

**FILE**

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**OCC EXHIBIT** \_\_\_\_\_

**BEFORE  
THE PUBLIC UTILITIES COMMISSION OF OHIO**

In the Matter of the Application of )  
Columbus Southern Power Company for ) Case No. 08-917-EL-SSO  
Approval of its Electric Security Plan; an )  
Amendment to its Corporate Separation )  
Plan; and the Sale or Transfer of Certain )  
Generation Assets. )

In the Matter of the Application of Ohio )  
Power Company for Approval of its ) Case No. 08-918-EL-SSO  
Electric Security Plan; and an Amendment )  
to its Corporate Separation Plan. )

**PUBLIC VERSION  
DIRECT TESTIMONY  
of  
EMILY S. MEDINE**

**ON BEHALF OF THE  
OFFICE OF THE OHIO CONSUMERS' COUNSEL  
10 West Broad St., Suite 1800  
Columbus, OH 43215**

**PUCO**

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## TABLE OF CONTENTS

	<b><u>Page</u></b>
I. INTRODUCTION .....	1
II. PROVIDER OF LAST RESORT .....	6
III. THE ESP AND THE FAC.....	17
IV. STATE OF THE COAL INDUSTRY .....	20
V. OVERVIEW OF CSP, OP AND AEPSC FUEL PROCUREMENT.....	29

### **EXHIBITS:**

- Exhibit EVA-1
- Exhibit EVA-2
- Exhibit EVA-3
- Exhibit EVA-4
- Exhibit EVA-5
- Exhibit EVA-6
- Exhibit EVA-7
- Exhibit EVA-8
- Exhibit EVA-9
- Exhibit EVA-10
- Exhibit EVA-11 Redacted
- Exhibit EVA-12 Redacted
- Exhibit EVA-13 Redacted

### **ATTACHMENTS:**

- Attachment EVA-A
- Attachment EVA-B Redacted

1   **I.     INTRODUCTION**

2   ***Q1.   PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.***

3   ***A1.***   My name is Emily S. Medine. My business address is Energy Ventures Analysis,  
4           Inc. ("EVA"), 1800 Beechwood Boulevard, Pittsburgh, PA 15217-1703.

5

6   ***Q2.   ON WHOSE BEHALF ARE YOU TESTIFYING IN THIS PROCEEDING?***

7   ***A2.***   My testimony is presented on behalf of the Office of the Ohio Consumers'  
8           Counsel.

9

10   ***Q3.   WHAT IS YOUR EDUCATION AND EXPERIENCE?***

11   ***A3.***   My resume is attached as Attachment EVA-A. I have performed over 30  
12           management audits of fuel procurement activities on behalf of regulatory  
13           commissions, consumer advocates, intervenors, and utilities themselves. On  
14           behalf of the Public Utilities Commission of Ohio ("PUCO"), I have been  
15           involved in 11 prior management audits of the Ohio Power Company ("OP") and  
16           the Columbus Southern Power Company ("CSP"). On behalf of the West  
17           Virginia Consumer Advocate Division, I filed testimony in 2006 and 2007 related  
18           to the Expanded Net Energy Cost ("ENEC") filing of Appalachian Power  
19           Company ("APCO"), a company affiliated with AEP.

20

1 **Q4. WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

2 **A4.** I was retained by the Office of the Ohio Consumers' Counsel to analyze the use  
3 of the Black-Scholes model to assess the reasonableness of the Provider of Last  
4 Resort ("POLR") charge filed with the Companies' ESP; to review the fuel  
5 adjustment clause ("FAC") filing presented in the CSP's and OP's ("the  
6 Companies") Electric Security Plan ("ESP") filing, and to provide  
7 recommendations regarding the scope for the future FAC audits.  
8

9 **Q5. PLEASE SUMMARIZE YOUR MAJOR FINDINGS.**

10 **A5.** My major findings are as follows:

11 **Provider of Last Resort (POLR)**

- 12       ▪ The Companies have not demonstrated a need for customers to make a  
13 payment related to the POLR obligation as part of the ESP. Nor have they  
14 demonstrated the appropriateness of using the Black-Scholes model for this  
15 application. As proposed, the Companies' proposal for customers to make a  
16 POLR payment should not be approved.

17 **Fuel Adjustment Clause (FAC)**

- 18       ▪ AEPSC has come through a very difficult period in the coal industry with a  
19 reasonable mix of coal contracts and average prices below current market  
20 levels. This period demonstrated among other things the importance of  
21 portfolio purchasing, contracting with reputable suppliers, and maintaining  
22 adequate stockpiles. These policies should be continued and stockpiles

1 should be replenished in 2009 if possible subject to coal availability and  
2 pricing.

- 3       ▪ Several existing coal contracts may need to be renegotiated in the context of  
4 recent events in the industry which among other things have led to increased  
5 production costs which in some cases are now greater than the contract  
6 price. Any relief in the form of a price increase must be supported with clear  
7 documentation of the associated value and must provide adequate  
8 protections to customers in the event of an ultimate default in the  
9 obligations.

- 10       ▪ In order to reduce future price volatility, AEPSC may wish to consider some  
11 new strategies related to coal procurement for CSP and OP within the  
12 context of its portfolio strategy. These new strategies include adding a  
13 financial hedging component to coal procurement and more actively  
14 managing existing commitments in order to capture potential value for  
15 customers.<sup>1</sup> Any new strategies must be fully vetted before they are adopted  
16 in order to properly account for any associated risk and credit issues.

- 17       ▪ The current fuel procurement manual is outdated and should be updated and  
18 expanded to include among other things policies and procedures regarding  
19 hedging and active management of coal commitments.

- 20       ▪ Significant changes to energy markets have occurred since the fuel forecast  
21 incorporated in the FAC was prepared. AEPSC should update its fuel

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<sup>1</sup> The active management referred in this finding is distinctly different from the active management practiced by Duke Energy Ohio. In this case, active management refers to opportunities to either buy-out or divert contract tonnages that have higher values in other markets when they can be replaced with lower cost tonnages and yield a savings to customers.

1 forecasts to reflect these changes which affect not only the market price of  
2 the open positions but also affect freight rates for virtually all deliveries due  
3 to lower fuel oil costs. Also, emission allowance values have declined due  
4 to the U.S. Court of Appeals for the District of Columbia Circuit's vacatur of  
5 the Clean Air Interstate Rule ("CAIR").

- 6 ■ The recent changes to energy markets also brings into question whether in  
7 fact there may be periods over the next three years in which fuel costs are  
8 over-recovered from customers through the proposed FAC, an event the  
9 Companies did not anticipate when the FAC was structured. An interest  
10 component payable to customers as part of any over-recoveries should be  
11 incorporated in a fashion similar to the carrying charge for any FAC under-  
12 recovery as proposed by the Companies in the ESP.

### 13 **FAC Audits**

- 14 ■ For close to a decade, the Companies have not recovered fuel and  
15 purchased power costs through a regulated cost-based mechanism such as  
16 the FAC.<sup>2</sup> As such, the systems are not in place to produce the reports  
17 necessary to perform the management style audits that were part of the  
18 Electric Fuel Component ("EFC") process. In anticipation of its quarterly  
19 filings and annual audits under the proposed FAC in the ESP, the  
20 Companies and their fuel purchasing agent, the American Electric Power  
21 Service Corporation (AEPSC)<sup>3</sup> should begin preparing the documents that

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<sup>2</sup> The Companies are recovering fuel costs through their existing rates but not based upon actual costs.

<sup>3</sup> AEPSC purchases fuel on behalf of all the American Electric Power utilities.

1 will be necessary to provide adequate transparency to insure prudence.

2 AEPSC can look to its filing requirements in Kentucky, West Virginia and  
3 other jurisdictions in which its affiliates operate with a fuel adjustment  
4 mechanism.

- 5       ▪ The audit of the FAC should at a minimum include the following  
6 elements: a review of policies and procedures, a review of contract  
7 performance and enforcement, a review of contracting practices, a review  
8 of spot procurements, fuel costs, benchmarking of performance, costs and  
9 level of purchased power, and a review of inventory management.

10

11 ***Q6. WHAT SOURCES OF INFORMATION HAVE YOU USED IN THE***  
12 ***PREPARATION OF YOUR DIRECT TESTIMONY HERE?***

13 ***A6.*** I have reviewed the Companies' Application, the direct testimony filed by the  
14 Companies and their responses to discovery. I interviewed two company  
15 personnel and attended in person or telephonically the depositions of others. I  
16 have also relied upon materials obtained from public information sources  
17 including the Public Utilities Commission of Ohio, Securities and Exchange  
18 Commission and the Energy Information Administration, industry periodicals to  
19 which Energy Ventures Analysis, Inc. (EVA) subscribes, and internal EVA  
20 databases.

21

22 ***Q7. HOW IS THE REMAINDER OF YOUR TESTIMONY ORGANIZED?***

23 ***A7.*** The remainder of my testimony is organized as follows:

- Section 2 provides a review of the proposed charge for the POLR requirement.
- Section 3 provides a summary of the ESP and FAC
- Section 4 provides an overview of the state of the U.S. coal industry and its effects on CSP and OP
- Section 5 describes CSP and OP system and their coal requirements

## **II. PROVIDER OF LAST RESORT**

### ***Q8. PLEASE EXPLAIN YOUR UNDERSTANDING OF THE COMPANIES' PROVIDER OF LAST RESORT OBLIGATION.***

**A8.** Customers can switch away from the Companies and then later return to the Companies for their electric generation requirements.

### ***Q9. HOW DO THE COMPANIES VIEW THIS OBLIGATION?***

**A9.** According to Witness Baker, this customer flexibility "leaves the Companies in the precarious position of being exposed to losing generation service load when the market price is low but needing to stand ready to begin serving that load again when the market price is high...."<sup>4</sup>

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<sup>4</sup> Baker Testimony, Page 26, Lines 7-10.



1 ***Q10. DOES WITNESS BAKER ACKNOWLEDGE THAT THERE ARE***  
2 ***PROTECTIONS FOR POLR OBLIGATIONS FACED BY THE UTILITIES IN***  
3 ***S.B. 221?***

4 ***A10.*** Yes but Witness Baker suggests that the Companies do not believe that the  
5 Commission and/or the General Assembly will comply with the provisions of  
6 S.B. 221 if it results in returning customers paying higher rates.<sup>5</sup> Witness Baker  
7 gives as an example of the return of Ormet into the Companies' service territories,  
8 even though the Companies agreed on a voluntary basis to this return.<sup>6</sup>  
9

10 ***Q11. WHAT DOES WITNESS BAKER PROPOSE REGARDING THE POLR***  
11 ***OBLIGATION?***

12 ***A11.*** Witness Baker proposes an annual charge to customers related to the POLR  
13 obligation equal to over one-half billion dollars for the three year ESP period.  
14 The annual charges are estimated to be \$108.2 million for CSP and \$60.9 million  
15 for OP, although they could change based upon actual load.  
16

17 ***Q12. HOW DID THE COMPANIES DERIVE THESE FIGURES?***

18 ***A12.*** The Companies used the Black-Scholes option pricing model to derive these  
19 figures.  
20

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<sup>5</sup> Page 27, Lines 20-22.

<sup>6</sup> Baker Testimony, Page 29, Lines 7-9.

1   **Q13.   WHAT DOES S.B. 221 STATE WITH RESPECT TO RECOVERY OF THE**  
2       **POLR OBLIGATION?**

3   **A13.**   S.B. 221 is silent on this matter. In the last case that addressed a POLR charge,  
4       Case No. 04-169-EL-UNC, the PUCO made it clear that the POLR charge  
5       provided to AEP was “based upon the specific circumstances ... in this  
6       proceeding. Nothing in this decision is intended to be precedent-setting ...”  
7       Moreover, the POLR charge there was related to distinct regional transmission  
8       operational costs expected to be incurred during the period the Rate Stabilization  
9       Plan (“RSP”) was in effect, through December 2008.

10

11   **Q14.   WHAT IS THE BLACK-SCHOLES MODEL?**

12   **A14.**   The Black-Scholes model was developed in the early 1970’s by Fischer Black,  
13       Myron Scholes, and Robert Merton when stock options were first traded on the  
14       Chicago Board Options Exchange. The purpose of the model was to price the  
15       stock options. Black, Scholes and Merton derived a formula, which has become  
16       known as the Black-Scholes model that was used to price the options. Notably, in  
17       1997, Merton and Scholes received the Nobel Prize in Economics for this work.

