodically to match the actual costs and operation of the
12 facility.

13 **Q. WOULD YOU PLEASE PROVIDE A GENERAL OVERVIEW OF WHAT**
14 **THE EXPECTED COSTS OR TYPES OF COSTS WILL BE ASSOCIATED**
15 **WITH THE PROPOSED TURNING POINT PROJECT?**

16 A. Company witness Godfrey provides a description of the project structure and the
17 types of costs and transactions that will be involved in the Turning Point project. My
18 understanding is that the project is likely to have a levelized lease payment, operation
19 and maintenance expense, property taxes, and may also involve some leasehold
20 improvements (additional capital expenditures over the life of the project). The lease
21 payment is a capital lease and would include the cost of financing the project with
22 both debt and equity, as well as, depreciation and income taxes associated with the
23 capital investment. The Company plans to provide \$20 million of equity capital.

1 **Q. HOW WILL THE INVESTMENT TAX CREDIT (ITC) AND OTHER TAX**
2 **SUBSIDIES ASSOCIATED WITH THE PROPOSED TURNING POINT**
3 **PROJECT BENEFIT CUSTOMERS?**

4 A. The owner of the Turning Point project should be eligible for ITC under §48 of the
5 Internal Revenue Code by the Energy Improvement and Extension Act of 2008
6 (Public Law 110-343), and accelerated tax depreciation. Since the lessee (AEP Ohio)
7 will be the owner for tax purposes, these benefits will reduce the lease payments
8 recoverable from customers. However, the Company intends to seek a private letter
9 ruling from the Internal Revenue Service (IRS) in order to determine how quickly the
10 tax benefits can be flowed through to customers. The IRS may require the benefits to
11 be normalized, which may result in additional interest cost over the life of the project.
12 The Company will address any tax issues when it makes its planned supplemental
13 filing later this year.

14 **Q. HOW WILL THE TARIFFS BE DESIGNED AND ADMINISTERED FOR**
15 **THIS RIDER?**

16 A. Company witness Roush will address the design and administration of this rider.

17 **RENEWABLE ACQUISITION PROCUREMENT AND PROCESS**

18 **Q. WILL THE REQUEST FOR PROPOSAL (RFP) PROCESS FOR REPAS**
19 **AND/OR RECS DIFFER FROM THE COMPANY'S CURRENT PROCESS?**

20 A. No, the RFP process will remain the same. AEP Ohio is proposing to file an
21 application with the Commission for approval of each contract executed as a result of
22 an RFP for compliance purchases with a term of greater than three years. The
23 application process will be no more frequent than quarterly and will align to the

1 Annual Alternative Energy Compliance Plan pursuant to Rule 4901:1-40-0 (c),
2 O.A.C. Further, the application will request Commission approval within 60 days of
3 the submission date of the application. The application will be deemed automatically
4 approved on the sixty-first day after the date filed unless suspended or denied by the
5 Commission before this time, to achieve timely recovery of all reasonable costs
6 associated with acquiring purchased power and/or RECs involved in the RFP in the
7 year in which they are delivered to and paid for by the Company. This is irrespective
8 of the date the REC may be retired.

9 **Q. IS THE COMPANY SEEKING APPROVAL OF ANY EXISTING RFPs WITH**
10 **THIS FILING?**

11 A. Yes. Company is requesting approval of the Timber Road RFP in this filing.
12 Company witness Godfrey addresses the Timber Road wind REPA in more detail in
13 his testimony.

14 **Q. WILL THE COMPANY SEEK PRE-APPROVAL FOR THE RECOVERY OF**
15 **OTHER RENEWABLE COSTS THAT ARE NOT PART OF THE RFP**
16 **PROCESS FOR REPAS?**

17 A. Yes, in a separate application that the Company will file with the Commission, a
18 request will be made for pre-approval of the following items:

- 19 • Capital investments and O&M expenses required to upgrade existing facilities
20 for renewable fuel use, including biomass and biofuels when over \$5 million;
- 21 • Long term (minimum of 2 years) fuel supply agreements for certified
22 renewable products, including biomass and biofuels; and

- 1 • Customer programs for small customer owned renewable distributed
2 generation (<100 KW).

3 **Q. HOW WILL THE COMPANY SEEK RECOVERY OF THESE COSTS?**

4 A. Capital and O&M costs will be recovered through the proposed AER while the cost
5 of non-REC fuel supply agreements for renewable products will continue to be
6 recovered in the FAC.

7 **Q. IS THE COMPANY AWARE OF ANY SUCH CAPITAL INVESTMENTS**
8 **FOR WHICH THE COMPANY WILL BE SEEKING APPROVAL FOR**
9 **RECOVERY IN THE 2012-2014 ESP PERIOD?**

10 A. Yes. The Company is actively pursuing engineered fuel, a waste product which
11 includes paper, light film plastics and other constituents acceptable to use as fuel, to
12 be certified by the Commission as a renewable resource. If certified, and depending
13 on final Ohio EPA rules for alternative fuels tied to solid waste and the Industrial
14 Boiler MACT rules, the Company will be seeking the pre-approval of approximately
15 \$8 million in capital investment for a required retrofit necessary to support a separate
16 injection system for the engineered fuel. The indicative fuel price from the supplier is
17 approximately \$1 per mmbtu delivered. This cost is based on the response from one
18 fuel supplier from the Company's 1st quarter 2010 biomass RFP.

19 **Q. WHAT ARE THE EXPECTED CAPITAL NEEDS FOR BIOMASS WHICH**
20 **THE COMPANY WILL BE SEEKING APPROVAL FOR RECOVERY IN**
21 **THE 2012-2014 ESP PERIOD?**

1 A. At this time, the Company is not planning any capital expenditures for biomass
2 and/or biofuels, however, the Company will continue to monitor the need for and
3 potential opportunities in the use of these renewable products.

