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Transportation Costs;  
Uncertainty and  
Volatility in Those  
Costs  
Witness: Robert K. Neff  
Sponsoring Party: Union Electric Company  
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**MISSOURI PUBLIC SERVICE COMMISSION**

**CASE NO. ER-2008-\_\_\_\_**

**DIRECT TESTIMONY**

**OF**

**ROBERT K. NEFF**

**ON**

**BEHALF OF**

**UNION ELECTRIC COMPANY**

**d/b/a AmerenUE**

**\*\* DENOTES HIGHLY CONFIDENTIAL INFORMATION \*\***

St. Louis, Missouri  
April, 2008

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1 **DIRECT TESTIMONY**

2 **OF**

3 **ROBERT K. NEFF**

4 **CASE NO. ER-2008-\_\_\_\_**

5 **I. INTRODUCTION**

6 **Q. Please state your name and business address.**

7 A. Robert K. Neff, AmerenEnergy Fuels and Services Company (“AFS”), One  
8 Ameren Plaza, 1901 Chouteau Avenue, St. Louis, Missouri, 63103.

9 **Q. What is your position with AFS?**

10 A. I am the Vice President of Coal Supply.

11 **Q. What are the duties of your position?**

12 A. My primary responsibilities are to obtain adequate coal supplies and related  
13 transportation for eleven coal-fired power plants operated by Ameren Corporation  
14 (“Ameren”) operating subsidiaries, including Union Electric Company d/b/a AmerenUE  
15 (“AmerenUE” or “Company”).

16 **Q. Please describe your educational background, work experience and the**  
17 **duties of your position.**

18 A. I received a Bachelors Degree in Mechanical Engineering from Washington  
19 University in St. Louis and a Masters in Business Administration from Southern Illinois  
20 University. I am a registered Professional Engineer in the State of Missouri and I am a  
21 Certified Energy Manager. Prior to joining Union Electric Company in 1982, I worked at the  
22 Missouri Pacific Railroad in various engineering and operating positions. I also worked as a  
23 Product Engineer at the railcar manufacturing firm of American Car and Foundry. At

1 Ameren, my work experience includes 19 years in positions relating to coal procurement and  
2 coal transportation, and 6 years in natural gas procurement and retail electric marketing.

3 **II. PURPOSE AND SUMMARY OF TESTIMONY**

4 **Q. What is the purpose of your testimony?**

5 A. The purpose of my testimony is to explain how coal was bought and delivered  
6 in the test year, describe the increases in delivered coal costs in the test year ending  
7 March 31, 2008 updated through June 30, 2008, compare the updated test year delivered coal  
8 costs to the costs included in the Company's prior rate case, discuss coal market price trends,  
9 and discuss the nature and uncertainty of future coal cost increases.

10 **Q. Could you please summarize your testimony?**

11 A. Delivered coal costs in the updated test year ending June 30, 2008 are  
12 expected to be \$1.48 per million British thermal unit ("MMBtu"), an increase of 12% over  
13 the delivered coal costs of \$1.32/MMBtu established as the level of delivered coal costs in  
14 the prior AmerenUE rate case, which was concluded in May, 2007. At a normalized use of  
15 392,247,000 MMBtu, this is an annual coal cost increase of \$61,975,000 over the costs  
16 included in the revenue requirement established in the prior AmerenUE rate case. The coal  
17 and transportation markets, like all fuel markets, have been extremely volatile. AmerenUE  
18 witness Ajay Arora calculated the 8,800 Btu/lb. Powder River Basin, Wyoming ("PRB") coal  
19 "annual uncertainty factor" to be 31% for the time period 1997 to 2007, compared to 36% for  
20 natural gas for the same time period. While AFS's hedging program dampens the volatility  
21 of fuel prices in the year in which the fuel is consumed, the Company is exposed to  
22 substantial unhedged fuel cost increases in the future. The annual possible range of fuel costs  
23 in years 2009 through 2012, where fuel is less hedged, are projected to be from

1    **\*\* [REDACTED] \*\* below to **\*\* [REDACTED] \*\* above the expected 2008 delivered coal cost of**  
2    **\$585,864,000.****

3                    An Executive Summary of my testimony is attached as Attachment A.

4                    **III.    CURRENT AND PROJECTED COAL COSTS**

5                    **Q.    What are AmerenUE's delivered coal costs for the test year ending**  
6    **March 31, 2008?**

7                    A.    The delivered costs in the test year ending March 31, 2008 are \$1.36/MMBtu.  
8    This cost is calculated using nine months of actual data (the 2<sup>nd</sup> through 4<sup>th</sup> quarters of 2007)  
9    plus budget data for the 1<sup>st</sup> quarter of 2008. The test year delivered coal cost in dollars is  
10    \$556,385,284.

11                   **Q.    How are dollars per MMBtu related to actual dollars paid for a delivered**  
12    **ton of coal?**

13                   A.    Although coal is paid for on a per-ton basis, the heat content of the coal,  
14    which varies by coal type and mine, is what determines the value of the coal. Therefore, the  
15    actual purchase of coal is evaluated on a cost per unit of heat measurement. The heat  
16    measurement normally used is a Btu. One Btu is the amount of heat energy required to raise  
17    1 pound of water by 1 degree Fahrenheit. In a normal year, it is expected that heat input into  
18    the Company's boilers for electrical generation would be 392,247,000 MMBtu. Multiplying  
19    this expected heat input by the delivered cost per unit of heat input from the coal equals the  
20    total cost of delivered fuel that the Company will spend.

21                   **Q.    Please compare delivered coal costs utilized in the revenue requirement in**  
22    **this case to the final coal prices included in the revenue requirement in AmerenUE's**  
23    **prior rate case which concluded in May, 2007.**

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1           A       Delivered coal costs continue to increase substantially. The delivered coal  
2 costs included in the prior AmerenUE rate case were \$1.32/MMBtu. Delivered coal costs  
3 used in this filing are \$1.48/MMBtu, a 12% increase from the prior AmerenUE rate case.  
4 This figure is based upon the updated test year through June 30, 2008, using actual and  
5 estimated prices.

6           **Q.     Are delivered coal costs expected to increase or decrease in the future?**

7           A.       Delivered coal costs are expected to continue to increase. Coal already  
8 purchased, or “hedged,” for 2009, 2010 and 2011 shows increases of \*\* [REDACTED] \*\*  
9 respectively. Coal needs beyond what has already been purchased will be acquired at market  
10 prices, which currently are above the already purchased prices of coal. New transportation  
11 contracts for three of the four AmerenUE coal-fired plants are expected to result in  
12 substantial delivered coal cost increases in 2010. Projected increases are discussed further in  
13 Section VIII, Uncertainties and Variations in Future Fuel Costs.

14                   **IV.     QUANTITIES AND TYPES OF COAL PURCHASED**

15           **Q.     How much coal was delivered to each AmerenUE generating plant during**  
16 **the test year?**

17           A.       The following table shows the estimate of total tons and types of coal to be  
18 delivered to each plant during the test year (the actual tons for the 2<sup>nd</sup> through 4<sup>th</sup> quarters of  
19 2007 plus budget data for the 1<sup>st</sup> quarter of 2008):

20	<u>Plant</u>	<u>8800 Btu PRB</u>	<u>8400 Btu PRB</u>	<u>Illinois</u>	<u>Petcoke/TDF</u>
21	Labadie	8,727,000	2,142,000	0	0
22	Meramec	2,551,000	1,270,000	0	0
23	Sioux	2,844,000	0	968,000	0

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1	Rush Island	257,000	4,472,000	0	0
2	Total	14,379,000	7,884,000	968,000	0

3 Total All Plants: 23,231,000 tons

4 **Q. Is the amount and type of coal burned during the test year typical of**  
5 **AmerenUE's coal consumption?**

6 A. Yes, AmerenUE's burn in calendar year 2007 was 22.7 million tons and in  
7 calendar year 2006 was 22.9 million tons. The 23.2 million tons in the test year is just 1.7%  
8 more than the average burn for the past two years. In the test year, approximately 96%, or  
9 22.2 million tons of AmerenUE's coal burn will be supplied from PRB coal. The remaining  
10 4%, or 968,000 tons, will be from mines located in the Illinois Basin for use in blending with  
11 PRB coal at the Sioux Plant. As market conditions permit, petroleum coke, or petcoke  
12 (a refinery byproduct), can be substituted for Illinois Basin coal at the Sioux Plant up to the  
13 annual burn permit of 250,000 tons. Due to economics, no petcoke was burned at Sioux  
14 Plant during the test year.

15 **V. COAL INVENTORIES**

16 **Q. What is the coal inventory policy for AmerenUE plants?**

17 A. In 2006, a coal inventory target of 65 maximum burn days was established for  
18 plants that had the physical space to achieve that level of inventory.

19 **Q. What is a maximum burn day and why was that measurement used**  
20 **instead of average burn day?**

21 A. A maximum burn day is the amount of coal that a plant can burn when  
22 operated at full load consistently. That measure provides a better indication of the amount of  
23 coal on hand versus average burn day because average burn day reflects the capacity factor

1 of the plant, whereas the coal may be needed at a time when the plant is operating during  
2 peak generation periods.