18

19   **Q15.   WHAT IS A STOCK OPTION?**

20   **A15.**   A stock option, also referred to as a call option, is the right to purchase shares of  
21       stock at a previously determined strike price. This right to purchase can be  
22       exercised for the duration of the contract.

23

1 **Q16. HOW WAS THE BLACK-SCHOLES MODEL DERIVED?**

2 **A16.** The initial formula contains two components. The first component addresses  
3 simple return on an investment. The second component essentially addresses the  
4 uncertainty of the return which is characterized by volatility. The derived formula  
5 is linked to a proposition that stock purchasing is affected by continuous portfolio  
6 optimization that reduces the volatility. The resulting formula is a partial  
7 differential equation that is used to price the call option in the target portfolio, i.e.,  
8 the pricing of the call option.

9

10 **Q17. WHAT ARE THE REQUIRED INPUTS INTO A BLACK-SCHOLES**  
11 **MODEL?**

12 **A17.** There are five pieces of information required for its intended purpose, i.e., the  
13 valuing of a call option. The five items are as follows: (1) the current price of the  
14 stock, (2) the strike price of the option, (3) the amount of time remaining until the  
15 option expires, (4) the current interest rate, and (5) the value of the volatility  
16 parameter for the stock.

17

18 **Q18. WHAT INPUTS DOES WITNESS BAKER PROPOSE?**

19 **A18.** As noted in Witness Baker's testimony (Pages 31-32), the Companies agree that  
20 there are five inputs. However, given the different application, the Companies  
21 have taken liberties with regard to each as described below.

22 • With respect to the first input which in the Black-Scholes model is the current  
23 price of the stock, the Companies are proposing to use the "competitive

benchmark prices discussed in relation to the MRO” as a proxy for the market price of electricity.

- With respect to the second input, the strike price of the option, the Companies are proposing to use the first year ESP price contained in its filing as a proxy for the price of an electricity option.<sup>7</sup>

- With respect to the amount of time remaining until the option expires, the Companies are proposing to use “Calendar Years 2009-2011”.

- With respect to the current interest rate, the Companies are proposing to use the “interest rate of the 3 year Treasury note.”

- With respect to volatility parameter of the stock, the Companies are proposing to use the “volatility of the futures contract for the term 2009-2011.”

***Q19. ARE YOU FAMILIAR WITH THE BLACK-SCHOLES MODEL?***

***A19.*** Yes.

***Q20. IN WHAT CONTEXT ARE YOU FAMILIAR WITH THE BLACK-SCHOLES MODEL?***

***A20.*** Coal traders use the Black-Scholes model to value coal options. In several engagements where I either offered fuel procurement advice or audited fuel procurement activities, I supported and/or encouraged the use of an option pricing model, such as the Black-Scholes model, to value the “worth” of the coal options.

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<sup>7</sup> Baker Deposition, Page 35.

1 **Q21. CAN YOU PLEASE EXPLAIN WHAT YOU MEAN BY A COAL OPTION?**

2 **A21.** Yes. A coal option is the right of a coal buyer to purchase coal during a fixed  
3 period at a set price. For example, if a coal buyer has a coal contract for one  
4 million tons per year but has the right to vary the tonnage by plus or minus 20  
5 percent, the volume optionality is essentially a call option. In this case, the base  
6 tonnage would be 800,000 tons, i.e., minus 20 percent, with a 400,000 ton option.  
7 Pricing is determined per the agreement as well as the strike dates. The strike  
8 dates are the dates by which the buyer must inform the seller as to its intent  
9 regarding the option tonnage.

10

11 **Q22. WHY IS THE BLACK-SCHOLES MODEL AN APPROPRIATE TOOL TO**  
12 **EVALUATE COAL OPTIONS?**

13 **A22.** As can be deduced from the prior discussion, the nature of a coal option is very  
14 similar to a stock option. There is a known current price, there is a known strike  
15 price (usually but not always the same as the current price), and there are defined  
16 periods in which the option must be exercised. Volatility is typically measured in  
17 these applications not through forward price curves but through historical  
18 volatility although forward price curves could be used.

19

20 **Q23. DOES AEPSC USE THE BLACK-SCHOLES MODEL TO EVALUATE COAL**  
21 **OPTIONS?**

22 **A23.** No. AEPSC has indicated on more than one occasion that it does not believe the  
23 Black-Scholes model is a reliable tool for this purpose.

1

2 **Q24. DO YOU BELIEVE THAT THE COMPANIES SHOULD BE**  
3 **COMPENSATED FOR THE POLR OBLIGATION BASED UPON THE**  
4 **FILINGS CONTAINED IN THE ESP?**

5 **A24.** No.

6

7 **Q25. PLEASE EXPLAIN YOUR REASONS.**

8 **A25.** There are two reasons which underlie my conclusion:

- 9 • Unlike the discrete costs identified as POLR costs in Case No. 04-169-EL-  
10 UNC, the Companies here have not identified any specific costs they are  
11 incurring related to the POLR obligation.
- 12 • The Companies have not provided the support appropriate for a proposed \$0.5  
13 billion charge to customers over the three-year ESP period.

14

15 **Q26. PLEASE EXPLAIN YOUR REASON THAT THE COMPANIES ARE NOT**  
16 **INCURRING COSTS RELATED TO THE POLR OBLIGATION.**

17 **A26.** Witness Baker does not quantify in his testimony any calculation of what he  
18 believes is the cost of the POLR obligation other than a general statement that  
19 “the costs of AEP’s POLR obligation can be best understood in light of  
20 potentially having to buy high and sell low.”<sup>8</sup>

21

---

<sup>8</sup> Baker Testimony, Page 30.

1 A careful reading of his testimony shows that while Witness Baker recognizes  
2 there are protections the Companies with respect to the POLR obligation, his real  
3 concern is that despite "limited protections" provided in the "context of shopping  
4 rules ... that would appear to shield the Companies from some costs associated  
5 with providing the flexibility ... in practice (they) might not." The example  
6 provided by Witness Baker relates to the provision that states if a government  
7 aggregation does not pay for standby service, the "customers of that government  
8 aggregation who return to the utility for generation service will be required to pay  
9 the market price of power incurred by the utility to serve the customer" for at least  
10 two years. Witness Baker states that he "simply" does "not believe that the  
11 PUCO and/or the General Assembly and Governor will sit back and fail to  
12 intervene while residential customers are forced into paying those rates." In other  
13 words, despite the Companies' legal and regulatory protections regarding POLR  
14 exposure, Witness Baker argues for compensation because he does not believe  
15 that these protections will be enforced. For the PUCO to agree with Witness  
16 Baker's argument, it would in effect have to reach the same conclusions.

17  
18 ***Q27. DO THE FAC PROVISIONS OF THE ESP PROVIDE ANY COST***  
19 ***PROTECTION RELATED TO THE POLR OBLIGATION?***

20 ***A27.*** Yes. Under the FAC provisions, the Companies will recover the costs included in  
21 Account 555. According Witness Nelson, "(t)his account records the cost of  
22 electricity purchased including transactions under the AEP Power Pool. It  
23 includes both energy and demand or capacity charges." Witness Baker confirmed

1 that if the Companies fulfilled their POLR obligations through purchased power,  
2 the related purchased power costs would be recoverable through the FAC.<sup>9</sup>

3  
4 **Q28. DID THE COMPANIES PERFORM ANY ANALYSIS OF SHOPPING**  
5 **BEHAVIOR?**

6 **A28.** There is no indication that the Companies performed any analysis of shopping  
7 behavior. In Witness Baker's evidence, the Companies confirmed that there has  
8 been virtually no customer switching in the previous eight years.<sup>10</sup> Witness Baker  
9 was asked whether he expected customer switching to increase in the future. He  
10 indicated he did not know.<sup>11</sup>

11  
12 **Q29. WITNESS BAKER REFERRED TO ORMET. IS THE ORMET**  
13 **EXPERIENCE RELEVANT TO THE DISCUSSION OF THE POLR**  
14 **OBLIGATION?**

15 **A29.** I do not believe it is. Ormet did not switch providers. Rather it left OP's service  
16 territory. Ormet's return to the Companies' service territories was the result of a  
17 voluntary agreement with the Companies. The Companies would not have had a  
18 POLR obligation to Ormet absent this agreement because it was not part of the  
19 Companies' service territory.

20  

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<sup>9</sup> Baker Deposition, Page 18.

<sup>10</sup> Baker Testimony, Page 33, Lines 7-9.

<sup>11</sup> Baker Deposition, Page 38.



1 **Q30. PLEASE EXPLAIN YOUR CONCLUSION THAT THE COMPANIES HAVE**  
2 **NOT PROVIDED ADEQUATE SUPPORT FOR THE \$0.5 BILLION THEY**  
3 **ARE PROPOSING TO CHARGE CUSTOMERS.**

4 **A30.** To state the obvious, \$0.5 billion is an enormous amount of money. Further, the  
5 money is not for a physical asset that provides a potential long-term benefit for  
6 customers but for what the Companies are stating is the risk they are assuming  
7 under the POLR obligation. The Companies have neither provided sufficient  
8 justification that they are in fact assuming a risk nor that if they are assuming a  
9 risk that the Black-Scholes model is the appropriate tool for measuring this risk.

10

11 **Q31. IF THE PUCO DETERMINES THAT THE COMPANIES SHOULD BE**  
12 **COMPENSATED FOR POLR OBLIGATIONS, IS THE BLACK-SCHOLES**  
13 **MODEL APPROPRIATE TO USE TO PRICE THE POLR PAYMENT?**

14 **A31.** No.

15

16 **Q32. PLEASE EXPLAIN WHY YOU BELIEVE THAT THE BLACK-SCHOLES**  
17 **MODEL IS NOT APPROPRIATE FOR THIS PURPOSE.**

18 **A32.** As noted above, in order to utilize the Black-Scholes model for this purpose, the  
19 Companies have had to take great liberties with respect to how the inputs were  
20 defined. Further, how each of these inputs is defined is a subjective judgment, not  
21 as prescribed by the model. For example, the Companies used competitive  
22 benchmark prices discussed in relation to the MRO as the option price and the  
23 first year ESP price as the strike price. Neither of these numbers is known at this

1 time. Further, it is not clear that the ESP price which the Companies have used as  
2 the strike price includes any of the non-bypassable costs.<sup>12</sup> Second, switching is  
3 unlikely to occur whenever market pricing is below ESP pricing which is a  
4 fundamental presumption of the model. (Options are always exercised when they  
5 are in the money in the stock market.) The reason switching may not always  
6 occur is that switching requires a level of transparency that may exist and that  
7 there may be costs associated with the switching (e.g., cancellation penalties).  
8 Further, if a returning customer is part of a government aggregation, it is not  
9 eligible for the ESP price for at least a period of two years. This complexity  
10 cannot be captured in the Black-Scholes model.

11  
12 ***Q33. ARE YOU SAYING THAT FOR THIS APPLICATION THERE IS TOO***  
13 ***MUCH SUBJECTIVITY INVOLVED IN DEFINING THE INPUTS?***

14 ***A33.*** Yes. The Companies essentially confirmed the subjectivity involved in the  
15 definition of inputs when Witness Baker indicated the model had to be run an  
16 “indeterminate” amount of times before settling on the inputs included in the  
17 filing.<sup>13</sup>

18  

---

<sup>12</sup> Witness Baker testified in his deposition that the ESP did not include the FAC deferrals (Page 117). The Companies have proposed a number of non-bypassable costs which the PUCO may include as is, may adjust, or may reject.

<sup>13</sup> Baker Response to OCC Interrogatory Request 5-117.

**Q34. DO OTHER UTILITIES USE THE BLACK-SCHOLES MODEL TO VALUE  
THEIR POLR OBLIGATIONS?**

**A34.** I am not aware of any utilities that use the Black-Scholes model for this purpose.  
More importantly, Witness Baker is not aware of any other utilities that use the  
Black-Scholes model for this purpose.<sup>14</sup>

**III. THE ESP AND THE FAC**

**Q35. WHAT IS THE ESP?**

**A35.** In April 2008, the Ohio legislature enacted, and on May 1, 2008 the Governor of  
Ohio signed, Amended Substitute Senate Bill 221 (S.B. 221) which amended the  
electric restructuring law in Ohio. It required utilities to adjust their rates by  
filing an ESP which at the utility's option could include a fuel adjustment  
mechanism. Utilities also had the option to file a Market Rate Offer ("MRO").  
S.B. 221 gives the PUCO the authority to either approve or modify each utility's  
ESP request. In July 2008, CSP and OP filed an ESP with the PUCO. The  
Companies requested an annual increase that customers would pay for the years  
2009 through 2011 but proposed to cap the increase in each year at around 15  
percent. The Companies proposed to defer fuel cost under-recoveries for future  
recovery during the period 2012 through 2018. The Companies also requested the  
right to charge customers for risks related to the POLR obligation.