4 **CAPITAL CARRYING COSTS**

5 **Q. IN SEVERAL PLACES IN THIS TESTIMONY YOU MENTIONED CAPITAL**
6 **CARRYING COSTS. PLEASE EXPLAIN CAPITAL CARRYING COSTS**
7 **AND HOW THE COMPANY WILL CALCULATE THEM.**

8 A. Capital carrying costs are the annual costs associated with the investment of a dollar
9 in capital projects. Investors require both a return of and a return on their capital
10 expenditures. Capital projects or expenditures are recovered over the life of the asset.
11 The capital carrying cost is determined by applying an annual carrying cost rate,
12 expressed as a percent of the capital expenditure, to the total amount spent on a
13 capital project or projects. The carrying cost rate includes the cost of money
14 (weighted average cost of capital), a depreciation component, an income tax
15 component, property and other taxes component and an administrative and general
16 component. It does not include direct O&M expenses. Also, because of the
17 depreciation component the rate varies based on the expected life of the project. The
18 rate is higher the shorter the life of the project. The Company will apply the
19 appropriate annual levelized carrying cost rate to a project based on its projected
20 service life. The Company's current levelized carrying cost rates are attached to this
21 testimony as Exhibit PJN-2, which provides the appropriate carrying cost rate for
22 various service lives. The carrying costs shown on this exhibit may require an
23 adjustment to the Property Tax and Administrative and General component of the

1 schedule before application to a particular set of capital investments, such as had been
2 done in Case No. 10-155-EL-RDR (EICCR).

3 **POOL TERMINATION OR MODIFICATION PROVISION**

4 **Q. PLEASE DESCRIBE THE STATUS OF THE AEP POOL.**

5 A. On December 17, 2010 OPCo, CSP and other members of the AEP Pool provided
6 written notice to each other of their mutual desire to terminate the existing agreement
7 on three years notice in accordance with Article 13.2. The Interim Allowance
8 Agreement (IAA) would be terminated concurrently with the AEP Pool. AEP has
9 committed to enter into discussions with this Commission and other state
10 commissions and stakeholders (stakeholders) concerning the termination and whether
11 any new affiliate agreement should replace it. These discussions are expected to
12 continue through 2011 and perhaps longer. It cannot be known at this time, what, if
13 any, agreement(s) may replace the current AEP Pool.

14 **Q. WHY HAS THE COMPANY CHOSEN TO TERMINATE THE AEP POOL**
15 **AT THIS TIME?**

16 A. Specific reasons for termination of the pool include the following:

- 17 a. AEP joined the PJM Regional Transmission Organization (RTO) in October
18 2004. Over the last six years, PJM has proven capable of fulfilling the role of
19 economically dispatching the generating units of the members to satisfy the
20 requirements of their loads, a role historically performed by AEPSC under the
21 AEP Pool agreement. As such, the AEP Pool, at least in its current form is less
22 essential.

- 1 b. S.B. 221 requires the eventual corporate separation of CSP's and OPCo's
2 generation. However, under the current AEP Pool the Ohio "deregulated"
3 generation is pooled with the generation of the other members whose generation
4 is "regulated." This termination prepares for this eventual separation.
- 5 c. Changes in utility regulation and the energy markets have either occurred or are
6 anticipated that were not contemplated by the AEP Pool that limit the
7 effectiveness of comprehensive, system-wide system planning and dispatch. For
8 example, renewable portfolio standards or goals have been established in this state
9 that has resulted in the addition of wind and solar resources. Further additions of
10 capacity for OPCo, which is already in a surplus capacity position, are
11 inconsistent with the original intent of the AEP Pool agreement.
- 12 d. AEP Pool termination promotes the long-term strategic objective of AEP to
13 further decentralize utility operations by affording each member more autonomy.
14 For example, working with its customer representatives and other stakeholders,
15 each member will be able to make more independent decisions regarding how it
16 plans for its own generation needs (e.g., "build or buy").

17 **Q. WHAT IS THE INTENT OF THE COMPANY'S PROPOSED POOL**
18 **TERMINATION OR MODIFICATION PROVISION?**

19 A. Since the Company cannot predict the outcome of the discussions and subsequent
20 FERC filings, it is desirable to have the ability to adjust rates for a significant change
21 in the Company's generating cost resulting from either the elimination of the AEP
22 Pool or from the substitution of a new agreement. Therefore, the Company is

1 proposing the provision to recover any significant increase in costs if that were to
2 occur during the term of this ESP plan.

3 **Q. IN THE AEP POOL, WHAT IS THE CURRENT CAPACITY POSITION OF**
4 **OPCO AND CSP AND THE FUTURE POSITION FOLLOWING THE**
5 **MERGER OF THE COMPANIES?**

6 A. OPCo is currently a capacity surplus member of the AEP Pool and CSP is a deficit
7 member. The merged company will be capacity long and a surplus member in the
8 AEP Pool, with its generating capacity in excess of its internal load peak demand.

9 **Q. WHEN THE CURRENT AEP POOL IS TERMINATED, HOW WILL THE**
10 **COMPANY REPLACE THE LOST CAPACITY REVENUE?**

11 A. There are potentially a number of ways that the lost capacity revenue can be replaced,
12 including new affiliate and non-affiliate wholesale contracts or additional sales into
13 the PJM capacity market. Also, the Company would be in a position to consider
14 selling some of its generating assets, since it is in excess of what it needs to meet its
15 non-switching load and other firm capacity obligations.

16 **Q. HOW WOULD THE PROPOSED POOL TERMINATION OR**
17 **MODIFICATION PROVISION WORK?**

18 A. Without knowing the results of discussions with the various stakeholders and the
19 result of the required filing with the FERC, I cannot be precise at this time. However,
20 in general, the Company will compare the lost AEP Pool capacity revenue to
21 increases in net revenue related to new wholesale transaction or decreases in
22 generation asset costs that result from the FERC proceedings related to the AEP Pool.