3 **Q. Which AmerenUE plants have the physical space to accommodate the**  
4 **65-day level of inventory?**

5 A. The Labadie, Rush Island and Sioux Plants have the space to store enough  
6 coal inventory for 65 maximum burn days. The Sioux Plant has the space to store 65  
7 maximum burn days of Illinois coal but does not have the space to store 65 maximum burn  
8 days of PRB coal. However, by increasing the Illinois coal inventory above 65 maximum  
9 burn days, a Btu equivalent of 65 maximum burn days can be accommodated at the Sioux  
10 Plant. Meramec is currently limited by physical space to 35 maximum burn days of  
11 inventory but coal yard improvements are underway in 2008 which will increase the  
12 available inventory at Meramec to 65 maximum burn days. These improvements will allow  
13 coal stored at the barge loading terminal to be reclaimed for use at the Meramec Plant,  
14 effectively supplementing the plant coal pile with coal stored at the barge terminal. This  
15 improvement will allow Meramec to have the targeted 65 day inventory on hand.

16 **Q. With the current physical restrictions at Meramec and Sioux, what is the**  
17 **overall target level of coal inventory for AmerenUE?**

18 A. With these restrictions, the target inventory for AmerenUE is 59 days of  
19 maximum burn.

20 **Q. What were AmerenUE's inventory levels during the test year?**

21 A. As of April 1, 2007, the beginning of the test year, the inventory levels at the  
22 AmerenUE plants were as follows (expressed in maximum burn days):



1           Labadie           \*\* [REDACTED] \*\*  
2           Meramec           \*\* [REDACTED] \*\* at barge terminal stockpile  
3           Rush Island           \*\* [REDACTED] \*\*  
4           Sioux           \*\* [REDACTED] \*\*  
5           AmerenUE average   \*\* [REDACTED] \*\*

6           While final figures were not available when I drafted this portion of my direct  
7 testimony, I expect the inventory levels at AmerenUE plants as of the end of February, 2008  
8 to be (in maximum burn days):

9           Labadie           \*\* [REDACTED] \*\*  
10          Meramec           \*\* [REDACTED] \*\* at the barge terminal stockpile  
11          Rush Island           \*\* [REDACTED] \*\*  
12          Sioux           \*\* [REDACTED] \*\*  
13          AmerenUE average   \*\* [REDACTED] \*\*

14          **Q. Does AmerenUE expect inventories to increase in 2008?**

15          A.   \*\* [REDACTED] \*\*  
16          \*\* [REDACTED] \*\*.

17          **Q. How was the target of 65 maximum burn days established?**

18          A.   A study was performed in 2006 to determine the desired coal inventory target  
19 level. The study identified prior disruptions to coal deliveries and then estimated typical  
20 impacts of coal disruptions. An inventory level was established that would allow a year-long  
21 railroad slowdown event without having to take coal conservation measures and still  
22 maintain a 20 maximum burn day inventory.

1 **VI. OVERVIEW OF COAL PURCHASES**

2 **Q. How is coal purchased?**

3 A. PRB coal is purchased using a risk management approach that secures needed  
4 volume while reducing the Company's exposure to market volatility. Volumetric risk  
5 (securing tons needed for production) and price risk (locking in prices to hedge against  
6 market increases) are addressed through compliance with procurement guidelines. These  
7 guidelines provide that prompt or closer years must have more coal purchased than years  
8 further away. This approach, which was adopted by Ameren's Risk Management Steering  
9 Committee and incorporated into the AFS Risk Management Policy, uses a narrowing hedge  
10 band<sup>1</sup> approaching the prompt year. The Coal Supply Department makes purchases to hedge  
11 coal needs based on market conditions, as long as the amount hedged remains within the  
12 hedge bands defined in the Risk Management Policy. Purchases are accomplished through  
13 periodic bids, negotiated purchases, and over-the-counter ("OTC") transactions. PRB  
14 purchases are pooled for all Ameren plants that burn PRB coal. Illinois coal is bought  
15 directly for the Sioux Plant.

16 **Q. What is the purpose of the hedge limits or bands that you refer to?**

17 A. The goal of the hedge limits is to begin buying coal at least five years ahead of  
18 our actual need and gradually hedge a particular year's coal needs over the five-year time  
19 period. The procedure mitigates the risk of price spikes by cost-averaging the coal over the  
20 five-year period, and protects against market short squeezes by assuring that the majority of  
21 the coal is purchased before the burn year begins. This strategy does not necessarily result in  
22 the lowest possible price for coal and does not lock in the Company's costs for coal other

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<sup>1</sup> Hedge bands set a minimum and maximum amount of coal to be purchased in a calendar year.

1 than to significantly lock in those costs for expected usage in the current calendar year, but it  
2 does provide some mitigation of the risk of volume shortages or large price spikes.

3 **Q. How does the PRB coal pool work?**

4 A. The PRB pool is made up of two distinct sub-pools that represent the two  
5 different types of PRB coals: 8800 Btu PRB coals for the “8800 Pool” and 8400 Btu PRB  
6 coals for the “8400 Pool”. The Company’s need for coal from each pool is initially estimated  
7 for the upcoming 5-year period via the budgeting process, which incorporates the Btu  
8 forecast from the Operations Analysis group. That process provides a burn forecast for each  
9 year of the budget period. During the budgeting process, AFS forecasts the need for coal  
10 purchases based on market conditions, planned system improvements and existing contracts.  
11 Once the annual needs for each pool are determined, AFS purchases 8800 and 8400 coals  
12 periodically throughout the year for each pool in the aggregate, not on a plant or operating  
13 company specific basis.

14 **Q. Was all PRB coal purchased put in the PRB pool?**

15 A. No. An exception to the PRB pooling concept was made when PRB coal was  
16 purchased to replace Illinois coal under contract for AmerenEnergy Generating Company’s  
17 Coffeen Plant in Illinois. The company providing coal to the Coffeen Plant unilaterally  
18 closed its Illinois mine on December 31, 2007, and defaulted on the coal contract, resulting in  
19 an immediate need for 2.6 million tons of coal for both 2008 and 2009. The PRB market was  
20 the only market with coal readily available in such volumes at reasonable cost. Under the  
21 terms of the contract, AmerenEnergy Generating intends to seek recovery from the coal  
22 company for any increase in delivered coal costs resulting from the contract cancellation for  
23 the remainder of the Illinois contract term (2008 and 2009). Therefore 5,200,000 tons of

1 8800 PRB coal was purchased in December 2007 for 2008-2009 specifically for  
2 AmerenEnergy Generating to replace the Illinois coal contract that was terminated, and this  
3 coal was not included in the pool.

4 **Q. Was the PRB coal purchased to replace the terminated Illinois coal**  
5 **contract at a higher or lower cost than the PRB pool coal for 2008 and 2009?**

6 A. The replacement PRB coal was purchased at prices above the existing PRB  
7 pool levels, and if included in the pool, would raise the price to pool participants. By  
8 excluding the AmerenEnergy Generating purchase from the PRB pool, AmerenUE's coal  
9 prices were lower.

10 **Q. What were the average costs and quality for each pool in 2006 and 2007?**

11 A. For the 8800 Pool, the 2007 average cost was \$\*\*[REDACTED]\*\* per ton at an average  
12 quality of 8,795 Btu/lb. and 0.641 lb. SO<sub>2</sub>/MMBtu versus the 2006 average of \$\*\*[REDACTED]\*\* per  
13 ton at an average quality of 8,814 Btu/lb. and 0.725 lb. SO<sub>2</sub>/MMBtu. For the 8400 Pool, the  
14 2007 average cost was \$\*\*[REDACTED]\*\* per ton at an average quality of 8,421 Btu/lb. and 0.746 lb.  
15 SO<sub>2</sub>/MMBtu versus the 2006 average of \$\*\*[REDACTED]\*\* per ton at an average quality of  
16 8,447 Btu/lb., and 0.753 lb. SO<sub>2</sub>/MMBtu. For 2007, the average PRB cost was \$\*\*[REDACTED]\*\*  
17 per ton versus the 2006 average of \$\*\*[REDACTED]\*\* per ton, a \*\*[REDACTED]\*\* increase for 2007 over  
18 2006.

19 **Q. What is the average cost of the PRB coal purchased for 2008?**

20 A. For the tons under contract with fixed prices in 2008, the average cost is  
21 \$\*[REDACTED]\* per ton, which is \*[REDACTED]\* higher than 2007.

22 **Q. Is coal expected to be more or less costly in the future than in the test**  
23 **year?**

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1           A.     It is expected that coal prices will continue to increase substantially over the  
2 next five years. The mines are facing higher production costs in terms of diesel fuel,  
3 explosives, steel and other supplies. Also the mines are progressing into areas of deeper coal,  
4 which raises costs. Disruptions in other supply basins, including the current disruption in the  
5 export market, all affect Powder River Basin coal pricing.

6           **Q.     What is the current spot market price for 2008-2009 PRB coal?**

7           A.     As of February 29, 2008, for calendar year 2008 delivery, 8,800 Btu/lb.,  
8 0.80 lb. SO<sub>2</sub>/MMBtu coal was trading on the OTC or spot market at approximately \$15.90  
9 per ton, and 8,400 Btu/lb., 0.80 lb. SO<sub>2</sub>/MMBtu coal was trading at approximately \$10.90 per  
10 ton.