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<sup>14</sup> Baker Deposition, Page 29 and Response to OCC Interrogatory Request 5-111.

1 **Q36. PLEASE DESCRIBE THE FAC.**

2 **A36.** The FAC is the Fuel Adjustment Clause, and is the mechanism that will be used  
3 to recover prudently incurred fuel, purchased power, and other miscellaneous  
4 expenses. As Witness Nelson stated in his testimony, the FAC will include the  
5 following:

- 6 • Account 501 (Fuel) – the cost of fuel and transportation for generating  
7 electricity
- 8 • Account 502 (Steam Expenses) – the cost of material and expenses used in the  
9 production of steam including the cost of chemicals used in environmental  
10 controls
- 11 • Account 509 (Allowances) – the cost of emission allowances related to  
12 emissions of sulfur dioxide (SO<sub>2</sub>) and nitrous oxide (NO<sub>x</sub>)
- 13 • Account 518 (Nuclear Fuel Expense) – the amortized cost of the nuclear fuel  
14 assemblies which is not relevant at this time for CSP or OP
- 15 • Account 547 (Non-Steam Fuel) – the cost of fuel used in non-steam  
16 applications such as simple cycle gas peaking plants
- 17 • Account 555 (Purchased Power) – the cost of purchased electricity including  
18 both energy and demand or capacity charges
- 19 • Account 507 (Rents) – the costs associated with purchase contracts or unit  
20 power sales that have to be recorded as a lease per accounting rules
- 21 • Account 557 (Other Expenses) – the cost of renewable energy credits to meet  
22 the renewable requirements of S.B. 221

- 1       • Accounts 411.8 and 411.9 (Gains and Losses from Disposition of Allowance)
- 2             – the gains or losses from the sale of emission allowances
- 3       • Other Accounts – the costs associated with items allowed to be recovered
- 4             under the FAC not included in the above

5

6   ***Q37. HOW DOES THE FAC OPERATE AS PART OF THE COMPANIES' ESP***

7   ***PLAN?***

8   ***A37.*** The Companies propose that the items to be recovered by the FAC be cost-based.

9       The 2009 FAC costs are estimates that would be trued up on either quarterly or

10       annually. Regular audits of these costs would be conducted to confirm their

11       prudence. Under the ESP proposed by the Companies, the Companies do not

12       believe that actual FAC can be recovered given the 15 percent cap on rate

13       increases and have proposed a three year phase-in. The Companies have

14       estimated that at the end of three year period there would still be substantial

15       under-recovery of FAC costs which they propose to amortize for recovery from

16       customers over a seven-year period beginning in 2012.

17

18   ***Q38. WHAT ARE THE COMPANIES PROPOSING WITH RESPECT TO THE***

19   ***CARRYING CHARGES ON THE OVER- AND UNDER-RECOVERIES?***

20   ***A38.*** According to the testimony of Witness Assante, “the Companies are proposing a

21       carrying cost on the unrecovered balance of the deferred incremental FAC costs at

22       their weighted average cost of capital (WACC) rate over the entire ten-year

23       phase-in plan period in order to recover from customers the cost of financing their

1 deferred unrecovered FAC costs.”<sup>15</sup> The Companies do not propose to pay  
2 interest to customers regarding over-recovery of costs, even though the  
3 Companies propose to collect interest from customers regarding under-recoveries.  
4

5 ***Q39. HOW DOES THE FAC COMPARE TO THE OLD ELECTRIC FUEL***  
6 ***COMPONENT (“EFC”)?***

7 ***A39.*** The FAC includes all elements in the old EFC and more. The additions, which  
8 are listed and quantified in Witness Nelson’s Exhibits PJN-2 (for CSP) and PJN-5  
9 (for OP) include ash handling, fuel handling, renewable energy credits, pool  
10 capacity, pool energy, and emission control chemicals. According to Witness  
11 Nelson’s testimony, the additional elements comprise 21 percent and 11 percent,  
12 respectively, of CSP’s and OP’s estimated 2009 FAC.  
13

14 ***IV. STATE OF THE COAL INDUSTRY***

15 ***Q40. PLEASE DESCRIBE THE CHANGES TO THE U.S. COAL MARKET SINCE***  
16 ***THE MIDDLE OF 2007.***

17 ***A40.*** Since the middle of 2007, the changes to the U.S. coal industry have been  
18 profound. As shown in Exhibit EVA-1, by the middle of 2007 a global  
19 supply/demand imbalance emerged causing a sharp increase in global steam coal  
20 prices. The increase in prices made U.S. steam coals competitive in the global  
21 market. This was a reversal in a recent trend in which overseas exports of steam

---

<sup>15</sup> Page 8, Lines 6-9.

1 coal had declined to about three million tons and imports of steam coal had  
2 increased to over 30 million tons. (Exhibit EVA-2)

3  
4 By the end of 2007, not only was there a marked increase in U.S. steam coal  
5 exports but the price of U.S. steam coals started to be priced by the global steam  
6 coal price. The result was more than a doubling in Appalachian steam coal prices.  
7 Prices for other bituminous coals also increased as demand for these coals  
8 increased both in order to backfill the exports of Appalachian coals and, in some  
9 cases, for moving into the export market themselves.

10  
11 ***Q41. WHAT CAUSED THE GLOBAL SUPPLY/DEMAND IMBALANCE?***

12 ***A41.*** Simply, the coal supply/demand imbalance was caused by global demand growth  
13 outpacing global supply growth. The global thermal coal market has increased by  
14 over 250 million metric tons since 2000 and over 100 million metric tons since  
15 2004, as shown in Exhibit EVA-3. Most of the increase has been in the Pacific  
16 Rim although imports to the U.S. also increased significantly during this period.  
17 This rapid rate of growth in demand has, of course, been accompanied by a rapid  
18 rate of growth in supply. As shown in Exhibit EVA-4, the supply increases were  
19 dominated by Indonesia which has gone from virtually nothing in 1990 to almost  
20 200 million metric tons in 2007. Also significant during this period was Australia  
21 which maintained a significant presence despite losing its position as largest  
22 thermal coal exporter. China, too, had significant effects on global supply. The  
23 China story is particularly relevant to much of the recent change as the growth in

1 domestic consumption within China is what decreased the amount of Chinese coal  
2 available to export.

3  
4 ***Q42. ARE THERE OTHER FACTORS TO THE SUPPLY IMBALANCE BESIDES***  
5 ***DEMAND GROWTH?***

6 ***A42.*** Yes. There are a number of factors, the two most important of which relate to the  
7 metallurgical coal market and area-specific supply problems. With respect to the  
8 former, strong economic growth increased the global demand for metallurgical  
9 coal particularly in Asia. Limited metallurgical coal supply increased the  
10 premium for metallurgical coals to record levels and made it advantageous for  
11 "cross-over" coals to move from steam to metallurgical markets. In addition, the  
12 high premiums created enormous incentives for exporting metallurgical coals  
13 preferentially over steam coals. Therefore, where infrastructure constraints (rail or  
14 terminal) limited exports, metallurgical coals were exported before steam coals  
15 thereby compounding the tightness in the steam coal market.

16  
17 With respect to specific supply problems, there have been numerous supply issues  
18 over this period. The most significant include reduced exports from South Africa  
19 due to domestic power shortages which curtailed operations at export coal mines  
20 and depleted utility stockpiles which forced diversion of some export coals;  
21 infrastructure constraints in Australia which required a quota system; heavy rains  
22 and flooding in the first quarter of 2007 which created force majeure situations in



1 Queensland, Australia and Indonesia; and reduced exports from Russia also due to  
2 infrastructure problems.  
3

4 ***Q43. ARE THERE ANY OTHER REASONS FOR THE INCREASE IN PRICES?***

5 ***A43.*** Yes. The weakness of the U.S. dollar has also caused coal prices to increase  
6 because global coal trade is U.S. dollar-denominated which makes the value of  
7 the U.S. dollar relative to other currencies very significant. The most important  
8 relationship is with the Australian dollar as Australia is the largest exporter of  
9 coal and Australian producers need higher prices when the U.S. dollar is weak to  
10 realize the same price at the mine. As shown in Exhibit EVA-5, the U.S. dollar  
11 declined in value against the Australian dollar, the Canadian dollar, and the Euro  
12 since 2002 with brief periods of strengthening during this period.  
13

14 ***Q44. WHAT IS THE CURRENT STATE OF THE INDUSTRY?***

15 ***A44.*** A market adjustment started in July 2008. As with the increase, there are multiple  
16 factors causing the adjustment including increased strength of the U.S. dollar,  
17 declining freight rates, and declining commodity prices. It has become  
18 increasingly clear in recent weeks that we are in the midst of a global economic  
19 recession which will reduce demand growth (and possibly demand) for both  
20 thermal and metallurgical coals.  
21

1 **Q45. WHAT DOES THIS MEAN FOR THE PRICING OF U.S. COALS?**

2 **A45.** As shown on Exhibit EVA-6, Appalachian coal prices have dropped by over 20  
3 percent. There have been smaller price declines for Illinois Basin and western  
4 bituminous coals.

5  
6 **Q46. WHAT IS THE CURRENT EXPECTATION FOR U.S. COAL PRICES IN**  
7 **2009?**

8 **A46.** The biggest unknown for U.S. coal prices is the expected duration and magnitude  
9 of the current economic recession. The reason this is important is that if global  
10 coal prices fall to a level where U.S. coals are no longer competitive in the global  
11 market, the price for U.S. coals will fall because it will be based upon the  
12 domestic supply/demand balance. Domestic demand growth has been very  
13 modest and is below current supply levels which have been recently expanded to  
14 support higher exports.

15  
16 **Q47. WILL COAL PRICES RETURN TO PRE-SURGE LEVELS IF U.S. COALS**  
17 **CEASE BEING COMPETITIVE IN THE GLOBAL MARKET?**

18 **A47.** I do not think that will happen because there has been a step increase in coal  
19 production costs. As a result, pre-surge pricing would cause many coal mines to  
20 operate at cash losses. Also, important to short-term pricing is the stockpile level  
21 of Central Appalachian coals at electric utility power plants. As shown on Exhibit  
22 EVA-7, electric utility stockpiles of Central Appalachia coals are not only below  
23 normal but the year-on-year decline in stockpile levels was about 10 million tons.

1 This means that in order to maintain current stockpile levels, shipments have to  
2 increase by about 10 million tons. If utilities are to replenish their stockpiles to  
3 normal levels, shipments will have to be higher still.  
4

5 ***Q48. COULD PRICES REBOUND FROM CURRENT LEVELS AND REACH***  
6 ***NEW PEAKS?***

7 ***A48.*** Of course, anything is possible but that does not seem to be the likely scenario at  
8 the moment because of the global economic recession. If demand growth for both  
9 steam and metallurgical coals slows down, the development of other international  
10 supplies is likely to catch up and the U.S. is likely to revert to being a modest  
11 exporter of steam coal.  
12

13 ***Q49. WHAT HAPPENED TO THE POWDER RIVER BASIN DURING THIS***  
14 ***PERIOD?***

15 ***A49.*** The largest coal supply region in the U.S. is the Powder River Basin ("PRB").  
16 The PRB, located in northern Wyoming and southern Montana, produces a low  
17 sulfur, sub-bituminous coal. This coal is relatively low cost to produce occurring  
18 in thick seams located relatively close to the surface. Most PRB coal moves to  
19 utility power plants. Initially, it moved to plants specifically designed for this  
20 coal. However, in the last 20 years, PRB has displaced other coals in many power  
21 plants due to both its low cost and low sulfur content which has allowed a marked  
22 reduction in SO<sub>2</sub> emissions without additional pollution control equipment.  
23

1 The PRB currently has excess supply, partly in response to expectations regarding  
2 the construction of a large number of new coal-fired power plants designed for  
3 this coal. In the last three years, many of these plants have been cancelled or  
4 deferred due to permitting and other problems. The largest single reduction was  
5 the loss of six GW of planned PRB capacity (which could have consumed over 25  
6 million tons in and of themselves) when TXU agreed to cancel eight plants in  
7 order to obtain approval for its sale to Kohlberg Kravis Roberts & Co. and Texas  
8 Pacific Group.