1 If there is substantial decrease in net revenue then the Company may avail itself of
2 this provision and seek recovery of the lost net revenue from retail customers.

3 **Q. WHAT PERIOD WILL THE COMPANY USE TO DETERMINE A**
4 **SUBSTANTIAL DECREASE IN NET REVENUE AND IS THE COMPANY**
5 **PROPOSING A THRESHOLD AMOUNT BELOW WHICH CUSTOMERS**
6 **ARE PROTECTED?**

7 A. The Company will not adjust the proposed ESP rates if the annual effect of the AEP
8 Pool termination or any new affiliate arrangement is less than \$35 million on an
9 annual basis during the term of this ESP. The annual effect will be determined by
10 comparing the actual AEP Pool capacity revenue in the most recent twelve-month
11 period proceeding the effective date of the change in the AEP Pool, to increases in
12 net revenue related to new wholesale transaction or decreases in generation asset
13 costs using that same twelve-month period. Minor changes such as modifications
14 associated with the OPCo and CSP merger will not trigger this provision.

15 **PRO FORMA FINANCIALS**

16 **Q. HAVE YOU OR SOMEONE UNDER YOUR SUPERVISION PREPARED**
17 **PRO FORMA FINANCIAL PROJECTS AS REQUIRED BY O.A.C. 4901:1-35-**
18 **03(C)(2)?**

19 A. Yes, attached to my testimony as Exhibit PJN-3 are an income statement, balance
20 sheet and cash flow for the Company showing the effect of the ESP's implementation
21 upon the Company for the duration of the proposed ESP. The exhibit provides the list
22 of assumptions that were used to prepare the financial statements. I have also
23 included in this exhibit the methodology used in deriving the pro forma projections.

- 1 **Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?**
- 2 **A. Yes it does.**

INFORMATION PROVIDED PURSUANT TO OAC 4901:1-35-03(C)(9)(a)

General Fuel Requirements

The generating units of CSP and OPCo (AEP Ohio) and the other AEP System- East Zone operating companies, which are predominantly coal-fired, are managed to ensure adequate fuel supplies to meet normal burn requirements in both the short-term and the long-term. American Electric Power Service Corporation (AEPSC), acting as agent for AEP Ohio, is responsible for the procurement and delivery of fuel and chemicals used for environmental compliance (consumables) to AEP Ohio's generating stations. AEPSC's primary objective is to assure a continuous supply of quality fuel at the lowest cost reasonably possible. Deliveries are arranged so that sufficient fuel and consumables are available at all times. The quality of the delivered coal is fundamental to achieving and maintaining compliance with the applicable environmental limitations and operating efficiencies.

AEP Ohio proposes to pass any net gains on the sale of emission allowances through the FAC. AEP does not have a practice of re-selling coal contracts, however, if it did so it would pass any cost savings or profits related to Ohio generating resources through the FAC.

Coal and Gas Procurement Process

Coal delivery requirements are determined by taking into account existing coal inventory, forecasted coal consumption, and adjustments for contingencies that necessitate an increase or decrease in coal inventory levels. Sources of coal are determined by taking into account contractual obligations and existing sources of supply.

INFORMATION PROVIDED PURSUANT TO OAC 4901:1-35-03(C)(9)(a)

AEP Ohio's total coal requirements are met using a portfolio of long-term arrangements and spot-market purchases. Long-term contracts support a relatively stable and consistent supply of coal. Spot purchases are used to provide flexibility in scheduling contract deliveries, to accommodate changing demand, and to cover shortfalls in deliveries caused by force majeure and other unforeseeable or unexpected circumstances. Occasionally, spot purchases are also made to test-burn any promising and potential new long-term sources of fuel in order to determine their acceptability as a fuel source in a given power plant's generating units.

All long-term and most spot purchases of coal for AEP Ohio's plants are made based on the evaluation of competitive bids. Additional short-term purchases are made based on an evaluation of offers (both solicited and unsolicited) from suppliers compared to current published market prices as well as other offers for tonnage of acceptable quality. In all cases, the goal is securing the lowest reasonable delivered price on a cents-per-million-BTU basis.

AEP Ohio's day-to-day needs for natural gas are generally unpredictable and are generally purchased on a day-ahead and intra-day basis as needed for peaking requirements. Natural gas is competitively purchased and primarily obtained in the spot market with prices on a daily index or a daily fixed price. The Company has arranged for both firm and interruptible transportation service from various inter-state pipelines, which provide flexible supplies from multiple production areas.

Inventory

AEP Ohio attempts to maintain in storage at each plant an adequate coal and consumables

INFORMATION PROVIDED PURSUANT TO OAC 4901:1-35-03(C)(9)(a)

supply to meet normal burn requirements. However, in situations where coal supplies fall below prescribed minimum levels, the Company attempts to conserve coal supplies. In the event of a severe coal shortage, AEP Ohio and the AEP System-East Zone operating companies would implement procedures for the orderly reduction of the consumption of electricity, in accordance with the Emergency Operating Plan.

Generating Unit Information

The generating units that AEP Ohio owns are included in the table below. The table also lists major environmental equipment that has been added to the units: Flue Gas Desulfurization (FGD) for the control of SO₂ emissions, and Selective Catalytic Reduction (SCR) for the control of NO_x emissions. The costs associated with these generating units are included in the FAC as set out in the Company's testimony in its ESP filing.