11                     For 2009, 8,800 Btu/lb., 0.80 lb. SO<sub>2</sub>/MMBtu coal was trading on the OTC  
12 market at approximately \$17.00 per ton, and 8,400 Btu/lb., 0.80 lb. SO<sub>2</sub>/MMBtu coal was  
13 trading at approximately \$12.00 per ton.

14                             **VII.     OVERVIEW OF COAL TRANSPORTATION**

15           **Q.     How was coal delivered to each of AmerenUE's coal-fired plants during**  
16 **the test year?**

17           A.     AmerenUE's PRB coal requirements are currently delivered by rail  
18 transportation to each plant. The Sioux Plant's Illinois Basin ("IB") coal requirements are  
19 currently delivered to the plant by barge. These barge deliveries originate at the mine and are  
20 transported by truck or rail for trans-loading into the barge for final delivery to the Sioux  
21 Plant.

22           **Q.     What transportation contracts are in effect at each plant during the test**  
23 **year?**

1           A.     The following table shows the contracts in effect during the test year:

2	<u>Plant</u>	<u>Coal Type</u>	<u>Delivery Mode</u>	<u>Transportation Company</u>
3	Labadie	PRB	Railroad	Union Pacific
4	Meramec	PRB	Railroad	Union Pacific
5	Sioux	PRB	Railroad	Burlington Northern Santa Fe
6	Rush Island	PRB	Railroad	Burlington Northern Santa Fe
7	Sioux	IB	Barge	East Side River Transp. Co.

8           **Q.     When do the transportation contracts for the AmerenUE plants expire?**

9           A.     The Rush Island, Sioux and Meramec Plants' rail contracts expire  
10   \*\* [REDACTED] \*\*. The Labadie Plant's rail contract expires \*\* [REDACTED] \*\*.  
11   The Sioux Plant barging contracts expire on \*\* [REDACTED] \*\*.

12          **Q.     Are rail transportation costs expected to increase in the future?**

13          A.     Yes. Rail rates have been increasing since 2004, and further increases are  
14   expected at contract termination. The southern Powder River Basin coal fields are served by  
15   only two railroads, the Union Pacific and the Burlington Northern Santa Fe. Both western  
16   carriers have system capacity issues, and are experiencing greater demand for rail  
17   transportation, leading them to charge more for their services. The duopoly nature of the  
18   business, the railroads' discipline in pursuing new business, little regulatory oversight of  
19   rates, and high demand have allowed the western carriers to aggressively raise rates. These  
20   conditions are expected to continue in the near future, enhancing the ability of railroads to  
21   increase rates.

22          **Q.     What percentage of the coal transportation is hedged for AmerenUE**  
23   **during the test year?**

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1           A.     AmerenUE's transportation is \*\* [REDACTED] \*\* hedged during the test year.

2           **Q.     What was the weighted average cost of PRB transportation for**  
3 **AmerenUE during the test year?**

4           A.     For the test year, the base rate weighted average cost of PRB transportation  
5 was \$\* [REDACTED] \*\* per ton.

6           **Q.     What is the weighted average cost of PRB transportation for 2008 and**  
7 **2009?**

8           A.     For 2008, the base rate weighted average cost of PRB transportation is  
9 \$\* [REDACTED] \*\* per ton, a \* [REDACTED] \*\* increase from the test year. For 2009, the base rate weighted  
10 average cost of PRB transportation is projected to be \$\* [REDACTED] \*\* per ton, a \* [REDACTED] \*\*  
11 increase from 2008.

12           **Q.     Is AmerenUE subject to transportation fuel surcharges?**

13           A.     Yes, all of AmerenUE's rail and barge contracts have fuel surcharge  
14 mechanisms. For the Union Pacific rail contracts the fuel surcharge is \*\* [REDACTED]  
15 [REDACTED] \*\* and for the Burlington Northern Santa Fe ("BNSF") rail contracts the fuel  
16 surcharge is \*\* [REDACTED] \*\*. Both railroads use the Energy Information  
17 Administration's monthly average On-Highway Diesel price to determine the amount of the  
18 fuel surcharge to apply. The Union Pacific has indicated that future rail contracts will  
19 \*\* [REDACTED] \*\*. The barge contract fuel  
20 surcharge is adjusted monthly \*\* [REDACTED]  
21 [REDACTED]  
22 [REDACTED] \*\*.

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1           **Q.     With the recent increase in oil prices, have the diesel fuel surcharges**  
2 **increased also?**

3           A.     Yes. The On-Highway Diesel price has risen substantially, from \$2.485 per  
4 gallon in January, 2007 to \$3.377 in February, 2008. As an example, based on these levels,  
5 for a typical PRB coal movement to the Rush Island Plant, the fuel surcharge billed by the  
6 BNSF would increase from \$\*\*[REDACTED]\*\* per ton to \$\*\*[REDACTED]\*\* per ton, a \*\*[REDACTED]\*\* increase.

7                   **VIII. UNCERTAINTIES AND VARIATIONS IN FUTURE FUEL COSTS**

8           **Q.     For coal and transportation costs and the diesel fuel surcharge, you have**  
9 **described recent increases and the likelihood for continued increases in each of these**  
10 **areas. Does AmerenUE face volatility in future fuel costs?**

11          A.     Yes. The unhedged coal prices and transportation rates are subject to volatile  
12 market conditions, the diesel fuel surcharges fluctuate significantly with diesel prices, and  
13 variations in emissions allowance markets all can cause significant volatility in future  
14 delivered coal costs.

15          **Q.     AmerenUE is a large buyer of coal and transportation. Can't the**  
16 **Company control the prices it pays to a large degree?**

17          A.     The coal market is a large, uncontrollable national and international market.  
18 While all Ameren companies, collectively, constitute the fifth largest coal consumer in the  
19 United States, Ameren buys only 3.4% of the national production. That is not a sufficient  
20 volume to control market prices. With the large number of other commodities hauled by the  
21 railroads, Ameren's collective volume is only a fraction of a percent of the national railroad  
22 traffic, certainly not enough to exert any meaningful control on all pricing. The effect of the

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1 Ameren Companies' collective consumption on the fuel oil market is even more miniscule  
2 compared to United States and global consumption.

3 **Q. Does AmerenUE face volatile or just escalating future fuel costs?**

4 A. It would be hard to argue that the energy markets - coal, gas, and oil - have  
5 not been volatile. AmerenUE witness Ajay K. Arora has calculated the 8,800 PRB coal  
6 historical price "annual uncertainty factor" to be 31% for the time period 1997 to 2007,  
7 compared to 36% for natural gas for the same time period. It is easy, but erroneous, to  
8 dismiss the effect of this volatility on the Company's future fuel expense by claiming that the  
9 Company's hedging policy removes the Company's exposure to this volatility. The  
10 Company's hedging policy stabilizes the coal market volatility by layering in coal contracts  
11 up to five years in advance of need, by using financial instruments to hedge diesel fuel  
12 exposure one year or more forward and by using forward contracts for transportation.  
13 However, this hedging does not eliminate future volatility and it does not reduce overall fuel  
14 costs. Variation of the amount of increases expected in future years (or volatility in the  
15 amount of increases), is nonetheless volatility just as increases and decreases reflect  
16 volatility.

17 **Q. How much of the Company's future years' coal needs are hedged from**  
18 **2009 through 2012?**

19 A. As of February 28, 2008, the Company's coal needs are hedged as follows for  
20 PRB coal:

1                                    2009                    \*\* [REDACTED] \*\* of coal needs are hedged  
2                                    2010                    \*\* [REDACTED] \*\* of coal needs are hedged  
3                                    2011                    \*\* [REDACTED] \*\* of coal needs are hedged  
4                                    2012                    \*\* [REDACTED] \*\* of coal needs are hedged

5                                    The average amount of coal hedged from 2009 to 2012 is \*\* [REDACTED] \*\*. This  
6 means that \*\* [REDACTED] \*\* in the next four years has yet to be bought in the  
7 currently volatile coal markets. This leaves an annual volume of approximately \*\* [REDACTED] \*\*  
8 million tons of coal unhedged and exposes the Company to \*\* [REDACTED] \*\* millions of dollars of  
9 coal cost uncertainties during the coming years, as addressed further below.

10                    **Q.     Why do you describe the current coal markets as volatile?**

11                    A.     The graph shown as Schedule RKN-E1, attached, shows the historical spot  
12 price of PRB coal from January 2000 to the present, and illustrates how large spikes in price  
13 occur periodically. As this testimony is written, the PRB market is in the midst of another  
14 spike in pricing. The spot price of 8800 coal went from \$11.20 per ton on November 1, 2007  
15 to \$17.00 per ton on February 29, 2008, an increase of 52% in just four months.

16                    **Q.     What is the cause of this sudden increase in coal prices?**

17                    A.     The sudden increase in coal prices was triggered by several world events  
18 which reduced the quantity of coal available in the global coal markets. Winter storms in  
19 China caused that country to suspend exports starting in January, 2008. Also in January,  
20 Australian mines were flooded, reducing their shipments to Asian markets. Power shortages  
21 and blackouts in South Africa due to coal shortages led to curtailed exports to Europe. These  
22 shortages, along with a weak dollar, increased demand for United States export coal, driving

1 up Eastern coal prices, and ultimately pulling up Powder River Basin prices as well. (See  
2 Schedule RKN-E2, for a Wall Street Journal article on the rise in coal prices)

3 **Q. Are these price increases expected to be permanent?**

4 A. It is unknown if the current run-up in coal prices will be sustainable, or if  
5 prices will go even higher. The executives of three major coal companies believe that these  
6 prices are sustainable (See Schedule RKN-E3, for articles with comments by Peabody, Arch  
7 and Consol). If the current run-up is not sustainable, it is unknown how far and how fast  
8 prices might drop.