9  
10 ***Q50. WHY DIDN'T THE PRB COAL MOVE EAST GIVEN THE TIGHTNESS IN***  
11 ***EASTERN COAL MARKETS?***

12 ***A50.*** As noted above, PRB coals have been displacing eastern coals for many years.  
13 The easy displacements, i.e., the displacements that could occur without  
14 significant expense, were achieved a long time ago. The remaining displacements  
15 took time and often required capital expenditures to achieve.<sup>16</sup> There is no  
16 question that the recent market disturbance has encouraged a number of utilities to  
17 further explore PRB displacement opportunities. However, there was insufficient  
18 switching/testing to consume the excess supply, thereby keeping prices low. The  
19 softness in the price is seen most clearly in the prompt prices<sup>17</sup>.

20  

---

<sup>16</sup> The types of capital expenditures required to convert to PRB coals primarily relate to coal handling equipment as PRB coals are dustier and have a lower heat content.

<sup>17</sup> Prompt prices generally refer to current prices for coal delivery within the next quarter.

1 **Q51. ARE THERE ANY OTHER FACTORS IN THE CURRENT MARKET THAT**  
2 **ARE RELEVANT FOR THE CURRENT PROCEEDING?**

3 **A51.** Yes. In July 2008, CAIR was vacated by the U.S. Court of Appeals for the  
4 District of Columbia Circuit.<sup>18</sup> This followed an earlier decision which vacated  
5 the Clean Air Mercury Rule. As compliance with CAIR was scheduled to  
6 commence 2010, utilities had already completed their planning and many of the  
7 planned scrubber retrofits have already been completed or are under construction.  
8 American Electric Power ("AEP"), like most other utilities, want to proceed with  
9 their schedules of environmental retrofit because of a presumption that CAIR, or a  
10 new law or regulations requiring retrofits will be instituted.

11  
12 **Q52. WHAT IS AEP'S ANNOUNCED POSITION REGARDING ITS**  
13 **INVESTMENTS IN ENVIRONMENTAL CONTROLS?**

14 **A52.** AEP initially indicated that it had no plans to change its schedule for  
15 environmental projects. However, recently, AEP Chairman, President and CEO  
16 Michael Morris "warned that if credit does not loosen up, environmental retrofits  
17 could be delayed."<sup>19</sup> Any delays could affect the timing and amount of  
18 environmental investments.

19

---

<sup>18</sup> CAIR was challenged on several grounds by a number of states, electric utility companies, and other parties. The primary issues were (1) the validity of EPA's regional trading program, (2) the extent to which EPA considered whether upwind states both contributed to and interfered with downwind states' ability to maintain compliance with air quality standards, (3) SO<sub>2</sub> and NO<sub>x</sub> budgets, and (4) forfeiture of SO<sub>2</sub> allowances. The Court vacated CAIR because it determined that EPA had overstepped its authority and the flaws were too numerous to remand only portions of CAIR back to the EPA for revision.

<sup>19</sup> SNL Report, October 14, 2008.

1   ***Q53. ARE THERE ANY OTHER CONSEQUENCES TO THE VACATION OF***  
2       ***CAIR IN THE CURRENT ESP CASE?***

3   ***A53.*** Yes. Proceeds from the disposition of allowances flows through the FAC. The  
4       Companies had expected substantial returns from these sales. The vacatur of  
5       CAIR caused a collapse in SO<sub>2</sub> and NO<sub>x</sub> emission allowance pricing. (Exhibit  
6       EVA-8) The forecasts in the FAC have not been updated since the fall in  
7       emission allowance values.

8

9   ***Q54. HOW DO THE CHANGES TO CAIR AFFECT THE COMPANIES' ESP***  
10       ***FILINGS?***

11   ***A54.*** As noted above, the immediate effects of the vacatur of CAIR are a reduction in  
12       emission allowance prices which primarily affects Accounts 441.8 and 411.9, i.e.,  
13       the gains and losses from the disposition of emission allowances. The change in  
14       SO<sub>2</sub> emission allowance values will also have some impact on coal pricing and  
15       could affect coal choices, as higher sulfur coals for non-scrubbed plants may  
16       become a more attractive alternative, subject to the specific emission limit for that  
17       plant. Finally, the vacatur of CAIR could change the timing and operation of  
18       some pollution control equipment, which in turn could affect FAC costs related to  
19       Account 502 (Emission Control Chemicals) and the level of capitalized  
20       investments in 2009, 2010, and 2011 for which the Companies are proposing to  
21       receive recovery through the non-FAC portion of the standard service offer.

22

1 **Q55. DO YOU HAVE ANY SPECIFIC RECOMMENDATIONS REGARDING THE**  
2 **ENVIRONMENTAL CONTROL EXPENDITURES IN THE ESP?**

3 **A55.** Given the uncertainty and timing of future expenditures, I would recommend that  
4 capital recovery of environmental expenditures be cost-based as they are installed.  
5

6 **V. OVERVIEW OF CSP, OP AND AEPSC FUEL PROCUREMENT**

7 **Q56. PLEASE DESCRIBE CSP, OP AND AEP.**

8 **A56.** CSP and OP are wholly-owned subsidiaries of AEP, headquartered in Columbus,  
9 Ohio.  
10

11 **Q57. PLEASE DESCRIBE CSP'S AND OP'S POWER PLANTS.**

12 **A57.** The coal-fired power plants owned by CSP and OP are listed on Exhibit EVA-8.  
13

14 CSP operates two coal-fired power plants in Ohio. The Conesville station consists  
15 of four operating units. Conesville 4 is jointly owned with Duke Energy Ohio and  
16 Dayton Power and Light. The other three units are fully owned by CSP. Units 5  
17 and 6 are scrubbed. A scrubber is being retrofit on Unit 4. There are no plans to  
18 scrub Unit 3; rather there is a plan to retire the unit in 2012. CSP also has a small  
19 coal unit at Picway. CSP also operates the Conesville Coal Preparation Plant  
20 which was built in 1985 to wash local trucked coal for primarily Conesville units  
21 1-4.  
22

1 OP operates five coal-fired power plants but also has ownership interests in Amos  
2 and Sporn (which are operated by Appalachian Power ("APCO")). The Gavin  
3 unit is fully scrubbed. Amos 3, Cardinal 1 and Mitchell have been or are recently  
4 being retrofit with scrubbers. There are long-term plans to retrofit Muskingum  
5 River 5 and Sporn 5. The only OP station which remains unscrubbed without any  
6 plans to do so is Kammer.

7  
8 ***Q58. WHAT IS THE SOURCE OF COAL SUPPLIED TO APCO'S POWER***  
9 ***PLANTS?***

10 ***A58.*** The reported purchases for the 12 months ending May 2008 are summarized in  
11 Exhibit EVA-9. The purchase profiles of the various operating companies are  
12 strikingly different. Virtually all of the coals purchased for Amos and Sporn were  
13 from Central Appalachia. Virtually all of the coals purchased for CSP were Ohio  
14 coals which are the most competitive given their location and delivery options.  
15 OP is dominated by coals from Northern Appalachia coals although it continues  
16 to burn modest quantities from Central Appalachia and the Powder River Basin.

17  
18 ***Q59. WHO PURCHASES CSP'S AND OP'S COAL?***

19 ***A59.*** AEPSC purchases coal for CSP and OP. AEPSC also purchases coal for  
20 Appalachian Power, Indiana Michigan Power, Kentucky Power, and  
21 Southwestern Electric Power. AEPSC annually procures about 75 million tons of  
22 coal.



1 **Q60. WHAT PROCEDURES DOES AEPSC FOLLOW IN THE PURCHASE OF**  
2 **ITS COAL?**

3 **A60.** AEPSC has a policies and procedures manual which guides its fuel procurement  
4 activities. The manual, which was last updated in September 2004, provides  
5 information on AEPSC organization and procurement procedures and policies.  
6 EVA recommends that the policies and procedures manual be expanded to  
7 include the following:

- 8 a. Specific portfolio targets for each utility system,
- 9 b. Specific obligations to use competitive solicitations *except* in unique  
10 circumstances with such unique circumstances to be well documented,
- 11 c. Specific factors that will be used to evaluate bids received under  
12 competitive solicitations,
- 13 d. Procedures to be implemented in response to a declaration of *force*  
14 *majeure*,
- 15 e. Policies related to the use of physical and financial hedges,
- 16 f. Procedures that will insure that the procurements for each utility are not  
17 compromised by procurements for the other affiliate utilities,
- 18 g. Procedures related to the coal inventory process, and
- 19 h. Code of conduct requirements for procurement personnel.

20

1 **Q61. WHAT ARE THE TARGET INVENTORY LEVELS FOR THE COMPANIES'**  
2 **PLANTS?**

3 **A61.** AEPSC has established "normal" and "winter" inventory targets for each of its  
4 plants, which are listed on Exhibit EVA-11. AEPSC represents that it has  
5 determined these inventory levels to be appropriate for providing reliable supply  
6 in the context of potential disruptions related to transportation, labor, weather, and  
7 maintenance.

8

9 **Q62. HOW HAS AEPSC COMPLIED WITH THE INVENTORY TARGETS?**

10 **A62.** AEPSC has not done so well in the last 12 months. As shown in Exhibit EVA-10,  
11 at the end of October 2007 inventory levels at the CSP and OP plants were  
12 actually running slightly above target amounts. Inventory levels declined through  
13 this period primarily due to problems within the industry. As of the end of  
14 September 2008, inventory levels are running [BEGIN CONFIDENTIAL] ■  
15 ■ [END CONFIDENTIAL] targets. The performance by plant has  
16 not been uniform as shown on Attachment EVA-B.

17

18 **Q63. ARE YOU FINDING FAULT WITH THE COMPANIES FOR THEIR**  
19 **INVENTORY PERFORMANCE?**

20 **A63.** No. As previously discussed, the last 12 months have been exceedingly difficult  
21 ones for U.S. utilities. Supply disruptions are one of the major reasons why  
22 utilities maintain inventory levels. The bottom line is that while inventory levels  
23 have fallen below target levels, the fact is AEP has been able to maintain adequate

1 coal deliveries to the plants to keep the power plants operating. Further, through  
2 compliance with inventory targets at the beginning of the period, AEP was better  
3 positioned to do so.

4  
5 **Q64. DO YOU HAVE ANY RECOMMENDATIONS REGARDING INVENTORY**  
6 **LEVELS?**

7 **A64.** Yes. I recommend that AEP work to replenish its stock in 2009 subject to coal  
8 availability and pricing. As noted above, by having stockpiles at target levels  
9 provides a cushion in the event of a supply disruption and limits potential costs  
10 associated with possible coal conservation efforts.<sup>20</sup>

11  
12 **Q65. HOW DOES AEPSC PURCHASE COAL?**

13 **A65.** AEPSC buys coal under a combination of contracts and spot procurements. A  
14 typical Request for Proposal ("RFP") requests bids for a wide range of coals and  
15 give bidders the option to bid for spot and/or multi-year contract business.  
16 AEPSC does not have a specific schedule when RFP's are issued.

17  

---

<sup>20</sup> In 2005, disruptions to deliveries from the PRB occurred as a result of problems with the Joint Line. Many utilities were forced into what was referred to as coal conservation because of reduced shipments. The coal conservation efforts include purchasing power and removing plants from dispatch, both of which were much higher in cost.

1 **Q66. WHAT CONTRACTS CURRENTLY COMPRISE CSP'S AND OP'S**

2 **PORTFOLIO?**

3 **A66.** The Companies are parties to a number of coal supply agreements, the basic terms  
4 of which are summarized in Exhibit EVA-12. Note that I compiled this list as it  
5 was not part of the Companies' testimony.

6

7 **Q67. DO YOU HAVE ANY GENERAL COMMENTS REGARDING THE**

8 **CONTRACT PORTFOLIO?**

9 **A67.** Yes. AEP's policy of purchasing their coal requirements through a contract  
10 portfolio has served to mitigate the impact of the prolonged price event that  
11 started in the second half of 2007.