INFORMATION PROVIDED PURSUANT TO OAC 4901:1-35-03(C)(9)(a)

AEP System - AEP Ohio
Existing Generation Capacity as of June 1, 2010

Plant Name	Unit No.	In-Service Date	Fuel Type	SCR Installation Year	FGD Installation Year
CSP					
Beckjord	6	1969	Coal	—	—
Conesville	3	1962	Coal	—	—
Conesville	4	1973	Coal	2009	2009
Conesville	5	1976	Coal	2015	1976
Conesville	6	1978	Coal	2015	1978
Picway	5	1955	Coal	—	—
Stuart	1	1971	Coal	2004	2008
Stuart	2	1970	Coal	2004	2008
Stuart	3	1972	Coal	2004	2008
Stuart	4	1974	Coal	2004	2008
Zimmer	1	1991	Coal	2004	1991
Waterford	1-6	2002	(a) Gas (CC)	2002	—
Darby	1-6	2002	(d) Gas (CT)	2002	—
Lawrenceburg	1-6	2004	(d) Gas (CC)	—	—
Stuart Diesel	1-4	1969	Oil (Diesel)	—	—
OPCo					
Amos	3	1973	Coal	2004	2009
Cardinal	1	1967	Coal	2004	2008
Gavin	1	1974	Coal	2004	1994
Gavin	2	1975	Coal	2004	1994
Kammer	1	1958	Coal	—	—
Kammer	2	1958	Coal	—	—
Kammer	3	1959	Coal	—	—
Mitchell	1	1971	Coal	2007	2007
Mitchell	2	1971	Coal	2007	2007
Muskingum River	1	1953	Coal	—	—
Muskingum River	2	1954	Coal	—	—
Muskingum River	3	1957	Coal	—	—
Muskingum River	4	1958	Coal	—	—
Muskingum River	5	1968	Coal	2005	2015
Sporn	2	1950	Coal	—	—
Sporn	4	1952	Coal	—	—
Sporn	5	1960	Coal	—	—
OPCo Hydro		1983	(b) Hydro	—	—

(a) Acquired in 2005

(b) Racine Hydro

(d) Acquired in 2007 by AEP Generating Co, CSP receives capacity and energy via agreement

INFORMATION PROVIDED PURSUANT TO OAC 4901:1-35-03(C)(9)(a)

Purchased Power

AEP Ohio makes power purchases from affiliates, non-affiliated companies and through the PJM market that will be included in the Companies' proposed FAC. AEP Ohio has contracts to purchase power from OVEC and Buckeye Power generating units, and from its affiliate, American Electric Generating Company's (AEG) Lawrenceburg plant.

AEP Power Pool and PJM

The 2009 FAC reflects the AEP Ohio generating resources being operated under the AEP Interconnection Agreement. AEP is a member of PJM and operates its fleet, including AEP Ohio's generating resources, in accordance with PJM protocols.

Economic Dispatch

AEP, along with other generators in PJM, "offer(s)" available generating units into the PJM market on a daily basis. PJM performs an economic dispatch for the PJM footprint to meet the load requirements with all available generation. After the end of the month AEP reconstructs, for cost allocation purposes, the economic dispatch for its units based on hourly generating unit output. This reconstruction assigns the resources used for Off-System Sales for each hour of the month. The resources at the top of the stack, i.e., those with higher variable costs, are assigned to Off-System Sales resulting in lower costs assigned to internal load customers.

AEP Ohio
Annual Investment Carrying Charges
For Economic Analyses
As of 8/31/2010

	Investment Life (Years)												
	2	3	4	5	7	10	15	20	25	30	33	40	50
Return (1)	8.40	8.40	8.40	8.40	8.40	8.40	8.40	8.40	8.40	8.40	8.40	8.40	8.40
Depreciation (2)	48.93	31.68	23.05	17.90	12.05	7.75	4.54	3.03	2.20	1.68	1.46	1.10	0.80
FIT (3) (4)	3.28	3.26	3.19	3.12	2.96	2.74	2.41	2.12	1.90	1.76	1.70	1.59	1.50
Property Taxes, General & Admin Expenses	2.45	2.45	2.45	2.45	2.45	2.45	2.45	2.45	2.45	2.45	2.45	2.45	2.45
	63.06	45.79	37.10	31.87	25.86	21.34	17.80	16.01	14.95	14.29	14.01	13.55	13.15

(1) Based on After Tax WACC per R. Hawkins Testimony

(2) Sinking Fund annuity with R1 Dispersion of Retirements

(3) 20 Year MACRS Tax Depreciation

(4) @ 35% Federal Income Tax Rate

Methodology, Assumptions and
Pro Forma Financial Projections

Methodology

The Pro Forma financial statements were developed consistent with the methodology utilized by the Company for preparing its normal operating forecast. This methodology is a process requiring input from a variety of groups within AEP and AEP Ohio. Due to the integrated nature of the AEP System, the preparation of any individual operating company forecast requires a forecast of the entire AEP System. The major components of a forecast are as follows: 1) load and demand forecast; 2) generation forecast; 3) retail and firm wholesale operating revenue projections; 4) O&M forecast; 5) construction expenditure forecast; and 6) financing plan. The Pro Formas also reflect the financial effect of the Company's proposed ESP plan.

Assumptions, such as growth in kilowatt-hour sales, fuel expense, interest rates, and cost projections based on each of the companies' work plans, are made in advance of the preparation of the forecast. These assumptions are reviewed with individuals from the operating companies and within AEPSC to determine the most reasonable set of assumptions to be incorporated into the forecast. As we progress through each year's business we track and monitor actual performance compared to plan and adjust the plans as necessary. The major sequential steps are as follows:

1) Load and Demand Forecast - Because the AEP System is highly integrated, the preparation of any individual company forecast requires an internal load forecast and an off-system sales forecast for all the AEP

**Methodology, Assumptions and
Pro Forma Financial Projections**

System companies. The internal load projection is developed by the Financial and Economic Forecasting Department in conjunction with various groups across the AEP System including input from the operating companies and reflects an analysis of the economy and the unique factors that influence individual customers or customer classes in each of the regions that AEP serves.