9 **Q. Doesn't the Company purchase the bulk of its coal under longer term**  
10 **arrangements rather than on the spot market? Aren't term prices more stable than the**  
11 **spot market?**

12 A. The Company does purchase the bulk of its coal through competitive bids to  
13 major producers under longer term arrangements of one to five years in length. While term  
14 contract prices are not generally known because they are private transactions not normally  
15 disclosed, the exact correlation of the long-term contract prices to the spot market cannot be  
16 calculated. However, our experience is that the prices quoted by the major coal producers in  
17 their long-term bids are based upon the spot market at the time of quotation. Usually there is  
18 a premium for contract coal over spot market coal, but the spot market is a good, if not the  
19 only available, proxy to estimate the volatility of the contract market. The price of OTC  
20 forwards can also be compared to the price of the spot market on any given day. This is  
21 illustrated in Schedule RKN-E4, which shows a graphical comparison of spot PRB prices  
22 versus the price of the calendar year 2009 forward PRB contract. The graph shows that the  
23 price of the forward 2009 calendar year PRB coal closely follows the trend of the spot PRB

1 price graph, and supports the contention that the price that the Company pays for long-term  
2 coal generally follows the volatility of the spot market.

3 **Q. Are rail transportation rates subject to variation?**

4 A. Yes, AmerenUE has seen **\*\* [REDACTED] \*\*** at past rail contract  
5 renewals. The rates for Rush Island and Sioux rail contracts, which started January 1, 2007,  
6 increased approximately **\*\* [REDACTED] \*\***  
7 **[REDACTED] \*\***. These surcharges can raise the cost of coal transportation by an  
8 additional **\*\* [REDACTED] \*\*** or more in times of high diesel fuel prices such as the current market.

9 **Q. What portion of the Company's PRB transportation needs is hedged for**  
10 **the next five years?**

11 A. The table below shows, as of February 28, 2008, AmerenUE's hedged  
12 percentage of PRB transportation needs through 2012:

13	2009	Transportation = <b>** [REDACTED] *</b>	Diesel Fuel Surcharge = <b>** [REDACTED] **</b>
14	2010	Transportation = <b>** [REDACTED] *</b>	Diesel Fuel Surcharge = <b>** [REDACTED] *</b>
15	2011	Transportation = <b>** [REDACTED] *</b>	Diesel Fuel Surcharge = <b>** [REDACTED] **</b>
16	2012	Transportation = <b>** [REDACTED] **</b>	Diesel Fuel Surcharge = <b>** [REDACTED] **</b>

17 The average amount of transportation hedged from 2009 to 2012 is **\*\* [REDACTED] \*\***. This means  
18 that **\*\* [REDACTED] \*** of the transportation needed in the next four years has yet to be bought,  
19 exposing the Company to additional **\*\* [REDACTED] \*\*** millions of dollars of uncertainty as  
20 addressed further below.

21 The hedging that we have done will dampen the level of exposure to the  
22 market for the near term of 2008 and 2009, but AmerenUE's exposure to the market  
23 increases for future time periods.

**NP**

1           **Q.     What are the Company's historical and projected delivered coal costs in**  
2 **\$/MMBtu from 2006 to 2012?**

3           A.     The delivered costs including coal, transportation and hedging costs are:

4	2006 actual:	** [REDACTED] **/MMBtu	
5	2007 actual:	** [REDACTED] **	** [REDACTED] ** increase
6	2008 projected:	** [REDACTED] **	** [REDACTED] ** increase
7	2009 projected:	** [REDACTED] **	** [REDACTED] ** increase
8	2010 projected:	** [REDACTED] **	** [REDACTED] ** increase
9	2011 projected:	** [REDACTED] **	** [REDACTED] ** increase
10	2012 projected:	** [REDACTED] **	** [REDACTED] ** increase
11	Average annual increase 2007-2012		** [REDACTED] **

12           **Q.     What are the budgeted delivered fuel costs for 2009-2012 and your**  
13 **estimates of the range of delivered coal costs due to possible changes in prices of the**  
14 **unhedged positions in coal, transportation and diesel fuel?**

15           A.     Ranges of delivered coal costs due to changes in the unhedged positions were  
16 estimated for 2009-2012 using price forecasts and market data. These ranges are shown in  
17 the table below and graphically in Schedule RKN-E5:

18		<u>Low</u>	<u>Budget</u>	<u>High</u>	<u>Range</u>	
19	2009:	** [REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	**
20	2010:	** [REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	**
21	2011:	** [REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	**
22	2012:	** [REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	**

23           **Q.     These are large ranges. How were these ranges developed?**

**NP**

1           A.     Forecasts were developed for ranges of costs in coal, transportation and diesel  
2 fuel for future years. These forecasted ranges were then applied to the unhedged positions  
3 and added to already known hedged costs.

4           **Q.     Please give an example of the range of estimates used for coal commodity**  
5 **prices to fill the currently unhedged positions in years 2009-2012.**

6           A.     Estimated ranges for 8800 PRB coal in 2009-2012 were:

	<u>Low</u>	<u>Expected</u>	<u>High</u>
7			
8	2009: **	[REDACTED]	**
9	2010: **	[REDACTED]	**
10	2011: **	[REDACTED]	**
11	2012: **	[REDACTED]	**

12          **Q.     Do you believe these variations in coal price estimates to be realistic?**

13          A.     As discussed above, coal demand and supply changes cause wide variation in  
14 coal prices. Given that the spot price of 8800 PRB coal went from \$11.20 on November 1,  
15 2007 to \$17.00 on February 29, 2008, the estimated high prices used in the analysis is very  
16 conservative.

17          **Q.     Please give an example of the estimates of base transportation rate**  
18 **variation which were used in the analysis to fill the currently unhedged positions in**  
19 **years 2009-2012.**

20          A.     Similar to the estimates for coal, low, expected and high estimates of  
21 transportation costs for the unhedged position were made, and as an example, are shown  
22 below for Meramec Plant, whose contract expires on December 31, 2009:<sup>2</sup>

---

<sup>2</sup> The Meramec Plant is used for illustration – similar figures would exist for the other AmerenUE coal-fired plants.

	<u>Low</u>	<u>Expected</u>	<u>High</u>
1			
2	2010: **	[REDACTED]	**
3	2011: **	[REDACTED]	**
4	2012: **	[REDACTED]	**

5 **Q. What are the reasons for the variation in future rail rates?**

6 A. The 2009 contract base rate for Meramec is \$\*\* [REDACTED] \*\*. The expected rate  
7 increases are based on renewal rates seen in other rail contracts. The western railroads  
8 operate in a duopoly market, which tends to limit competition. In recent years, rail traffic has  
9 grown to the point where congestion is constraining further growth in traffic. Coal is about  
10 25% of the western carriers' traffic and the railroads can shift resources (capital,  
11 locomotives, crews, cars, etc.) to commodities which provide the greatest return. The  
12 railroads also have a quasi-regulatory oversight which favors railroads over shippers in rate  
13 matters. All of these conditions have led the western carriers to raise rail rates aggressively,  
14 and make estimates of future charges subject to a large variation.

15 **Q. Please give an example of the estimates of diesel fuel surcharge variations,**  
16 **which are added to base transportation rates, as used in the analysis to fill the currently**  
17 **unhedged positions in years 2009-2012.**

18 A. Similar to coal and transportation, low, expected and high estimates of diesel  
19 fuel surcharges were made for the forecast period. An example of the result of these  
20 calculations are shown for Rush Island plant.<sup>3</sup>

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<sup>3</sup> The Rush Island Plant is used for illustration – similar figures would exist for the other AmerenUE coal-fired plants.

	<u>Low</u>	<u>Expected</u>	<u>High</u>
1			
2	2009: **	[REDACTED]	**
3	2010: **	[REDACTED]	**
4	2011: **	[REDACTED]	**
5	2012: **	[REDACTED]	**

6           **Q.    What is the estimated On-Highway Diesel index used to calculate these**  
7 **variations?**

8           A.    In all years, the low-expected-high On-Highway Diesel index used was  
9 **\*\* [REDACTED] \*\*.**

10           **Q.    Please explain the uncertainties in the fuel oil market and what is driving**  
11 **increases/decreases in the price of diesel fuel.**

12           A.    The fuel oil markets are also driven by supply and demand, and are reflective  
13 of the price changes in crude oil, but are also impacted by political events, unstable  
14 governments, weather events and changes in refining capacity. While recent market activity  
15 seems to make the upper end of the estimated range seem conservative, the market has  
16 historically been at a lower level.

17           **Q.    Please discuss other uncertainties which could result in fuel cost**  
18 **variation.**

19           A.    Changes in load due to weather, generation unit outages, power market  
20 conditions, etc., can result in surplus or increased need for coal. This change in coal need  
21 can result in variation in coal costs even though the burn year may be fully hedged. For  
22 example, increased electrical demand over that budgeted in 2008 could result in an increase

**NP**



Direct Testimony of  
Robert K. Neff

1 in coal burn, resulting in the need to purchase spot coal, which may be at a higher price than  
2 the already hedged coal.