12

13 **Q68. WHAT WOULD YOU SAY WERE THE "BIG" CONTRACTING EVENTS OF**

14 **THE LAST YEAR?**

15 **A68.** It has been a very difficult year for AEPSC with respect to coal. As previously  
16 discussed, less coal was available in the market because of diversions to the  
17 export market. Further, pricing was extremely volatile making it difficult to get  
18 coal producers to "hold" their price even once it was offered. As difficult as  
19 buying coal has been, what has been even more difficult is contract performance.  
20 The two primary issues related to contract performance are (1) realizing deliveries  
21 of coal purchased at pre-surge pricing and (2) concerns related to the fragility of  
22 supplier finances which could threaten contract performance.

23

1 **Q69. WHAT HAPPENS TO A COAL CONTRACT IF THE SELLER FILES FOR**  
2 **PROTECTION UNDER CHAPTER 11 OF THE BANKRUPTCY CODE?**

3 **A69.** My experience is that coal sales agreements are executory contracts and as such  
4 the party filing for Chapter 11 protection has the right to assume or reject the  
5 agreements as part of the bankruptcy process. What typically happens is that  
6 sellers immediately reject any coal sales agreements which are priced below  
7 market.

8

9 **Q70. IF COAL PRICES WERE WAY UP, WHY IS BANKRUPTCY A CONCERN?**

10 **A70.** Prompt coal prices were up but prompt prices are only relevant with respect to  
11 new sales, i.e., open positions. Like utilities, coal sellers employ portfolio  
12 marketing strategies such that they sell their coal under a combination of long,  
13 medium, and short-term contracts. Pricing under the medium and long-term  
14 agreements tends to be fixed and/or tied to inflation indices and will not be  
15 directly affected by a large increase in market price.

16

17 The problem for many coal producers, however, is costs tend to react to market  
18 prices. Costs increase when prices are high because labor rates are bid up by  
19 competitors, productivity tends to go down with less management pressure on  
20 performance combined with increased production of higher cost coals. There are  
21 also cost increases for materials, supplies, and equipment as the market bids of  
22 prices due to the greater demand. Unfortunately, cost inflation affects all parties

1 regardless of what their sales portfolio look like. In other words, costs go up even  
2 when the contract prices do not.

3  
4 ***Q71. DID ANY COAL COMPANIES FILE FOR BANKRUPTCY IN 2007 AND***  
5 ***2008?***

6 ***A71.*** Yes. The largest bankruptcy was that of Black Diamond Mining Company, LLC  
7 (“Black Diamond”), a Central Appalachia coal producer. Black Diamond had  
8 sold coal to several customers at a price that did not allow it to recover its cash  
9 costs and pay its debt service. There were bankruptcies of several other small  
10 producers as well.

11  
12 ***Q72. WERE ANY OF CSP'S OR OP'S CONTRACTS REPUDIATED IN***  
13 ***BANKRUPTCY?***

14 ***A72.*** Not to the best of my knowledge. However, AEPSC indicated that more than one  
15 supplier was experiencing economic hardship and had spoken to AEPSC about  
16 the possibility of a bankruptcy filing.

17  
18 ***Q73. HOW DID AEPSC ADDRESS SUPPLIER PROBLEMS REGARDING***  
19 ***COSTS?***

20 ***A73.*** AEPSC indicated a multi-prong approach. Its first step was to independently  
21 confirm supplier representations regarding costs. Concurrently, AEPSC evaluated  
22 the consequences of a supplier failure, i.e., a bankruptcy. In other words, AEPSC  
23 explored the cost of replacing the coal versus the cost of providing a price

1 adjustment. Finally, AEPSC worked to insure that any price concessions would  
2 help to preserve its position in the long term.

3  
4 ***Q74. DO YOU HAVE ANY COMMENTS ABOUT AEPSC'S ACTIVITIES IN THIS***  
5 ***AREA?***

6 ***A74.*** Yes. I support AEPSC's efforts in this area and concur that had these suppliers  
7 not received some price relief and filed for bankruptcy, the costs to CSP and OP  
8 customers would have been much greater. That being said, I am concerned that  
9 any additional payments above the contract price be done in such a manner as to  
10 protect CSP and OP customers in the long-term by securing the viability of these  
11 varying sources of supply. I recommend that the Commission closely scrutinize  
12 this issue in the context of the Companies' annual filings.

13  
14 ***Q75. DID YOU RECEIVE ADEQUATE DATA TO REVIEW CONTRACT***  
15 ***PERFORMANCE?***

16 ***A75.*** No. I did not have adequate data to perform the review. AEPSC responded to an  
17 interrogatory request regarding performance issues that it was monitoring  
18 performance. Additional detail was provided in an interview with AEPSC  
19 personnel in which the primary performance issue, i.e., delivery of contract  
20 tonnage with prices below market, was discussed. I am comfortable that AEPSC  
21 is appropriately managing the situation and the Companies will receive full  
22 contract amounts. For the upcoming FAC audits, AEPSC should be required to

1 provide documentation of supplier performance and the actions AEPSC has taken  
2 to insure full receipt of contract volumes.  
3

4 ***Q76. DO YOU BELIEVE THERE MAY BE OPPORTUNITIES FOR AEPSC TO***  
5 ***REDUCE FUEL COSTS USING DIFFERENT STRATEGIES?***

6 ***A76.*** Yes. AEPSC has not used financial hedges or indexed purchases which can be  
7 financially hedged for any CSP and OP coal purchases for 2009.<sup>21</sup> AEPSC  
8 indicated that its practice is to receive regulatory approval in the relevant  
9 jurisdictions before using these instruments. Given the recent volatility in price,  
10 the use of financial instruments and/or contracts based upon indexed pricing may  
11 provide a mechanism for both reducing price volatility and for following the  
12 market down. A second strategy which AEPSC does not currently consider is the  
13 arbitrage of its positions. This second strategy is one in which AEPSC could  
14 “trade” a coal it has under contract that may have more value to a third party for  
15 an equivalent coal at a lower price. Providing the dollars flow through the FAC,  
16 this strategy can yield large benefits to customers if any of the current contract  
17 commitments are for coals that can “cross-over” to the metallurgical coal market.  
18

---

<sup>21</sup> AEPSC did buy hedges for APCO in 2007 which they ultimately assigned to Sporn. As those hedges were profitable, a portion of the receipts came to OP through its joint ownership.



1   ***Q77. WHAT IS YOUR RECOMMENDATION WITH RESPECT TO THESE NEW***  
2   ***COAL PROCUREMENT STRATEGIES?***

3   ***A77.*** As noted above, I recommend that AEPSC develop and seek approval for the use  
4       of financial instruments in the procurement of coals for CSP and OP. I also  
5       recommend that AEPSC look for arbitrage opportunities that will benefit the  
6       customers of CSP and OP.

7  
8   ***Q78. HOW IS THE TRANSPORTATION OF THE COAL ARRANGED?***

9   ***A78.*** Except for coal delivered by truck, the transportation of which is the  
10      responsibility of the seller, AEPSC arranges for the transportation of the coal  
11      from the mine or river terminal to CSP's and OP's plants. All of the barging is  
12      handled by AEP River Operations, a subsidiary of AEP, at cost-based rates.

13  
14   ***Q79. DID YOU REVIEW THE RAIL AGREEMENTS?***

15   ***A79.*** Yes.

16  
17   ***Q80. WHAT IS THE STATUS OF THE RAIL AGREEMENTS?***

18   ***A80.*** Coal is shipped by rail to the CSP and OP plants under five rail contracts. There  
19      are separate contracts for Amos, Conesville, Mitchell, and Muskingum River.  
20      With the exception of one contract which expires at the end of 2009, the contracts  
21      have several years to run. There is also a multi-year agreement for shipments  
22      from the Powder River Basin. As with the coal supply agreements, the portfolio  
23      strategy has helped protect CSP and OP customers from recent rail increases.

1 **Q81. DID YOU REVIEW THE FORECAST OF FUEL COSTS PROVIDED BY**  
2 **THE COMPANIES?**

3 **A81.** Yes.  
4

5 **Q82. DO YOU BELIEVE IT ACCURATELY REFLECTS EXPECTED FUEL**  
6 **COSTS FOR 2009?**

7 **A82.** No. I believe that the forecast of fuel costs provided by the Companies may  
8 overstate expected fuel expenditures for two reasons.

- 9 • There has been a recent marked decline in coal and oil prices. As a result, the  
10 open coal position and virtually all freight rates should be lower than what  
11 was contained in the forecast. Given the data provided to review, it is difficult  
12 to estimate the magnitude of the impact of the market retrenchment.
- 13 • Also, I would presume that a number of contract suppliers under-shipped  
14 volumes in 2008 although I do not have the data to support this. These  
15 shipments, which are all probably below market, should be substantially made  
16 up in 2009 which should also reduce the average price.  
17

18 **Q83. SHOULD THE COMPANIES UPDATE THEIR FORECAST OF FUEL**  
19 **COSTS?**

20 **A83.** There have been many changes since the Companies developed their forecast. I  
21 believe an update is appropriate so that the best numbers are used to establish  
22 initial FAC costs.

1 ***Q84. DO YOU AGREE WITH THE COMPANIES' PROPOSAL REGARDING***  
2 ***OVER- AND UNDER-RECOVERIES OF FUEL COSTS?***

3 ***A84.*** I do not have a comment on the proposed carrying charge for under-recovery. I  
4 simply propose that, as a matter of fairness, whatever is adopted for under-  
5 recoveries should also be applied for over-recoveries. The Companies' proposal  
6 is asymmetrical, where the Companies are protected in the circumstance of under-  
7 collecting costs from consumers but consumers are not protected where they have  
8 overpaid costs to the Companies.

9

10 ***Q85. ARE THERE ANY OTHER ITEMS FROM YOUR REVIEW THAT YOU***  
11 ***WISH TO RAISE?***

12 ***A85.*** Yes. As part of my standard fuel review, I examine physical inventory surveys  
13 because they are an important element in the fuel procurement process even if  
14 stockpile adjustments do not flow through the FAC. The reason I think they are  
15 important is that they provide an indication of the performance of scales, samplers  
16 and the like.

17

18 ***Q86. WHAT DID YOU FIND IN YOUR REVIEW?***

19 ***A86.*** I found two potentially relevant items. First, AEP no longer uses the PUCO's  
20 mandatory physical inventory adjustment approach which permitted book  
21 adjustments only if there the surveys produced sequential errors in the same  
22 direction. Further, the adjustments were only for 50 percent of the difference up  
23 to six percent. The physical inventory adjustments are now conducted per the

1 provision of Accounting Bulletin No. 4 which provides for full adjustments to be  
2 made following each survey.  
3

4 The second item was an adjustment larger than I had ever seen before. [BEGIN  
5 CONFIDENTIAL] [REDACTED]

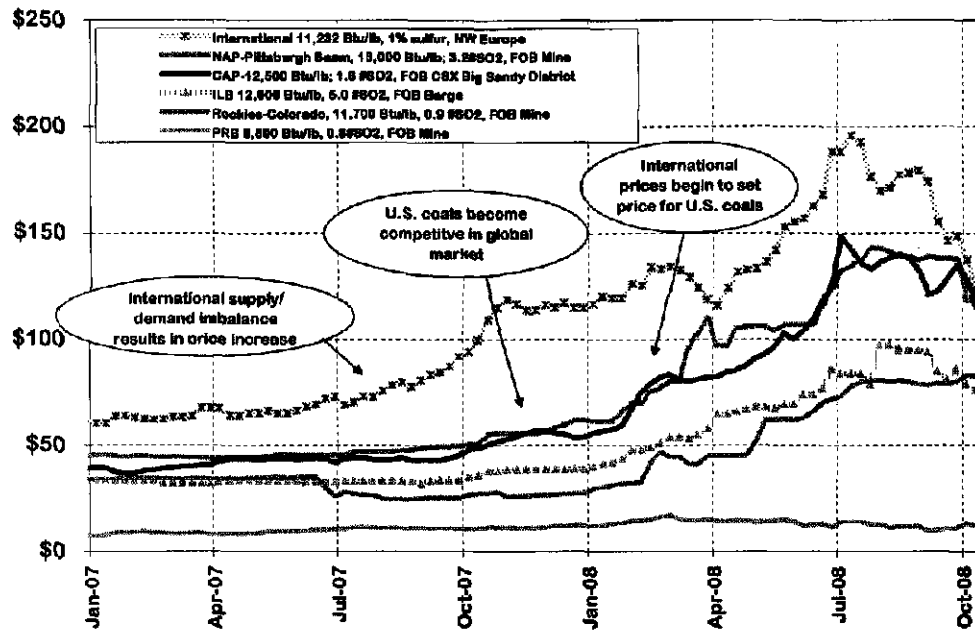
6 [REDACTED]  
7 [REDACTED] [END

8 CONFIDENTIAL] The discrepancy was attributed to scale problems, which may  
9 be true, however, it seems quite incredible that plant personnel would not have  
10 been able to "see" this discrepancy much sooner than it was discovered in a  
11 physical inventory survey. The importance of accurate scales cannot be over-  
12 stated in determining plant performance. Further, if the "pay" scales are weighing  
13 heavy, this discrepancy could have resulted in a substantial over-payment to coal  
14 suppliers.  
15