2) Generation Forecast - A generation forecast is developed by the Commercial Operations Division and the Resource Planning and Operational Analysis Department which, together with planned energy purchases, is sufficient to meet the system's anticipated total energy requirements. The cost of fuel consumed is based on the generation forecast for each of the generating units in the AEP System. In addition to fuel costs, AEP incurs other variable costs of production, costs for other consumable materials at our generating stations for the operation of environmental equipment and purchased power costs.

3) Retail and Wholesale Operating Revenue Projections - Revenues for most customers are developed by customer class using base realizations under current rates and fuel adjustment clauses included in the appropriate filed tariffs or contracts. Projections of base realizations reflect actual experience adjusted to be consistent with the projected sales and usage levels. Revenues for large wholesale and other special contract customers are developed in detail in accordance with the terms of the contract,

Methodology, Assumptions and
Pro Forma Financial Projections

including demand, energy and fuel adjustment charges. Revenues related to known off-system sales arrangements are developed in accordance with the terms of the specific agreements related to such sales. The bulk of the projected off-system sales volume sold to counter-parties is not known when the forecast is developed and, therefore, is priced at expected market rates.

5) O&M Forecast – Operation and maintenance expenses, excluding energy costs, are based upon current work plans for each of the functional groups. These plans include expenditures for scheduled maintenance programs as well as the cost of operations. These plans take into consideration staffing levels, including budgeted increases in salaries as well as material costs necessary to perform each planned program. While this data is developed for both OPCo and CSP individually, the review process generally looks at the two companies combined since they are effectively operating as one.

6) Construction Expenditure Forecast - The various engineering and planning groups in each operating company and in the AEP Service Corporation develop the construction expenditure budget. It reflects expenditures and in-service dates of major projects during the year as well as amounts approved to fund blanket work (smaller projects grouped together) which is essential in estimating both book and tax depreciation as well as the allowance for funds used during construction (AFUDC).

7) Financing Plan - The development of the financing program for the

Methodology, Assumptions and
Pro Forma Financial Projections

forecast is intended to meet the company's working capital requirements. In determining the company's financing program, consideration is given to coverage and other regulatory restrictions, timing of requirements, availability of equity capital, and corporate objectives such as credit metrics, capital structure and short-term debt limitations.

Methodology, Assumptions and
Pro Forma Financial Projections

Assumptions

- The AEP Interconnection Agreement (IA), the AEP Transmission Agreement and the Interim Allowance Agreement continue for the years shown.
- All current AEP Ohio generation assets and entitlements are maintained through the forecast period except for Conesville 3 which is assumed to be retired in 2012, and Sporn 5 which is assumed to be retired prior to 2012.
- Utility Operations sells generation beyond the system internal load requirements into the wholesale market.
- The assumed load forecast (including Ohio Customer Choice) is provided below:

Connected Load		Year 2012	Year 2013	Year 2014
AEP Ohio	Residential	14,831	14,771	14,697
	Commercial	14,513	14,612	14,622
	Industrial	18,199	18,380	18,392
	Other Retail	133	133	132
	Total Retail	47,676	47,895	47,843
CSP	Residential	7,482	7,504	7,510
	Commercial	8,732	8,821	8,837
	Industrial	4,935	4,950	4,888
	Other Retail	57	57	58
	Total Retail	21,207	21,332	21,293
OPCo	Residential	7,349	7,267	7,187
	Commercial	5,780	5,791	5,785
	Industrial	13,264	13,431	13,503
	Other Retail	76	75	75
	Total Retail	26,469	26,564	26,550

- All financially significant components of the Company's ESP filing are included in these projections.
- Long-term interest rates are assumed to be 5.3% for all new issuances.
- Current depreciation rates were assumed to continue through the forecast period.

Methodology, Assumptions and
Pro Forma Financial Projections

- No attempt has been made to show all transactions necessary to reflect the proposed merger. The projected financial statements reflect an addition of the forecasted results for the two companies with the exception that IA capacity payments were eliminated from CSP.
- The Phase-In deferred fuel balance is recovered over 7 years with a WACC carrying cost beginning 1/1/2012
- FRR CRES capacity charges are based on the formula rate as proposed by the Company

Methodology, Assumptions and
Pro Forma Financial Projections

Pro Forma Financials

Line	<u>INCOME STATEMENT</u>		
	(\$000)		
(1) Combined AEP Ohio			
	2012	2013	2014
(2) REVENUE			
(3) Sales of Electricity	5,877,771	5,922,743	6,286,640
(4) Other Operating Revenue	139,119	146,794	154,837
(5) Total Revenue	6,016,889	6,069,537	6,441,476
(6) COST OF SALES			
(7) Total Cost of Sales	2,807,381	2,795,902	3,099,859
(8) Gross Margin	3,209,508	3,273,636	3,341,618
(9) OPERATING EXPENSES			
(10) Operations & Maintenance	1,191,137	1,217,574	1,263,842
(11) Taxes Other Than Income	403,934	410,834	418,362
(12) TOTAL OPERATING EXPENSES	1,595,071	1,628,409	1,682,204
(13) Operating Margin/EBITDA	1,614,437	1,645,227	1,659,414
(14) Depreciation & Amortization	493,346	496,823	517,551
(15) Other (Income) / Deductions	(96,202)	(89,777)	(84,829)
(16) EBIT	1,217,293	1,238,181	1,226,692
(17) Total Interest Expense	211,777	203,207	201,908
(18) Total Income Taxes	357,096	360,771	357,688
(19) Preferred Stock Dividends	889	889	889
(20) NET INCOME	647,531	673,314	666,206
(21) OFF SYSTEM SALES (OSS)	139,129	165,746	197,744
(22) NET INCOME EXCLUDING OSS	508,402	507,568	468,462
(23) RETURN ON COMMON EQUITY EXCL. OSS*	11.68%	11.63%	10.72%

*Does not reflect any adjustment to common equity balance for exclusion of OSS income.