3 **Q. Does this conclude your direct testimony?**

4 **A. Yes, it does.**

**BEFORE THE PUBLIC SERVICE COMMISSION  
OF THE STATE OF MISSOURI**

In the Matter of Union Electric Company    )  
d/b/a AmerenUE for Authority to File       )  
Tariffs Increasing Rates for Electric        )  
Service Provided to Customers in the        )  
Company's Missouri Service Area.            )

Case No. ER-2008-\_\_\_\_\_

**AFFIDAVIT OF ROBERT K. NEFF**

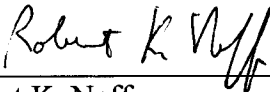
STATE OF MISSOURI    )  
  ) ss  
CITY OF ST. LOUIS     )

Robert K. Neff, being first duly sworn on his oath, states:

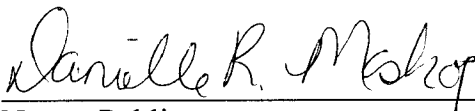
1. My name is Robert K. Neff. I work in the City of St. Louis, Missouri, and I am employed by AmerenEnergy Fuels and Services Company as Vice President of Coal Supply.

2. Attached hereto and made a part hereof for all purposes is my Direct Testimony on behalf of Union Electric Company d/b/a AmerenUE consisting of 23 pages, Attachment A and Schedules RKN-E1 through RKN-E5 all of which have been prepared in written form for introduction into evidence in the above-referenced docket.

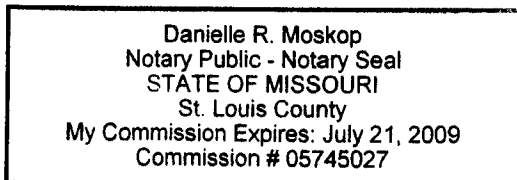
3. I hereby swear and affirm that my answers contained in the attached testimony to the questions therein propounded are true and correct.

  
\_\_\_\_\_  
Robert K. Neff

Subscribed and sworn to before me this 23<sup>rd</sup> day of April, 2008.

  
\_\_\_\_\_  
Notary Public

My commission expires:



# EXECUTIVE SUMMARY

**Robert K. Neff**

*Vice President of Coal Supply for Ameren Energy Fuels and Services Company*

\*\*\*\*\*

The purpose of my testimony is to explain how coal was bought and delivered in the test year, describe the increases in delivered coal costs in the test year ending March 31, 2008 updated through June 30, 2008, compare the updated test year delivered coal costs to the costs in Company's prior rate case, discuss coal market price trends, and discuss the nature and uncertainty of future coal cost increases.

Delivered coal costs in the updated test year ending June 30, 2008 are expected to be \$1.48 per million British thermal unit ("MMBtu"), an increase of 12% over the delivered coal costs of \$1.32/MMBtu established as the level of delivered coal costs in the prior AmerenUE rate case, which was concluded in May, 2007. At a normalized use of 392,247,000 MMBtu, this is an annual coal cost increase of \$61,975,000 over the costs included in the revenue requirement established in the prior AmerenUE rate case.

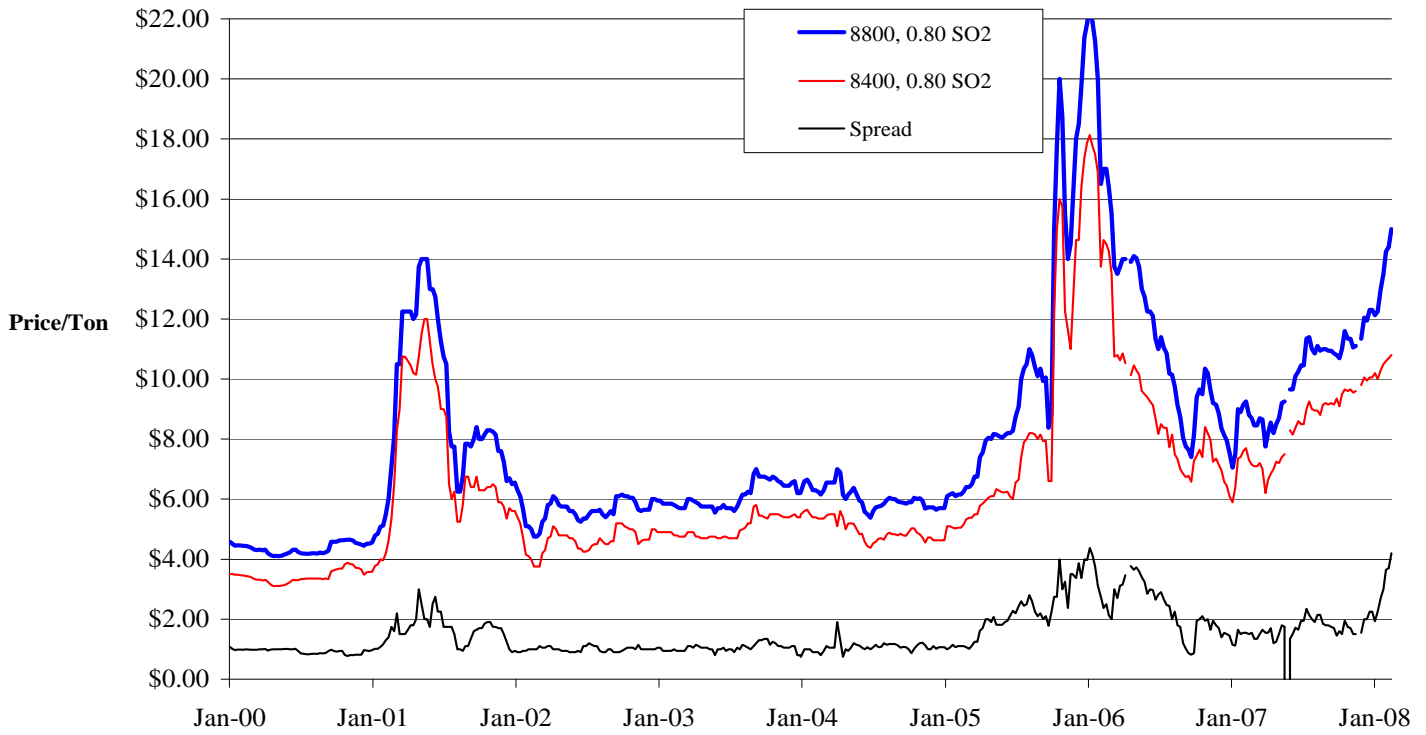
The coal and transportation markets, like all fuel markets, have been extremely volatile. As an example, the spot price of 8800 Powder River Basin coal went from \$11.20 on November 1, 2007 to \$17.00 on February 29, 2008, an increase of 52% in just four months. While the Company's hedging program dampens the volatility of fuel prices in the year in which the fuel is consumed, the Company is exposed to substantial unhedged fuel cost increases in the future. Approximately 49% of the Company's exposure to the coal and transportation markets are unhedged over the 2009-2012 time period.

**NP**

Based on fluctuations in the fuel and transportation markets, the range of the Company's possible exposure to fuel price changes were calculated. The annual possible range of fuel costs in years 2009 through 2012, where fuel is less hedged, are projected to be from \$\*\*[REDACTED]\*\* below to \$\*\*[REDACTED]\*\* above the expected 2008 delivered coal cost of \$585,864,000.

**NP**

# PRB Spot Prices - Coal Daily



Graph of PRB Coal Spot Prices 2000-2008

## Wall Street Journal article on global coal prices

China Spurs Coal-Price Surge - WSJ\_com.txt  
China Spurs Coal-Price Surge - WSJ.com Search

PAGE ONE

China Spurs Coal-Price Surge  
Once-Huge Exporter  
Now Drains Supply;  
Repeat of Oil's Rise?  
By SHAI OSTER in Beijing and ANN DAVIS in Houston  
February 12, 2008; Page A1

China is doing for coal what it once did for oil: pushing prices to new highs, adding more pressure to the creaking global economy. China has long been a huge supplier of coal to itself and the rest of the world. But in the first half of last year, it imported more than it exported for the first time, setting off a near-doubling of most coal prices around the world. The capper came in late January when a winter of punishing snowstorms and power shortages led Beijing to suspend coal exports for at least two months.

Just since then, Asian prices have shot up an additional 34%. Last week, coal benchmarks hit all-time highs in the U.S., Europe and Asia. That's adding to orries over global inflation already stoked by rising prices for everything from crude oil to cattle feed. "The velocity of the change has been remarkable," says Thomas Hoffman, senior vice president for external affairs for U.S.-based coal supplier Consol Energy Inc., which he says is considering holding off on some commitments to supply coal to see if prices rise even further.

For the world, which uses coal for about 40% of its electricity, the result is similar to what happened after China became a net importer of oil in 1993. But the Chinese factor is unfolding much faster with coal. It wasn't until China's industrial development shifted into overdrive this decade that the nation began to shake global petroleum markets. Oil's big price surge came after widespread brownouts in China in 2004 forced factories there to buy diesel fuel for backup generators, increasing the country's foreign oil demand.