16 ***Q87. DOES THIS CONCLUDE YOUR TESTIMONY?***

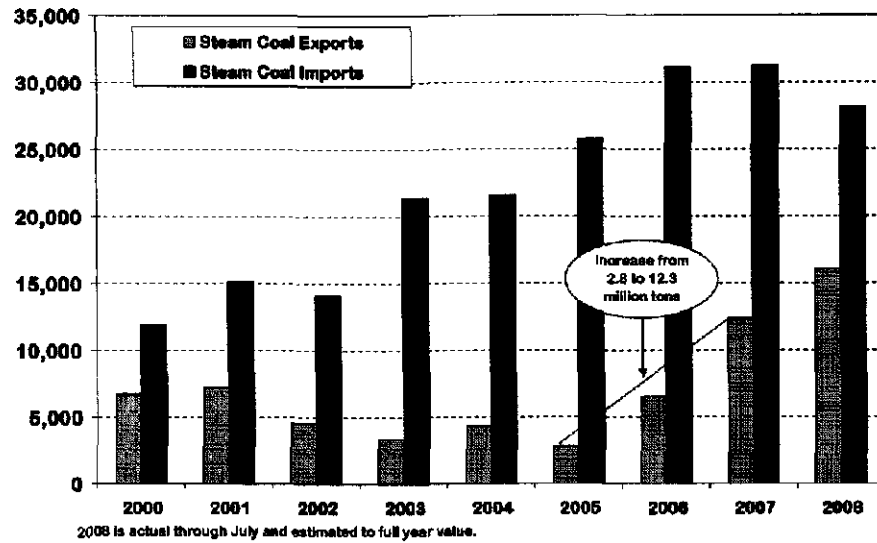
17 ***A87.*** Yes. However, I reserve the right to incorporate new information that may  
18 subsequently become available. I also reserve the right to supplement my  
19 testimony in the event that AEP submits new or corrected financial or other data  
20 in connection with this proceeding.

# HISTORICAL COAL PRICES (\$/Ton)



Source: EVA, Energy Argus, Platts

# East/Gulf Steam Coal Exports and Imports (1,000 Tons)



Source: EVA, U.S. Department of Commerce

**GLOBAL THERMAL SEABORNE COAL TRADE (Million Tonnes)**

**Exhibit EVA-3**

<b>Importer</b>	<b>1990</b>	<b>1995</b>	<b>2000</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008E</b>	<b>07 v. 06</b>	<b>08 v 07</b>
Japan	31.4	49.6	66.4	96.1	91.4	100.7	106.1	10.2%	5.4%
Europe	83.3	99.6	121.8	159.9	173.8	159.8	165.5	-8.1%	3.6%
Israel	4.1	6.7	10.4	12.4	12.4	12.5	12.5	0.8%	0.0%
South Korea	11.6	26.0	42.3	56.1	59.0	65.6	71.0	11.2%	8.2%
Hong Kong	8.9	9.1	6.1	10.8	11.4	12.3	12.2	7.9%	-0.8%
Taiwan	14.8	23.9	38.1	51.3	52.3	55.7	53.9	6.5%	-3.2%
USA	2.4	6.5	11.2	27.6	32.9	33.0	29.0	0.3%	-12.1%
China	1.1	1.3	1.6	18.9	33.6	44.8	37.4	33.3%	-16.5%
Other	21.8	27.0	46.3	75.1	103.8	108.8	129.5	4.8%	19.0%
<b>TOTAL</b>	<b>179.4</b>	<b>249.7</b>	<b>344.2</b>	<b>506.2</b>	<b>570.6</b>	<b>593.2</b>	<b>617.1</b>	<b>4.0%</b>	<b>4.0%</b>

Source: SSY

Exhibit EVA-4

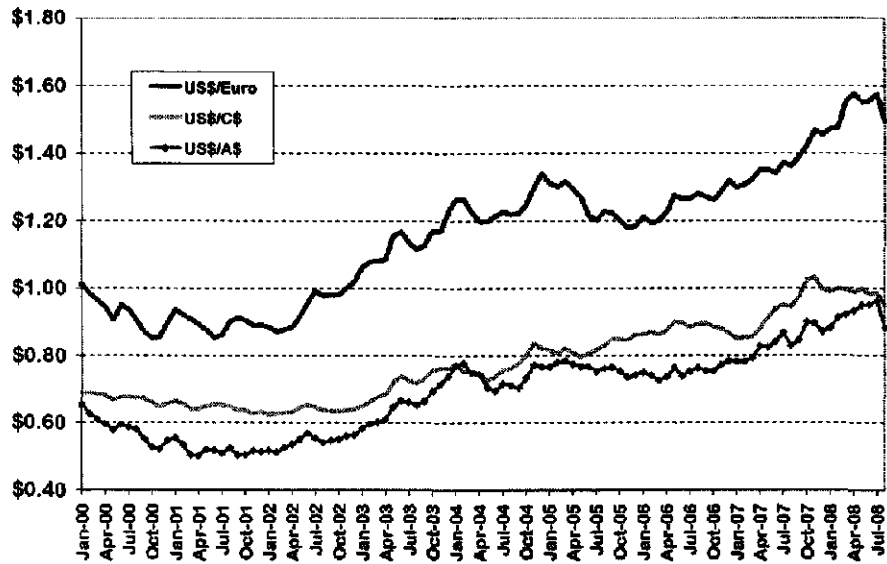
GLOBAL THERMAL SEABORNE COAL TRADE (Million Tonnes)

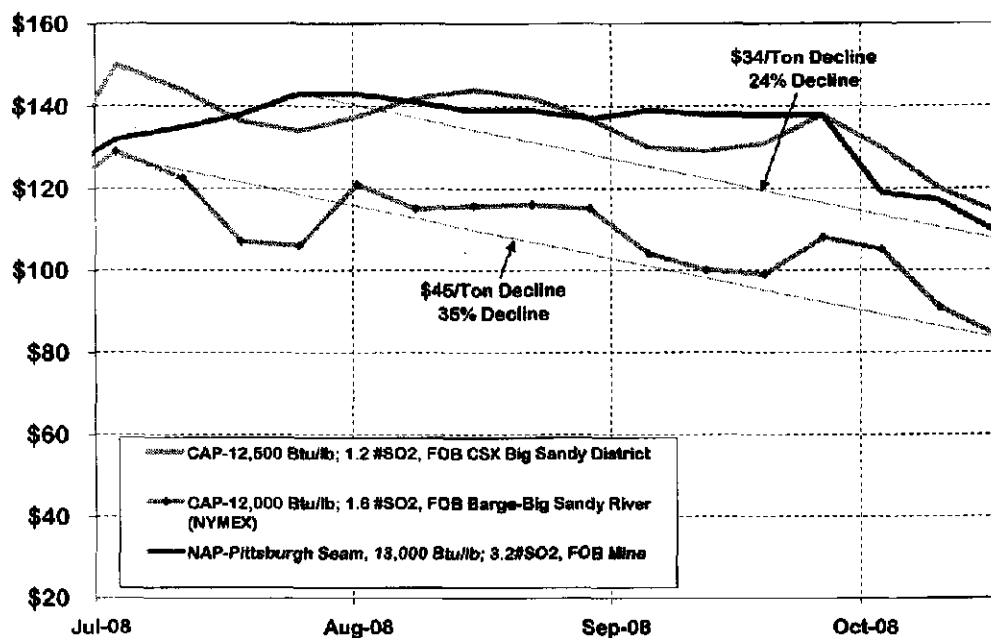
Exporter	1990	1995	2000	2005	2006	2007	2008E	07 v. 06	08 v 07
Indonesia	4.4	31.3	57.1	128.7	183.0	195.0	211.2	6.6%	8.3%
Australia	49.5	62.1	87.1	111.7	113.1	112.6	116.8	-0.4%	3.7%
South Africa	46.0	55.6	68.1	70.0	67.8	67.2	59.0	-0.9%	-12.2%
Colombia	13.7	18.7	34.0	54.6	58.3	64.7	70.3	11.0%	8.7%
China	13.7	24.1	48.6	66.4	58.9	50.6	47.4	-14.1%	-6.3%
USA	28.3	28.2	9.6	5.4	5.9	10.3	15.4	74.6%	49.5%
Poland	6.5	13.1	15.3	13.6	10.1	6.6	5.8	-34.7%	-12.1%
Canada	3.9	5.4	3.5	1.1	2.6	3.8	3.6	46.2%	-5.3%
Other	13.5	11.3	20.9	56.7	70.9	82.4	87.6	16.2%	6.3%
<b>TOTAL</b>	<b>179.4</b>	<b>249.7</b>	<b>344.2</b>	<b>508.2</b>	<b>570.6</b>	<b>593.2</b>	<b>617.1</b>	<b>4.0%</b>	<b>4.0%</b>

Source: SSY

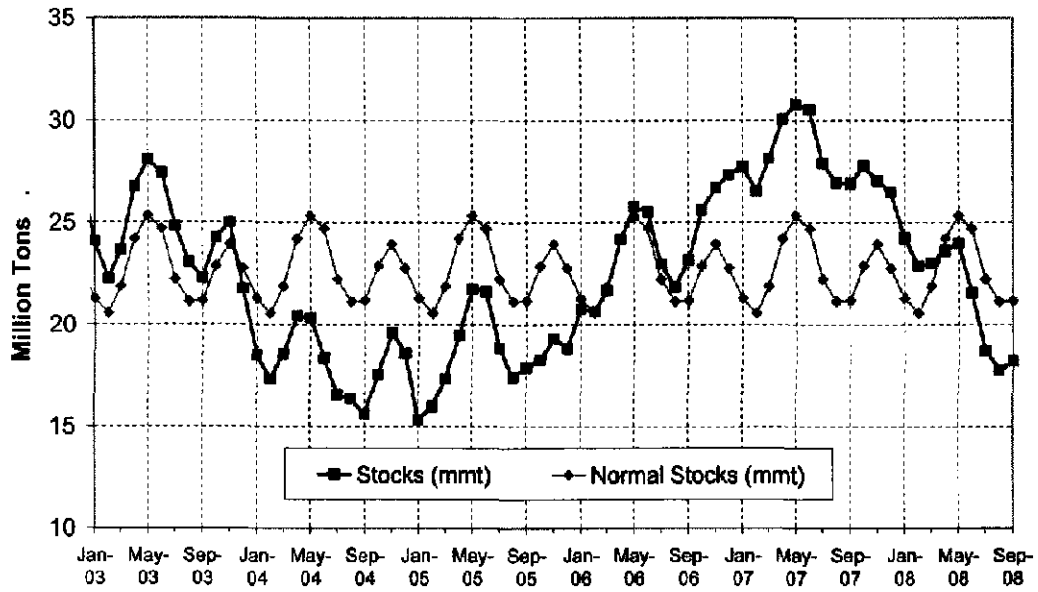


# CURRENCY EXCHANGE RATES



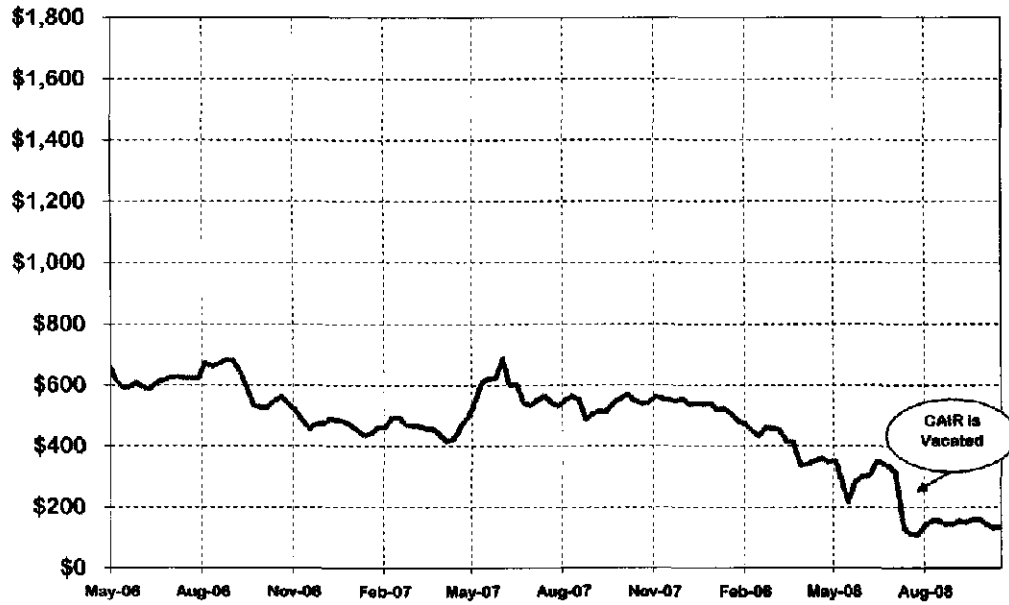
**RECENT CHANGE IN PROMPT U.S. COAL PRICES (\$/Ton)**