Methodology, Assumptions and
Pro Forma Financial Projections

Line	<u>BALANCE SHEET</u>		
	(\$000)		
(1) Combined AEP Ohio			
	2012	2013	2014
(2) Assets			
(3) Gross Plant in Service	15,750,679	15,977,461	16,358,963
(4) Construction Work In Progress	341,342	507,261	676,399
(5) Gross Plant in Service	16,092,021	16,484,722	17,035,362
(6) Accumulated Depreciation	6,242,396	6,542,387	6,861,072
(7) Net Utility Plant	9,849,625	9,942,335	10,174,290
(8) Other Property and Investments	197,605	202,057	199,123
(9) Current and Accrued Assets	1,112,628	1,160,917	1,248,488
(10) Unamortized Debt Expense	16,882	14,903	13,478
(11) Unamortized Loss on Reacquired Debt	14,100	13,206	12,366
(12) Regulatory Assets	1,296,227	1,233,365	1,160,922
(13) Other Net Deferrals	717,935	717,785	716,433
(14) Total Assets	13,205,001	13,284,568	13,525,099
(15) Equity and Liabilities			
(16) Common Stock	4,527,916	4,551,387	4,542,751
(17) Preferred Stock	16,616	16,616	16,616
(18) Other Comprehensive Earnings	(176,907)	(176,907)	(176,907)
(19) Total Equity	4,367,625	4,391,096	4,382,460
(20) Long-Term Debt	3,560,440	3,561,110	3,775,893
(21) Capital Leases	60,689	60,046	59,456
(22) Other Non-Current Liabilities	697,685	740,512	778,536
(23) Short-Term Debt	146,945	71,659	47,464
(24) Other Current and Accrued Liabilities	1,156,105	1,138,929	1,179,777
(25) Deferred Credits	3,215,512	3,321,215	3,301,514
(26) Total Equity and Liabilities	13,205,001	13,284,568	13,525,099
(27) Total Debt/Capital	46.3%	45.7%	47.0%

Methodology, Assumptions and
Pro Forma Financial Projections

Line	<u>CASH FLOW</u> (\$000)			
(1) Combined AEP Ohio		2012	2013	2014
(2) Operating Activities				
(3) Balance for Common		648,420	674,203	667,096
(4) Adjustments to Net Income				
(5) Depreciation and Amortization		493,346	496,823	517,551
(6) Deferred Income Tax		221,006	107,120	(18,435)
(7) Changes in Regulatory Assets		(3,441)	(9,900)	(9,185)
(8) Changes in Working Capital		(13,906)	(25,363)	(1,117)
(9) Other Adjustments to Net Income		72,009	35,205	36,569
(10) Cash From Operations		1,417,435	1,278,089	1,192,479
(11) Investing Activities				
(12) Construction Expenditures		(448,142)	(537,791)	(683,407)
(13) AFUDC Debt/Capitalized Interest		(12,579)	(16,529)	(27,340)
(14) Cash Used in Investing		(460,721)	(554,320)	(710,747)
(15) Financing Activities				
(16) Issuance of Long-Term Debt			556,000	650,000
(17) Retirement of Long-Term Debt		(444,500)	(556,000)	(435,825)
(18) Change in Short-Term Debt		42,557	(73,148)	17,150
(19) Equity Contributions				
(20) Dividends Paid		(650,000)	(650,000)	(675,000)
(21) Other Financing Activity		(1,491)	(1,375)	(1,322)
(22) Cash From Financing Activities		(1,053,434)	(724,524)	(444,997)
(23) Total Change in Cash		(96,720)	(754)	36,734
(24) Beginning Cash and Cash Equivalents		103,752	7,032	6,277
(25) Ending Cash and Cash Equivalents		7,032	6,277	43,012

EXHIBIT NO. _____

BEFORE
THE PUBLIC UTILITIES COMMISSION OF OHIO

In the Matter of the Application of)	
Columbus Southern Power Company and)	
Ohio Power Company for Authority to	)	Case No. 11-346-EL-SSO
Establish a Standard Service Offer	)	Case No. 11-348-EL-SSO
Pursuant to §4928.143, Ohio Rev. Code,)	
in the Form of an Electric Security Plan.)	

In the Matter of the Application of)	
Columbus Southern Power Company and	)	Case No. 11-349-EL-AAM
Ohio Power Company for Approval of	)	Case No. 11-350-EL-AAM
Certain Accounting Authority.)	

DIRECT TESTIMONY OF
RENEE V HAWKINS
ON BEHALF OF
COLUMBUS SOUTHERN POWER COMPANY
AND
OHIO POWER COMPANY

Filed: January 27, 2011

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RENEE V. HAWKINS

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BEFORE
THE PUBLIC UTILITIES COMMISSION OF OHIO
DIRECT TESTIMONY OF
RENEE V HAWKINS
ON BEHALF OF
COLUMBUS SOUTHERN POWER
AND
OHIO POWER COMPANY

1 **PERSONAL DATA**

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

3 A. My name is Renee V. Hawkins and my business address is 1 Riverside Plaza,
4 Columbus, Ohio 43215.

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

6 A. I am employed by American Electric Power Service Corporation. My title is
7 Managing Director, Corporate Finance and Assistant Treasurer of AEP and its
8 utility subsidiaries including Columbus Southern Power (CSP) and Ohio Power
9 Company (OPCo), collectively referred to as the Company or AEP Ohio.