China's need for coal is rising as other factors around the world are putting severe strain on supply for the fossil fuel. Flooding at major mines in Australia since mid-January has dramatically stunted that major coal producer's exports to Asian markets. For more than a year, meanwhile, Australia's overloaded ports have been choked with cargo vessels, forcing ships to wait in long lines to dock and get their coal. Power shortages and blackouts in South Africa amid rising demand there have curtailed exports to Europe. In Russia, another major coal producer, rail-car shortages have frustrated attempts to meet growing world demand. Demand is rising quickly elsewhere. Japan, one of the world's biggest importers, is burning even more coal since an earthquake damaged a nuclear reactor last year, doubling one utility's coal intake. Longer-term pressure comes from India, which has mounted a major expansion of coal-fired electricity plants that is driving up the country's coal imports despite its large domestic reserves. Indonesia has been moving over the past year or so to divert more of its coal stores to domestic use, as the coal industry there has been depleting its higher-quality coal reserves.

Even U.S. coal producers are ramping up exports to Europe, as buyers who for years were uninterested in American coal now are scrounging for supply. "There's a butterfly effect," with issues inside China pushing up demand and prices for the fuel from other coal-producing nations, says Vic Svec, a senior executive at Peabody Energy Corp., the world's largest private-sector coal producer, based in St. Louis. "Demand from Beijing can ripple back to Queensland, Australia, or Gillette, Wyoming."

Page 1

## Wall Street Journal article on global coal prices (continued)

China Spurs Coal-Price Surge - WSJ\_com.txt

Trucks carry coal toward provinces as China's worst snowstorms in 50 years have both increased demand and hampered delivery.

### Creating U.S. Jobs

The China-driven coal boom has pushed up wages and created more jobs for U.S. miners as well as port and rail workers -- a twist on recent trends moving industrial jobs from the U.S. to China. "We've as an industry never seen such a dramatic...upturn in the market that seems to have such extended strength," Bennett Hatfield, chief executive of International Coal Group Inc., another U.S. coal producer, said Thursday in a call with analysts. Consol Energy said exports from its Baltimore terminal rose 20% last year and it expects a 25% jump this year.

Thermal coal prices at Australia's Newcastle port, an Asian price benchmark, finished at \$125 a metric ton Monday, according to the globalCOAL international trading platform. That was up 34% since Jan. 25 and up 143% from January 2007.

On Monday, Central Appalachian coal futures on the New York Mercantile Exchange for delivery in March stood at \$78.25 per U.S. ton. That's double its price at the start of 2007 despite weak domestic demand and above-average stockpiles due to a mild U.S. winter.

Some experts say coal prices could remain high or even keep climbing through 2009 or beyond, weighing on the already-slowing world economy. Even though coal is a leading source of atmosphere-warming greenhouse gases, its share of the world's energy diet is increasing -- which could help keep its price up in a recession. Although the use of cleaner-burning alternative fuels is on the rise, fast-growing energy consumption is expected to underpin coal demand. Still a relatively cheap -- and abundant -- alternative to oil, coal is sought in rapidly industrializing nations such as Brazil, India and Vietnam as well as China.

The demand for steel in developing countries has put coking coal used for steel at historic highs, as well as the thermal coal used for power. New coal-fired electric plants under construction in the U.S. also should add 50 million tons of new coal demand a year, about a 5% increase above current demand, say natural-resources portfolio managers at U.S. Global Investors.

To be sure, some of the factors boosting coal's price are temporary. China's worst snowstorms in 50 years have both increased demand and hampered delivery from coal mines in northern China to power plants across its southern and western regions. China has been methodically closing down thousands of unsafe and inefficient coal mines, restricting supply until enough new or refurbished mines can be opened. And Chinese regulations have contributed to shortages. China has freed domestic coal prices to rise with demand, but has capped electricity tariffs. That led power plants to order less coal -- leaving them short of coal when the storms hit.

But it's unclear how long Beijing could take to reopen more mines or correct its market imbalances. And other factors driving up prices aren't likely to change soon.

Chinese coal demand grew nearly 9% last year, raising its share to a quarter of the world's consumption. Its coal industry roughly doubled output from 2001 to 2006, but that growth slowed to about 6% last year, not enough to keep pace with demand. Five years ago, China exported 83 million more metric tons of coal than it took in. Last year, that surplus had fallen to two million. The rapid loss of more than 80 million tons in exports amounts to about 12% of the internationally traded market. This year will be worse, predicts Gerard Burg, minerals and energy economist at National Australia Bank, who calculates China will become a net importer of 15 million tons. The International Energy Agency forecasts the gap will continue to widen: Unless China changes its energy mix, the agency predicts, it will be a net importer of 66 million tons of so-called coal equivalent, an energy measurement that equates to 95 million metric tons.

## Articles on Sustainability of Coal Price Increases

March 19, 2008

### An Export in Solid Supply

By CLIFFORD KRAUSS

These days, people really are taking coals to Newcastle.

That flow is part of a vast reorganization of the global coal trade that is making the United States a major exporter for the first time in years — and helping to drive up domestic prices of the one fossil fuel the nation has in abundance.

Coal has long been a cheap and plentiful fuel source for utilities and their customers, helping to keep American electric bills relatively low.

But rising worldwide demand is turning American coal into another hot global commodity, with domestic buyers having to compete with buyers from countries like Germany and Japan.

Environmental concerns have forced some American utilities to cut back on plans for coal-burning power plants.

Nonetheless, spot prices for two benchmark American grades of coal, from central Appalachia and the Powder River Basin of Wyoming, have been rising, with occasional dips, since last spring.

They eased in recent days but are still up by 93 percent and 64 percent, respectively, in the last year, according to figures from Doyle Trading Consultants and Evolution Markets.

How high prices will go, and how quickly the increases will be passed along to electricity customers, remains to be seen.

American utility companies buy almost all their coal on long-term contracts, locking in prices for several years.

But as those contracts come up for renewal, price increases are likely, analysts said.

“Watch out, consumer,” said David M. Khani, a coal analyst at Friedman, Billings, Ramsey Group. “You’re probably going to see accelerating electricity prices in 2009, 2010 and 2011.”

Coal and utility executives predict that coal will remain the most economical fuel in years to come. But they concede that any significant rise could have an important inflationary impact since coal is used to produce about half the nation’s electric power, and coal is also vital in steel production.

For coal producers, the new demand abroad is good news at a time when coal is under political attack at home. More than 50 proposed coal-fired power plants were delayed or canceled over the last year because of concerns



## Articles on Sustainability of Coal Price Increases (continued)

over greenhouse gas emissions.

“This export boom right now is the difference between slow growth in our markets and hyper-expansion in our markets,” said Gregory H. Boyce, chairman and chief executive of Peabody Energy, the world’s largest private coal company. “You have two billion-plus people looking for a better standard of living. The world is energy-short and the U.S. coal sector is beginning to fill that gap.”

Many environmental groups see the rising global trade as an ominous development, however, since it promises to confound efforts to limit global emissions. World consumption of coal has increased in recent years by more than 4 percent annually, a major reason that emissions of carbon dioxide are going up, not down. Carbon dioxide is the principal gas implicated in global warming.

“Any rise in coal use around the world is bad news for the environment,” said Alice McKeown, who works on coal issues for the Sierra Club. “The U.S. needs to be a leader on global warming, and increasing our coal exports is moving in the wrong direction.”

The United States will export 7 or 8 percent of its coal production this year, up from about 5 percent last year, industry leaders predicted in interviews. Because of higher prices, the value of coal exports should double, to \$3.75 billion.

United States exports of coal grew from 49 million tons in 2006 to about nearly 59 million tons in 2007, according to coal industry statistics, while domestic production increased by 1 percent. Coal executives say they expect exports to reach 80 million tons this year, and with railroad and port improvements, to rise to as much as 120 million tons in the next few years.

“There’s no question that the incremental rise in exports this year has driven the prices up,” said Charles E. Zebula, senior vice president for fuel supply at American Electric Power, one of the country’s largest utilities.

Simultaneously, imports of coal are decreasing gradually as producers in Colombia and Venezuela turn to markets other than the United States for higher prices. The shifts are further tightening supplies of coal in the eastern United States, where stiffening regulations and various mine closings have limited output in recent years.

“U.S. coal producers are trying as much as possible to ship coal to the highest bidder, and in many cases that means Europe,” said Gordon Howald, a coal analyst at Calyon Securities. “The once-stodgy coal industry has become an exciting global commodity.”

Great Britain, the country that used its vast coal stocks to pioneer industrial development in the 18th century, has become a major coal importer in recent years, its own industry moribund. With Newcastle-upon-Tyne once being the center of a rich English coal region, the phrase “hauling coals to Newcastle” was a cliché describing an absurd economic proposition.

Nowadays, however, coal arrives regularly at the Port of Tyne from suppliers in the Baltic and South America. American coal goes to other English ports at rising rates; figures from the Commerce Department show that in

## Articles on Sustainability of Coal Price Increases (continued)

2007, United States steam coal exports to the United Kingdom increased by 53 percent and coking coal, used in steel-making, by 20 percent, compared to the previous year.

The boom in coal exports is partially linked to a falling dollar, which makes American coal cheaper on world markets. But there are deeper, longer-term reasons for the world to turn to the United States, which has 27 percent of the world's coal reserves, more than any country.

As it continues a building spree for coal-fired power plants, China is consuming so much coal that its ability to export is diminishing rapidly; it is expected to become a net importer. Other exporters like South Africa, Indonesia and Vietnam are cutting back for a variety of reasons, including growing domestic needs and local power shortages. Recent flooding in Australia has cut exports, at least temporarily, while an earthquake closed a major mine in Germany.