# UTILITY STOCKPILES OF CENTRAL APPALACHIAN COAL

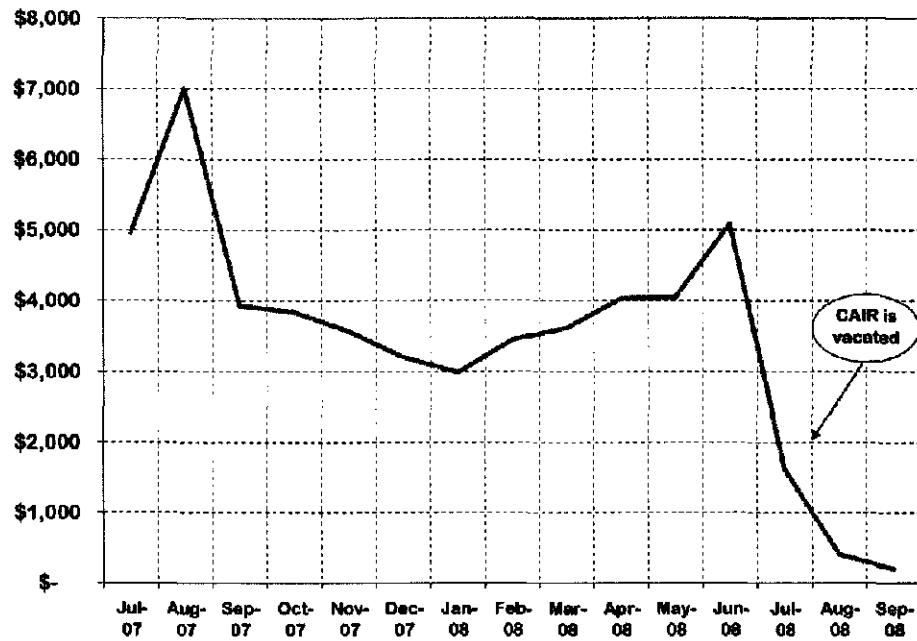


Source: COALCAST Stockpile Data Report, September 2008

**SO<sub>2</sub> EMISSION ALLOWANCE PRICES (\$/Ton)**



**ANNUAL NO<sub>x</sub> EMISSION ALLOWANCE PRICES (\$/Ton)**



**CSP AND OP COAL-FIRED POWER PLANTS<sup>22</sup>**

Former Utility	Plant	Unit	ST	Jointly Owned	FGD	FGD Plan	Plant Ret.	Delivery	2007 MW
Columbus Southern Power	Conesville	5-6	OH	Yes	Yes	2009	2012	Rail/Truck	750
	Conesville*	4	OH		Rail/Truck			339	
	Conesville	3	OH		Rail/Truck			185	
	Picway	9	OH		Truck			95	
Ohio Power	Amos*	3	OH	Yes	Yes	2009	2015	Rail/Barge	867
	Cardinal	1	OH			2008		Rail/Barge	585
	Gavin	1-2	OH			2015		Rail/Barge	2,600
	Muskingum River	5	OH					Rail/Truck	580
	Muskingum River	1-4	OH					Rail/Truck	815
	Kammer	1-3	WV			2007		Barge	615
	Mitchell	1-2	WV					Rail/Barge	1,600
	Sporn	2&4	WV					Barge	300
	Sporn	5	WV			2013		Barge	450
	TOTAL								

\* Only owned MW's provided

<sup>22</sup> Units that are wholly owned by other utilities at the same stations are not included. This means Amos 1&2 (APCO), Sporn 1&3 (APCO), and Cardinal 2&3 (Buckeye Power) are excluded.

**ORIGIN OF COAL SHIPMENTS FOR THE TWELVE MONTHS ENDING MAY  
2008 (1,000 Tons)**

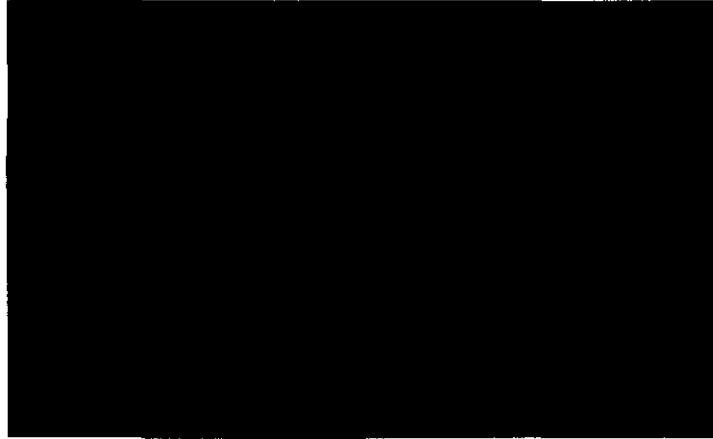
Operator	Plant	CAPP	ILLB	Ohio	Other NAPP	PRB	Total
Appalachian Power Co.	Amos	6,930					6,930
	Sporn	2,371				11	2,382
Appalachian Power Co. Total		9,301				11	9,312
Cardinal Operating Co.	Cardinal	2,303		1,138	351	38	3,830
Cardinal Operating Co. Total		2,303		1,138	351	38	3,830
Columbus Southern Power Co.	Conesville			4,182			4,182
	Picway	26		113			139
Columbus Southern Power Co. Total		26		4,296			4,321
Ohio Power Co.	Gavin	119	28	5,546	958	5	6,654
	Kammer	232			1,103	394	1,729
	Mitchell (OPC)	478		10	3,173	254	3,935
	Muskingum River	953	40	1,866	698	34	3,591
Ohio Power Co. Total		1,802	67	7,421	5,932	687	15,908
<b>Total</b>		<b>13,431</b>	<b>67</b>	<b>12,854</b>	<b>6,282</b>	<b>736</b>	<b>33,372</b>

Source: Platts

\* Includes 100 percent of Amos, Sporn, Cardinal and Conesville purchases.

**INVENTORY TARGETS BY PLANT**

**[BEGIN CONFIDENTIAL]**



**[END CONFIDENTIAL]**

**[BEGIN CONFIDENTIAL]**

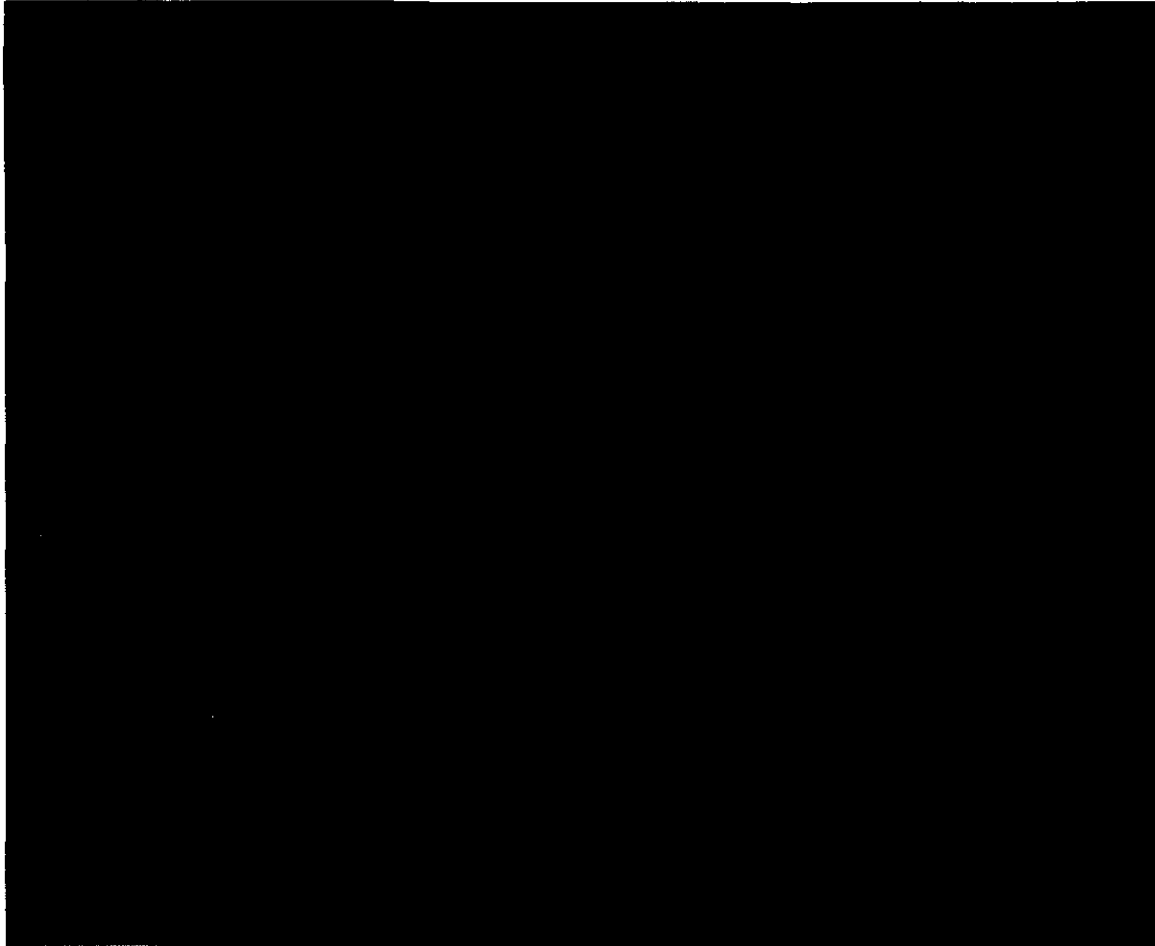
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**[END CONFIDENTIAL]**



**SUMMARY OF COAL CONTRACTS**

**[BEGIN CONFIDENTIAL]**



**[END CONFIDENTIAL]**

## **RESUME OF EMILY S. MEDINE**

### **EDUCATIONAL BACKGROUND**

M.P.A. Woodrow Wilson School of Public and International Affairs, Princeton University, 1978  
B.A. Geography, Clark University, 1976 (magna cum laude, Phi Beta Kappa)

### **PROFESSIONAL EXPERIENCE**

#### **Current Position**

Emily Medine, a Principal, has been with Energy Ventures Analysis since 1987. Her experience includes bankruptcy support, market strategy development, fuel procurement audits, fuel procurement, acquisition and investment analyses, strategic studies and forecasting. She has also provided expert testimony on utility fuel procurement practices. The types of projects in which she is involved are described below:

#### **Fuel Procurement Audits**

Manages and performs fuel procurement audits on behalf of regulatory commissions, utility management, and third-party interveners. She has performed over 20 audits of utilities regulated by the Public Utilities Commission of Ohio and testified in a number of proceedings. She also managed two major audits of the fuel procurement practices of PacifiCorp. In 2005, Ms. Medine performed a management/performance audit of the Fuel and Purchased Power costs of the Cincinnati Gas & Electric Company. On behalf of the Consumer Advocate of the State of West Virginia Ms. Medine audited Appalachian Power fuel procurement costs in 2006 and Monongahela Power in 2007.