10 **Q. WHAT ARE YOUR RESPONSIBILITIES AS MANAGING DIRECTOR,**
11 **CORPORATE FINANCE?**

12 A. I am responsible for corporate finance activity for the operating companies
13 including CSP and OPCo such as issuing debt, establishing dividend
14 recommendations and capitalization targets, supporting the rating agency
15 relationships to maintain credit ratings and assisting in the management of
16 liquidity for the overall AEP System. I was promoted to Managing Director,
17 Corporate Finance in July 2003 and Assistant Treasurer in January 2008.

18 **Q. PLEASE BRIEFLY DESCRIBE YOUR EDUCATIONAL AND BUSINESS**
19 **EXPERIENCE.**

1 A. I received a Bachelor's Degree in Finance and International Business from The
2 Ohio State University in Columbus, Ohio in 1987, and a Master's Degree in
3 Business Administration with a Finance concentration from the Simon School at the
4 University of Rochester in Rochester, New York in 1991.

5 In June 1991, I was employed by General Motors as an analyst for AC Delco,
6 which is now a subsidiary of Delphi East.

7 In June 1993, I was hired by Cablevision Systems Corporation, first as a
8 Senior Financial Analyst and then promoted to Treasury Manager. My
9 responsibilities included managing capitalization and liquidity for a number of
10 subsidiaries. Included in those responsibilities were raising capital through bank
11 and financial markets, managing compliance, and supporting investor and rating
12 agency relations.

13 In October 1996, I joined AEPSC as a Corporate Finance Senior Analyst
14 supporting financing activity for the AEP operating companies. In July 1999, I was
15 named Manager, Corporate Finance of AEPSC. In June 2000, I was named
16 Director, Corporate Finance of AEPSC, a position that was renamed Director,
17 Regulated Finance in 2001. In that capacity, I was responsible for capital markets
18 activity for the regulated utilities, and establishing dividend recommendations and
19 capitalization targets, supporting the rating agency relationships to maintain credit
20 ratings and assisting in the management of liquidity for the overall AEP System.
21 With a staff, I still perform these overall functions today. I was promoted to
22 Managing Director, Corporate Finance in July 2003 and Assistant Treasurer in
23 January 2008.

1 **Q. HAVE YOU PREVIOUSLY SUBMITTED TESTIMONY IN ANY**
2 **REGULATORY PROCEEDINGS?**

3 A. Yes, I have presented testimony on behalf of Indiana Michigan Power Company
4 before the Indiana Utility Regulatory Commission and the Michigan Public Service
5 Commission. I have presented testimony or testified on behalf of Appalachian
6 Power Company before the Public Service Commission of West Virginia, the
7 Virginia State Corporation Commission and the Federal Energy Regulatory
8 Commission (FERC). I have presented testimony or testified before the Arkansas
9 Public Service Commission, and the Public Utility Commission of Texas on behalf
10 of Southwestern Electric Power Company. Finally, I have testified on behalf of
11 Public Service Company of Oklahoma before the Corporation Commission of the
12 State of Oklahoma. Additionally, I have prepared or had prepared under my direct
13 supervision the financing applications submitted for CSP and OPCo before The
14 Public Utilities Commission of Ohio (Commission).

15 **PURPOSE OF TESTIMONY**

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

17 A. The purpose of my testimony is to discuss the carrying charge to be used during the
18 recovery of regulatory assets including the deferred fuel balances that have been
19 accruing during the current ESP plan and to discuss the benefits of proposing that a
20 change of law be sponsored to enable the Companies to issue highly rated
21 securitization bonds as means of financing the phase-in regulatory assets and
22 reducing the overall costs to Ohio customers.

23 **COST OF CAPITAL FOR PHASE-IN FUEL DEFERRALS**

1 **DEFERRED FUEL CARRYING CHARGES**

2 **Q. WHAT ARE THE CARRYING CHARGES FOR THE FUEL DEFERRALS**
3 **(FAC) OVER THE REPAYMENT PERIOD?**

4 A. Based upon Commission Orders in Case Nos. 08-918-EL-SSO and 08-917-EL-
5 SSO, any deferred Fuel Adjustment Clause (FAC) expense remaining at the end
6 of 2011 would be recovered, with a carrying cost equal to the Weighted Average
7 Cost of Capital (WACC), as an nonbypassable surcharge from 2012 to 2018. The
8 order also established that the WACC would be calculated on a pre-tax basis in
9 order to ensure that the Companies recover their actual fuel expenses. The
10 WACC for AEP Ohio was provided to Company witness Nelson for use in the
11 capital carrying charges.

12 **Q. WHAT IS THE WACC TO BE USED ON THE ONGOING CARRYING**
13 **CHARGES?**

14 A. This WACC is based upon an actual capital structure and a return on equity of
15 11.15%. Using these parameters and the cost of debt as of August 31, 2010, the
16 capital structure and weighted average cost of capital for AEP Ohio is included in
17 the table below. As described in the testimony of Company witness Mitchell
18 these carrying charges will be updated on a monthly basis to reflect actual deferral
19 balances and debt costs.

20

AEP Ohio WACC for Fuel Deferrals as of August 31, 2010

	<u>FACE</u>			<u>PRE-TAX</u>	<u>AFTER-TAX</u>
	<u>AMOUNT</u>	<u>PERCENTAGE</u>	<u>EMBEDDED</u>	<u>WEIGHTED</u>	<u>WEIGHTED</u>
<u>CAPITAL</u>	<u>OUTSTANDING</u>	<u>OF TOTAL CAPITAL</u>	<u>COST</u>	<u>COST</u>	<u>COST</u>
Long-Term Debt	4,177,325,000	47.06%	5.34%	2.51%	2.51%
Preferred Stock	16,625,800	0.19%	4.40%	0.01%	0.01%
Common Stock	4,682,891,283	52.75%	11.15%	9.25%	5.88%
Total Capital	8,876,842,083	100%		11.77%	8.40%

Q. IS THERE A LOWER CARRYING CHARGE ALTERNATIVE TO THE WACC THAT COULD BE CONSIDERED FOR THE FUEL DEFERRAL BALANCES?

A. Yes. Rather than collecting a carrying cost on the deferred FAC regulatory asset for the 2012 to 2018 period, the Companies could securitize the balance. Below, I will discuss the requirements and benefits of a securitization financing for the deferred FAC regulatory asset and other regulatory assets including those resulting from the phase-in of any distribution utility rate or price established under Sections 4928.141 to 4928.143, Ohio Revised Code.