Meanwhile India is building huge coal plants that will require growing imports, while Russia is using more and more coal to make natural gas available for export.

As a result the pattern of world shipments for coal used for metallurgical and energy purposes is shifting. South Africa and other exporting nations that used to export to Europe are turning to Asia, where coal prices are higher, leaving European markets open for American exports. American coal is making its way to England, Spain, Japan and other countries that traditionally looked elsewhere.

The increase expected this year will make the United States a major global exporter for the first time since the early 1990s. For years, low-cost producers in Australia, China and other countries grabbed the bulk of the international coal trade. But now the United States is becoming a low-cost producer, in part because the euro and other currencies have gained so much value in relation to the dollar.

In the United States, plans to build new coal-fired plants are being shelved, and bankers are scrutinizing new projects because of uncertainties over future costs of carbon dioxide emissions. Both Democratic and Republican presidential candidates say they favor legislation to control global warming, which would presumably limit such emissions.

As the coal industry sees it, exports could be crucial if the American market starts to shrink. Coal executives are talking about upgrading mines, rail and port facilities to meet increasing world demand.

Just within the last couple of months, Peabody began sending coal from Wyoming to Europe, first by rail to the Mississippi River, then by vessel through the Gulf of Mexico. And for the first time in a decade, the company is shipping coal to Japan from the California coast.

"As U.S. coal demand is constrained because of increasing environmental regulation, coal production in the United States will increasingly go toward overseas buyers," Chris Ruppel, an energy analyst at Execution, a brokerage and research firm, predicted.

The rise in coal prices has so far been invisible to most American consumers because price increases have yet to hit most utilities.

## Articles on Sustainability of Coal Price Increases (continued)

American Electric Power said it had contracted for more than 90 percent of its coal for 2008 before recent price increases. The company said it expects to spend 13 percent more for coal this year than last, after spending about 5 percent more in 2007 compared with 2006.

“We’re not going to see the spot market price in the customer’s bill today,” Mr. Zebula said. “But clearly the price of the good has gone up and will increase over time.”

Already, there are some signs of rising prices. [Appalachian Power](#) and Wheeling Power, both American Electric Power subsidiaries, on Feb. 29 filed papers seeking approval in West Virginia for a 17 percent increase in revenues, mainly to pay for costlier coal. If the request is approved, a residential customer using 1,000 kilowatt hours a month would see his bill increase from \$64.55 to \$73.94, starting in July.

Kenneth B. Medlock, an energy analyst at [Rice University](#), predicted many more electricity consumers will begin to feel the coal price spike over the next year, particularly in states most dependent on coal, like Kentucky, Illinois and Ohio.

“Their power bill is going to go up, but it also will start to affect the prices of goods they buy at the grocery store,” he added.

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## Peabody sees big jumps in worldwide coal prices in constrained market

by Barry Cassell

Due to a combination of factors that includes constrained supply and rising global demand, international coal prices have soared in recent months and may not be done rising, said Peabody Energy Corp. official Richard Navarre.

Navarre, Peabody's president and chief commercial officer, was speaking Feb. 21 at a global basic materials conference, with the slides from his presentation filed that day in a Form 8-K.

One slide shows major increases for coal prices between January 2007 and February 2008. For example, spot prices in the Powder River Basin, where Peabody is one of the biggest producers, have jumped from an average of \$7.25 per metric ton (tonne) to \$16 per tonne over that period, an increase of 121%. Central Appalachia (CAPP) coal is up 112%, to \$84.58. Last October, Peabody exited CAPP production when it spun off Patriot Coal Corp., but it still trades that coal.

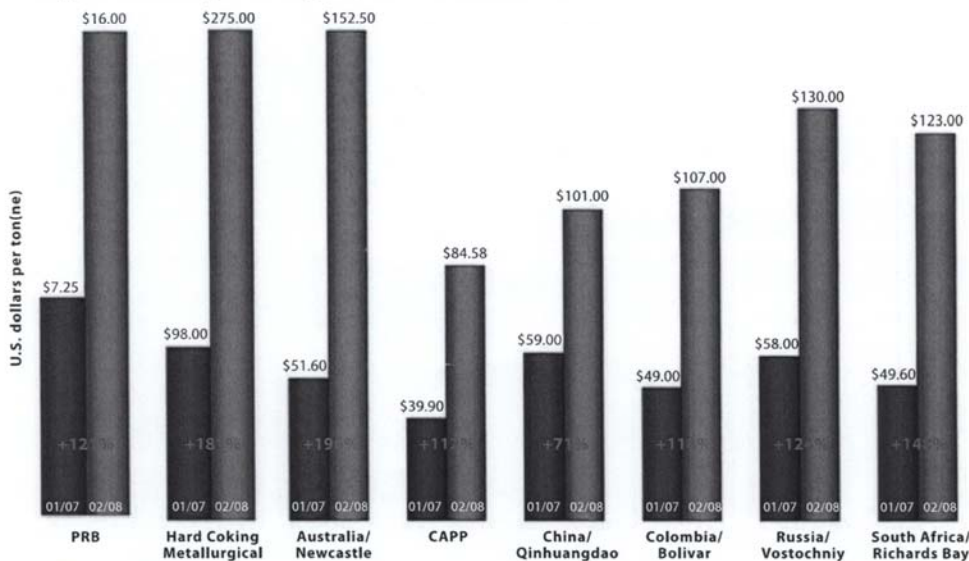
There were similar price jumps for a few international coals. Out of Australia, where Peabody is also a major producer, prices jumped 196% to \$152.50 per tonne. Out of the Richards Bay origin point in South Africa, prices are up 148% to \$123.00 per tonne.

Navarre noted several constraints on supply in the current international market. Australia, by far the biggest world exporter of coal, is having trouble installing enough port capacity to meet rising demand. South Africa, another big exporter, is having trouble getting electricity to its coal mines. Russia is keeping more of its coal at home, as is China. Colombia is shipping a lot of its coal to Europe, where it can get better prices than in the U.S. In Venezuela, the government has canceled or renegotiated some its low-priced coal contracts.

There are opportunities in this market to increase U.S. coal exports from 49 million tons in 2006 to 80 million tons in 2008, Navarre pointed out. It should be noted that Navarre used a mix of short tons and tonnes in his presentation. He credited much of the recent

## Articles on Sustainability of Coal Price Increases (continued)

Coal prices reaching record highs in current markets



Source: Peabody Energy Corp.

jump in PRB prices to the "pull" of the export market, where PRB coal moves in to fill the vacuum left by Eastern coals now headed to the export market, plus strong U.S. coal demand.

Peabody's Australian operations are well-positioned to take advantage of higher prices. As of the end of 2007, they had 9 million to 10 million tons of 2008 business yet to be priced, and 17 million to 20 million unpriced tons in 2009. Peabody produced 21.4 million tons in Australia last year, is projecting 23 million to 25 million tons in 2008 and plans to grow to 30 million to 35 million tons per year over the next few years.

Despite a number of recent high-profile cancellations of coal-fired power projects in the U.S., mostly because of CO2 concerns, Navarre said there is still the biggest coal "buildout" going on in the U.S. in 25 years. He said 11 new coal units began construction in 2007, with 16,790 MW of new coal capacity in construction or recently completed and another 3,770 MW likely to begin construction within the next two years. Most of that capacity would be fired by PRB or Illinois Basin coal, which Peabody produces a lot of out of its existing mines.

[Click to view the 8-K of 02/21/08 for Peabody Energy Corp.](#)

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### Coal market fundamentals best in 30 years, says Patriot's Whiting

by Michael Niven

Evidenced by skyrocketing prices, the global coal market has entered into one of the biggest booms in its long history, according to industry veteran Richard Whiting, president and CEO of Patriot

Coal Corp., a major eastern producer spun off late last year from Peabody Energy Corp.

"The fundamentals driving the global and U.S. coal markets are the best we have seen in the past 30 years," said Whiting in the company's Feb. 13 earnings call. He pointed to a host of international issues that are affecting coal supply, including strong demand growth in China and India, increased metallurgical coal consumption created by rising global steel production, coal production challenges in Australia caused by widespread flooding and shrinking coal exports out of South Africa due to low domestic coal inventories.

"As a result of these global factors, as well as the weak U.S. dollar, U.S. producers are enjoying a rejuvenation of demand for exports," Whiting continued. "Exports in 2007 increased around 8 million tons or 17%. 2008 exports are expected to increase another 13 to 16 million tons to a level in the 70 million ton range. U.S. coal demand also rose in 2007. U.S. electricity generation grew approximately 2% at coal-fired plants increasing coal demand by 23 million tons and reducing stockpiles in the northeast. Domestic coal production estimates show an overall decrease of 16 million tons for '07 with Appalachia decreasing 13 million tons of that total."

In light of the strong domestic and international market forces, pricing for Appalachian steam coals, as well as some Illinois Basin products have increased "dramatically," said Whiting, who noted that Patriot's production "response to the buoyant markets will be very disciplined and measured."

Among the strategies Patriot is employing to take advantage of the improved market conditions, said Whiting, is shifting an increasing amount of high quality steam coal production from its Kanawha Eagle operation in southern West Virginia. The company has also been bringing on additional production to utilize some of the excess preparation and train loading capacity at its large Rocklick complex, also located in southern West Virginia.