#### **Fuel Procurement**

Develops and implements fuel procurement strategies for utilities and independent power projects. Fuel procurement assistance has ranged from determining an appropriate contract/spot mix to soliciting bids and negotiating purchase agreements. Ms. Medine has negotiated fuel supply agreements for three qualifying facilities (QF's) and has worked on fuel supply arrangements for a number of other plants. Ms. Medine is an advisor to Nova Scotia Power on its fuel procurement activities. Ms. Medine is currently developing the fuel procurement strategy for a new solid-fuel power plant on the Great Lakes.

#### **Forecasting**

Develops forecasts of coal demand and prices for alternative coal types and market segments. These forecasts are provided to individual clients and are documented in various COALCAST reports including the regional reports and the Long-Term Regional Coal Price Forecast reports.

#### **Acquisition and Investment**

Ms. Medine was the agent for Lexington Coal Company in the sale of its assets in Indiana and Illinois. As part of this engagement, Ms. Medine was responsible for the sale of three mines to Peabody Energy. Ms. Medine also routinely evaluates the economics of potential projects or acquisitions for producers, developers, and industrials. For coal

projects, this includes market and financial forecasts. Ms. Medine completed the sale of six idle mine assets and various other properties.

### ***Bankruptcy Support***

Ms. Medine was an advisor to the Horizon Natural Resource companies which operated as a debtor-in-possession in the development of a plan to accomplish reclamation on all permits not sold and transferred as part of the plan of reorganization. For a period of 15 months, Ms. Medine served as Executive Vice President of Centennial Resources, Inc., a debtor-in-possession, as part of EVA's contract to manage this company post-petition. In this capacity, she managed the day-to-day operations of the company as well as serving as the liaison between the company, state and county regulatory agencies, the bankruptcy court, and the lenders. This assignment ended upon the filing of Centennial's plan of reorganization. Ms. Medine had also served as the advisor to secured lenders in another coal industry bankruptcy. In this capacity, she reviewed and developed independent financial forecasts and operating plans of the debtor-in-possession.

### ***Market Strategy Development***

Assists clients in the development of marketing strategies on behalf of coal suppliers and transporters. She has helped to identify the high value markets and strategies for obtaining these accounts.

### ***Expert Testimony***

Prepares analyses and testimony in support of clients involved in regulatory and legal proceedings. Provides testimony in commission hearings on fuel procurement issues and arbitration proceedings on contract disputes.

### ***Prior Experience***

Prior to joining EVA, Ms. Medine held various positions at CONSOL including Assistant District Sales Manager – Chicago Sales Office and Strategic Studies Coordinator. Prior to CONSOL, Ms. Medine was a Project Manager at Energy and Environmental Analysis, Inc. where she directed two large government studies. For the Environmental Protection Agency, Ms. Medine directed an evaluation of the energy, environmental and economic impacts of New Source Performance Standards on Industrial Boilers. For the Department of Energy, Ms. Medine directed an evaluation of the financial impacts of requiring utilities with coal capable boilers to reconvert to coal. Ms. Medine worked as a Research Assistant at Brookhaven National Laboratory while she attended graduate school.

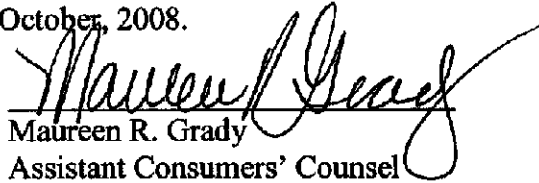
**[BEGIN CONFIDENTIAL]**

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**[END CONFIDENTIAL]**

## **CERTIFICATE OF SERVICE**

I hereby certify that a copy of the *Public Version of the Direct Testimony of Emily S. Medine on behalf of the Office of the Ohio Consumers' Counsel*, has been served upon the following parties via regular U.S. Mail service, postage prepaid (and a courtesy copy via electronic transmission) this 31st day of October, 2008.

  
Maureen R. Grady  
Assistant Consumers' Counsel

## **SERVICE LIST**

Marvin Resnik  
Steve Nourse  
AEP Service Corp.  
1 Riverside Plaza, 29<sup>th</sup> Floor  
Columbus, OH 43215

John W. Bentine  
Mark S. Yurick  
Matthew S. White  
Chester, Willcox & Saxbe LLP  
65 East State St., Ste. 1000  
Columbus, OH 43215-4213

Attorney for The Kroger Company, Inc.

Barth E. Royer  
Bell & Royer Co. LPA  
33 South Grant Avenue  
Columbus, OH 43215-3927

The Ohio Environmental Council and  
Dominion Retail, Inc.

John Jones  
William Wright  
Werner Margard  
Assistant Attorneys General  
Public Utilities Commission of Ohio  
180 E. Broad St., 9<sup>th</sup> Fl.  
Columbus, OH 43215

Nolan Moser  
Air & Energy Program Manager  
The Ohio Environmental Council  
1207 Grandview Ave., Ste. 201  
Columbus, OH 43212-3449

Trent A. Dougherty  
The Ohio Environmental Council  
1207 Grandview Ave., Ste. 201  
Columbus, OH 43212-3449

M. Howard Petricoff  
Stephen M. Howard  
Vorys, Sater, Seymour And Pease LLP  
52 East Gay S., P. O. Box 1008  
Columbus, OH 43216-1008

Attorneys for Constellation NewEnergy,  
Inc., Constellation Energy Commodities  
Group, Inc., EnerNoc, Inc. and  
ConsumerPowerline

Samuel C. Randazzo  
Lisa G. McAlister  
Daniel J. Neilsen  
Joseph M. Clark  
McNees, Wallace & Nurick LLC  
21 East State St., 17th Fl.  
Columbus, OH 43215

Attorneys for Industrial Energy Users-Ohio

David F. Boehm, Esq.  
Michael L. Kurtz, Esq.  
Boehm, Kurtz & Lowry  
36 East Seventh St., Ste. 1510  
Cincinnati, OH 45202

Attorneys for The Ohio Energy Group

Michael R. Smalz  
Joseph V. Maskovyak  
Ohio State Legal Services Association  
Appalachian People's Action Coalition  
555 Buttles Avenue  
Columbus, OH 43215

Attorneys for APAC  
Henry W. Eckhart  
50 W. Broad St., #2117  
Columbus, OH 43215

Attorney for The Sierra Club Ohio Chapter  
and Natural Resources Defense Council

Cynthia A. Fonner  
Senior Counsel  
Constellation Energy Group, Inc.  
550 W. Washington St., Suite 300  
Chicago, IL 60661

Attorneys for Constellation NewEnergy,  
Inc. and Constellation Energy  
Commodities Group, Inc.

David C. Rinebolt  
Colleen L. Mooney  
Ohio Partners for Affordable Energy  
231 West Lima Street  
P.O. Box 1793  
Findlay, OH 45839-1793

Attorneys for Ohio Partners for Affordable  
Energy

Daniel R. Conway  
Porter Wright Morris & Arthur  
Huntington Center  
41 S. High Street  
Columbus, Ohio 43215

Richard L. Sites  
Ohio Hospital Association  
155 East Broad Street, 15th Floor  
Columbus, OH 43215-3620

Attorney for Ohio Hospital Association

Craig G. Goodman  
National Energy Marketers Association  
3333 K St., N.W., Ste. 110  
Washington, D.C. 20007

Sally W. Bloomfield  
Terrence O'Donnell  
Bricker & Eckler, LLP  
100 South Third Street  
Columbus, OH 43215-4291

Attorney for American Wind Energy  
Association, Wind On The Wires and  
Ohio Advanced Energy  
Clinton A. Vince  
Presley R. Reed  
Emma F. Hand  
Ethan E. Rii  
Sonnenschein, Nath & Rosenthal LLP  
1301 K Street NW  
Suite 600, East Tower  
Washington, DC 20005

Attorneys for Ormet Primary Aluminum  
Corporation

Douglas M. Mancino  
McDermott, Will & Emery LLP  
2049 Century Park East, Ste. 3800  
Los Angeles, CA 90067-3218

Attorney for Morgan Stanley Capital  
Group, Inc.

Stephen M. Howard  
Vorys, Sater, Seymour And Pease LLP  
52 East Gay S., P. O. Box 1008  
Columbus, OH 43216-1008

Attorney for Integrys Energy Services, Inc.  
and ConsumerPowerline

Christopher Miller  
Schottenstein, Zox & Dunn Co., LPA  
250 West Street  
Columbus, OH 43215

Attorney for The AICUO

Larry Gearhardt  
Chief Legal Counsel  
Ohio Farm Bureau Federation  
280 North High St., P.O. Box 182383  
Columbus, OH 43218-2383

Langdon D. Bell  
Bell & Royer Co., LPA  
33 South Grant Ave.  
Columbus OH 43215-3927

Attorney for Ohio Manufacturer's  
Association

Gregory K. Lawrence  
McDermott, Will & Emery LLP  
28 State Street  
Boston, MA 02109

Attorney for Morgan Stanley Capital  
Group, Inc.

Grace C. Wung  
McDermott Will & Emery, LLP  
600 Thirteenth Street, N.W.  
Washington, DC 20005

Attorney for the Commercial Group

[sam@mwncmh.com](mailto:sam@mwncmh.com)  
[lmcalister@mwncmh.com](mailto:lmcalister@mwncmh.com)  
[dneilsen@mwncmh.com](mailto:dneilsen@mwncmh.com)  
[jclark@mwncmh.com](mailto:jclark@mwncmh.com)  
[Thomas.McNamee@puc.state.oh.us](mailto:Thomas.McNamee@puc.state.oh.us)  
[william.wright@puc.state.oh.us](mailto:william.wright@puc.state.oh.us)  
[Werner.Margard@puc.state.oh.us](mailto:Werner.Margard@puc.state.oh.us)  
[drinebolt@aol.com](mailto:drinebolt@aol.com)  
[cmooney2@columbus.rr.com](mailto:cmooney2@columbus.rr.com)  
[dboehm@bkllawfirm.com](mailto:dboehm@bkllawfirm.com)  
[mkurtz@bkllawfirm.com](mailto:mkurtz@bkllawfirm.com)  
[miresnik@aep.com](mailto:miresnik@aep.com)  
[stnourse@aep.com](mailto:stnourse@aep.com)  
[cgoodman@energymarketers.com](mailto:cgoodman@energymarketers.com)  
[LGearhardt@ofbf.org](mailto:LGearhardt@ofbf.org)  
[LBell33@aol.com](mailto:LBell33@aol.com)  
[sbloomfield@bricker.com](mailto:sbloomfield@bricker.com)  
[dmancino@mwe.com](mailto:dmancino@mwe.com)  
[gwung@mwe.com](mailto:gwung@mwe.com)

[dconway@porterwright.com](mailto:dconway@porterwright.com)  
[BarthRoyer@aol.com](mailto:BarthRoyer@aol.com)  
[nmoser@theOEC.org](mailto:nmoser@theOEC.org)  
[trent@theOEC.org](mailto:trent@theOEC.org)  
[jbentine@cwslaw.com](mailto:jbentine@cwslaw.com)  
[myurick@cwslaw.com](mailto:myurick@cwslaw.com)  
[mwhite@cwslaw.com](mailto:mwhite@cwslaw.com)  
[msmalz@oslsa.org](mailto:msmalz@oslsa.org)  
[jmaskovyak@oslsa.org](mailto:jmaskovyak@oslsa.org)  
[Cynthia.A.Fonner@constellation.com](mailto:Cynthia.A.Fonner@constellation.com)  
[smhoward@vssp.com](mailto:smhoward@vssp.com)  
[mhpetricoff@vssp.com](mailto:mhpetricoff@vssp.com)  
[ricks@ohanet.org](mailto:ricks@ohanet.org)  
[henryeckhart@aol.com](mailto:henryeckhart@aol.com)  
[mhpetricoff@vorys.com](mailto:mhpetricoff@vorys.com)  
[mhpetricoff@vorys.com](mailto:mhpetricoff@vorys.com)  
[todonnell@bricker.com](mailto:todonnell@bricker.com)  
[glawrence@mwe.com](mailto:glawrence@mwe.com)  
[cmiller@szd.com](mailto:cmiller@szd.com)