SECURITIZATION

Q. WHY SHOULD SECURITIZATION BE CONSIDERED FOR THE COMPANIES' FAC BALANCES INSTEAD OF THE CURRENTLY PLANNED RECOVERY PERIOD 2012-2018?

A. With appropriate securitization legislation, customers would benefit from a reduced carrying cost over the remaining life of the deferral (2012 through 2018) because securitization bonds have a carrying cost generally equal to AAA rated

1 debt. Customers could also benefit because the Company could amortize the
2 balance over a longer term.

3 **Q. HOW IS THE CARRYING COST REDUCED?**

4 A. The WACC currently used for calculating the carrying cost is based upon the
5 capital structure of AEP Ohio, so the capital structure is 47.06% long term debt,
6 0.19% preferred stock and 52.75% common equity with an equity rate of 11.15%,
7 a preferred stock rate of 4.40% and a debt rate of 5.34% producing an overall pre-
8 tax cost of capital of 11.77% and an overall after-tax cost of capital of 8.40%.

9 The carrying cost under securitization is generally based upon AAA rated
10 debt interest rate which consists of 99.5% of the capital structure of a bankruptcy-
11 remote entity. So, the benefits are two-fold. First the debt would be issued at an
12 interest rate lower than OPCo can realize on its own, and second there is a *de*
13 *minimis* equity component included in the capital structure (less than 1% versus
14 52.75% for AEP Ohio).

15 For example, in July 2010 when Entergy Gulf States Louisiana issued
16 System Restoration Bonds for Storm Restoration Charges, the average interest
17 rate on the bonds was 2.82%. Were OPCo to issue similar bonds at that time, the
18 cost would have been approximately 3.50%¹. However, since there is minimal
19 equity in the capital structure for the carrying charge of securitization bonds, the
20 overall costs are 75% lower when compared to AEP Ohio's pre-tax WACC.

21 **Q. WHAT IS THE DIFFERENCE IN CARRYING COST IMPACT ON THE**
22 **REVENUE REQUIREMENTS FOR CUSTOMERS?**

¹ The 7-year treasury rate of 2.43% as of July 15, 2010 plus a BBB credit spread of approximately 1.15%.

1 A. For a deferral balance of \$643 million, the annual costs at a WACC rate of
2 11.77% would be approximately \$76 million versus an annual interest cost of
3 securitization bonds of \$19 million.

4 **Q. WHY IS NEW LEGISLATION NECESSARY TO ISSUE THESE BONDS**
5 **SINCE THERE ARE OTHER TYPES OF SECURITIZATION?**

6 A. The most critical benefit of the utility securitizations that have occurred to date is
7 the benefit of limited equity to fund these types of regulatory assets. This benefit
8 is realized because the securitization financings are issued by bankruptcy remote
9 entities, independent of the utility. Therefore, the resulting bonds are not
10 considered the liability of the utility by the investment community. Without
11 legislation enabling this treatment, the utility will still be responsible for the
12 bonds and investors will want the same capital structure to support these bonds
13 (that is, 53% equity).

14 For the reduced carrying costs to be realized, the bonds must receive AAA
15 rating from the rating agencies, which requires legislation that makes (i) the bonds
16 secured by a specific charge collected from all utility customers, (ii) the financing
17 order from the Commission irrevocable and remain in effect until the bonds are
18 fully paid, (iii) the customer charge nonbypassable, (iv) annual true-up
19 adjustments to ensure timely and sufficient collection for debt service and (v) the
20 state pledge that it will not interfere with the collection of the charges.

21 **Q. DO INVESTORS PURCHASE OTHER TYPES OF UTILITY**
22 **SECURITIZATION BONDS?**

1 A. Outside of commercial paper asset backed programs, utility securitization is
2 limited to that of AAA rated bonds typically issued related to either stranded
3 assets or storm restoration. Conceivably, at the right price, investors would
4 purchase securitization bonds without the typical assurances found in other
5 jurisdictions, but I would anticipate that pricing would be similar to what OPCo
6 could accomplish on its own since the rating would be based upon OPCo's credit
7 rating and, as I said earlier, the rating agencies and investors would treat the debt
8 as OPCo's responsibility.

9 **Q. WHY IS OHIO POWER WILLING TO FORGO EARNING A CARRYING**
10 **CHARGE ON THESE ASSETS?**

11 A. With securitization bonds, Ohio Power will immediately receive the cash
12 proceeds for the large fuel deferrals now on the balance sheet and the Company is
13 willing to forgo collecting the carrying costs in order to have those proceeds
14 immediately available to deploy back into the business.

15 **Q. IF NECESSARY LEGISLATION IS ENACTED TO ALLOW FOR THE**
16 **ISSUANCE OF SECURITIZATION BONDS WHAT STEPS WOULD THE**
17 **COMPANY TAKE?**

18 A. The Company would 1) ensure that the market for securitization bonds was
19 viable; 2) file an application for a securitization financing order with the
20 Commission; and 3) once the bonds are issued request that the FAC recovery
21 rider be suspended.

22 **Q. DOES THIS CONCLUDE YOUR TESTIMONY?**

23 A. Yes.