## Articles on Sustainability of Coal Price Increases (continued)



### Markets

#### Current upswing more sustainable than previous price spikes, says CONSOL's Lyons

by Michael Niven

Price spikes in the U.S. coal industry, such as the one occurring now, have typically lasted for roughly two years at a time, but some observers believe the latest surge could last much longer.

CONSOL Energy Inc. Senior Vice President William Lyons is among those with a bullish outlook on the current market, saying during a Feb. 20 conference presentation in New York that strong global coal fundamentals are expected to keep coal prices strong well into the future.

"We believe we're seeing a repeat cycle of what we saw in 2003-2004, except that we expect the international market for both steam and met coal to be much stronger and likely to remain strong for much longer," Lyons said.

To illustrate his point, Lyons pointed to international coal price trends. During the 2003-2004 price spike, the API 2 international coal index rose from approximately \$40 to \$80 per ton over a two-year period. The growth during the current price spike has been even more rapid, Lyons noted, with the API 2 price rising from roughly \$80 per ton in July 2007 to a current price around the \$135 per ton mark.

"We believe this is just the beginning of a stronger and more sustainable global cycle for steam coal," Lyons said.

CONSOL is in a unique position to capitalize on the hot international market, according to Lyons, who said the company plans to increase coal exports out of its CNX marine terminal in the Port of Baltimore. "With a relatively small capital investment, we believe we could increase that capacity in a very meaningful way," he said. "We believe we have an opportunity to expand the company's geographical footprint by doubling the amount of steam coal that is exported to Europe by increasing the utilization of our export facility at the Baltimore terminal. For 2007, the coal terminal loaded approximately 6.9 million tons of coal, a 28% increase over the prior year, and we anticipate increasing exports by another 25% in 2008."

CONSOL is also very bullish on prices for its high-sulfur Northern Appalachia coal, as that market is in the process of receiving a major boost as an increasing number of electric utilities bring new SO2 scrubbers into service.

"Those of you who've followed the company's story over the last few years should recall that we have been consistently saying that as scrubbers are built, Northern App and Central App prices for coal will converge," Lyons said. "In 2005 and the first half of 2006, Northern App coal was discounted by \$10 to \$15 per ton, as many of the

scrubbed projects were not yet completed. As the scrubbers started coming online in the latter half of 2006, we started to see the beginnings of price convergence."

Lyons said that recent Northern Appalachia pricing has further confirmed this convergence trend. He noted that one week ago, CONSOL signed a deal for 2009 delivery of Northern App coal at \$80 per ton, which is on par with recent prices paid for many lower-sulfur Central Appalachia coals.

The Northern Appalachia market, where CONSOL is by far the most dominant producer, is also being aided by other dynamics occurring in the region, said Lyons. "In addition to the scrubber discount no longer existing, the reason you are seeing a strong upward move in pricing is that there are several utilities in our region that have [coal] stockpiles that are below average. Furthermore, we are now being approached by metallurgical coal customers that are interested in using our Pittsburgh 8 seam coal for coking purposes. This creates an additional customer that is competing with utilities that use this coal for traditional steam purposes."

[Click to view the Investor Presentation of 02/20/08 for CONSOL Energy Inc.](#)

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## Articles on Sustainability of Coal Price Increases (continued)

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### Coal - Operations and Strategy

#### US coal prices still have more room to rise, says Arch's Leer

SNL EXTRA

March 05, 2008 3:52 PM ET

By [Michael Niven](#)

U.S. coal prices, which have risen dramatically during the past few months, still have plenty of room for more growth, [Arch Coal Inc.](#) Chairman and CEO Steven Leer said during a March 4 investor conference.

"If you look at the changes from 52 weeks ago, [Powder River Basin] coal prices are close to double from a year ago; we're seeing substantial increases in the Utah and Colorado market; and [the Central Appalachia] market has doubled, as have prices in the export market. And we haven't found the top yet," Leer said during a presentation at an institutional investors conference in Orlando, Fla.

Leer noted that domestic coal prices are still being pushed by a very strong international market and could get further pressured as U.S. utilities start hitting the market to replenish their coal supplies for the summer months and beyond.

"The market is choppy and jumping around, but it is jumping around at very, very high numbers, and we continue to see increased pressures on [metallurgical coal] pricing and we continue to see pressure on U.S. domestic steam coal prices," Leer said. "And the utilities based domestically, there are a lot of them in the market right now, but not a lot of them are buying. They're having trouble getting used to these prices. We're having customers come to us and say that they aren't going to buy much or anything this time around because they want to see if the market softens a bit. If they all waded in during the second or third quarter, then it will be an interesting time in the coal market."

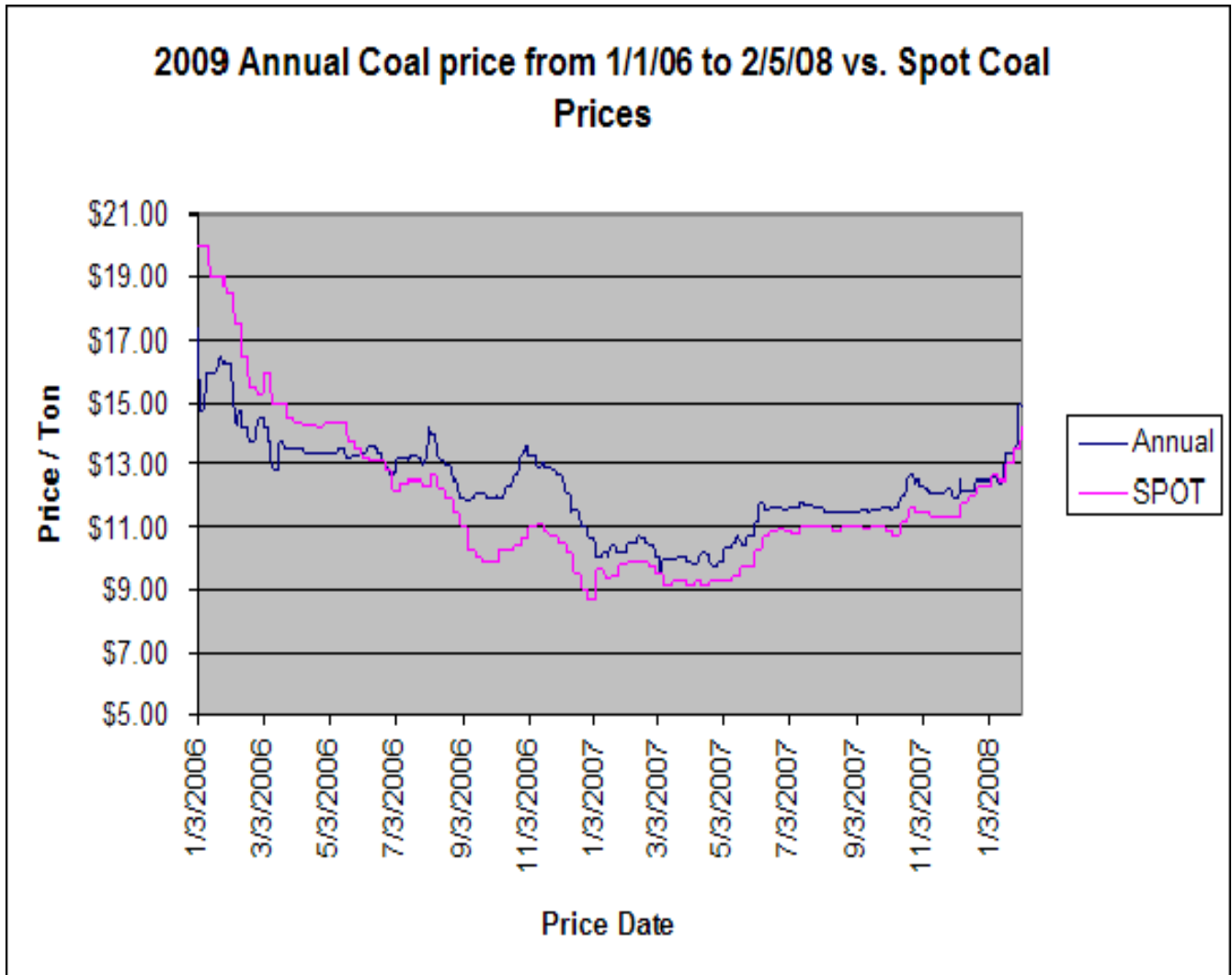
Leer noted that additional pressures could come from the regulatory front, which is already posing mine permitting challenges in Appalachia. "We don't think the current market has priced in any of the constraints that could exist with additional changes in the regulatory environment, which we think is going to happen, as well as some of the pressures of working through laws passed in the last few years."

Mine permitting in the Eastern coalfields could take a further hit later this year if environmental groups succeed in challenging a U.S. Army Corps of Engineers permitting program for surface mines, Leer said. Environmentalists won a major victory in March 2007 when Judge Robert Chambers of the U.S. District Court for the Southern District of West Virginia suspended four [Massey Energy Co.](#) valley fill permits and returned them to the Corps for further work. That case has been appealed to the 4th U.S. Circuit Court of Appeals, which is expected to return a decision later this year.

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Graph of Spot Prices versus 2009 Forward Prices





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