


Flawed Decision by TVA

Economic Analysis of Closing the Paradise and Widows Creek Coal Units

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Summary

At its board meeting on November 14, 2013, the Tennessee Valley Authority (“TVA”) announced a decision to retire the coal-fired units Paradise 1 and 2, Widows Creek 8, and Colbert 1-5 and to construct a new gas-fired plant to replace Paradise. While TVA is operating under an environmental consent decree requiring that the Colbert units be retired or controlled no later than June 30, 2016, the consent decree did not require further environmental controls added to Paradise or Widows Creek.¹ These units are already equipped with wet scrubbers, which remove sulfur dioxide and chlorine, and selective catalytic reduction (“SCR”) to remove nitrogen oxides. The combination of these controls also removes mercury to meet environmental standards. While TVA states that these units will require additional particulate controls to comply with the Mercury and Air Toxics (“MATS”), such controls are low-cost relative to the controls already in place.

The retirement of these three large units at Paradise and Widows Creek was not contemplated in TVA’s current 2011 Integrated Resource Plan (“IRP”). TVA has not provided any information to the public regarding its analysis of why it would be economic to retire these units and replace the units at Paradise with a new gas-fired power plant. These units are among the newest and lowest-cost units in TVA’s generation fleet and have very low emissions profiles.

This analysis concludes that TVA’s decision to close the Paradise and Widows Creek units is not economic and would lead to higher costs to TVA’s ratepayers. Further, the closure of these plants would cause significant adverse socio-economic impacts in West Kentucky, where most of the coal is sourced, which TVA did not consider in its decision.

¹ The consent decree does require that the scrubbers at Paradise 1-2 be upgraded, which TVA has already completed.

TVA's Power Supply and Generation Facilities

Coal-fired power plants supply the largest share of TVA's power supply. As shown on Exhibit 1, coal accounted for 43% of TVA's operated generation in the fiscal year ended September 30, 2013, up from 41% in the prior year. Despite the unusual high level of hydroelectric generation, coal's share of generation grew because of the increase in the price of natural gas from the very low levels of 2012.

Exhibit 1: TVA Power Supply²

Power Source	Summer		Year ended Sept 2013		Year ended Sept 2012		Year ended Sept 2011	
	Capability MW	MWh	Share	MWh	Share	MWh	Share	
Coal-fired	12,901	62,519	43%	58,584	41%	74,583	52%	
Nuclear	6,724	52,100	36%	55,244	39%	49,562	34%	
Hydroelectric	5,433	18,178	12%	12,817	9%	12,706	9%	
Natural gas and/or oil	9,251	13,102	9%	16,650	12%	6,809	5%	
Renewable resources	<1	9	0%	25	0%	17	0%	
	34,309	145,908	100%	143,320	100%	143,677	100%	
Contract renewable	43							
Power purchase agreements	2,242							
Total	36,594							

TVA has 59 coal-fired units, of which 4 have been retired as of October 1, 2013 and another 14 have been mothballed, leaving 41 units in operation at the present time. The nameplate capacity of the 18 units which have been retired or taken out of service is 3,354 MW.

TVA's coal-fired generation capacity is shown on Exhibit 2, along with the operating data for the last 12 months from September 2012 through August 2013.³ The units are sorted by descending capacity factor, which places the most economical units at the top of the list. Paradise units 1 and 2 rank #3 and #1, respectively.

² Source: TVA Form 10-K for the fiscal year ended September 30, 2013

³ Source: Department of Energy, Energy Information Administration ("EIA") Forms 923 and 860 and TVA Form 10-K

Exhibit 2: TVA Coal-Fired Units and Operations

Plant	State	Unit	Capacity (MW)		Year In Service	Plant Status	12 Mo End Aug 2013			
			Nameplate	Summer			Generation (MWh)	Capacity Factor	Heat Rate (Btu/kWh)	Coal Burn (tons)
Paradise	KY	2	704	602	1963	active	4,326,866	82%	10,395	1,906,410
Gallatin	TN	1	300	225	1956	active	1,605,723	81%	10,235	953,793
Paradise	KY	1	704	628	1963	active	4,197,355	76%	10,192	1,833,931
Cumberland	TN	1	1,300	1,239	1973	active	8,209,239	76%	10,219	3,557,907
Gallatin	TN	4	328	263	1959	active	1,735,320	75%	10,253	1,032,315
Gallatin	TN	2	300	225	1957	active	1,478,782	75%	10,249	879,278
Gallatin	TN	3	328	263	1959	active	1,685,196	73%	10,205	998,052
Shawnee	KY	7	175	134	1954	active	856,937	73%	10,343	457,560
Allen	TN	1	330	247	1959	active	1,559,868	72%	10,680	958,474
Cumberland	TN	2	1,300	1,231	1973	active	7,709,333	71%	10,053	3,288,455
Shawnee	KY	5	175	134	1954	active	833,778	71%	10,754	460,933
Shawnee	KY	4	175	134	1954	active	825,848	70%	10,573	448,523
Allen	TN	2	330	247	1959	active	1,474,848	68%	10,998	924,999
Shawnee	KY	8	175	134	1955	active	795,718	68%	10,917	446,254
Shawnee	KY	3	175	134	1953	active	786,171	67%	10,735	433,666
Allen	TN	3	330	247	1959	active	1,428,193	66%	10,465	855,503
Shawnee	KY	6	175	134	1954	active	754,432	64%	10,816	419,281
Shawnee	KY	1	175	134	1953	active	724,301	62%	10,706	399,933
Shawnee	KY	9	175	134	1955	active	721,286	61%	10,808	400,465
Shawnee	KY	2	175	134	1953	active	698,868	60%	10,671	382,625
Widows Creek	AL	8	550	465	1965	active	2,159,745	53%	11,258	1,042,226
Paradise	KY	3	1,150	971	1970	active	4,234,041	50%	10,336	1,879,364
Widows Creek	AL	7	575	473	1961	active	2,027,750	49%	10,990	957,077
Kingston	TN	7	200	174	1955	active	686,759	45%	11,185	390,874
Kingston	TN	2	175	132	1954	active	499,238	43%	11,056	284,245
Kingston	TN	1	175	132	1954	active	483,172	42%	10,996	273,691
Kingston	TN	9	200	174	1955	active	612,513	40%	11,231	353,024
Kingston	TN	5	200	174	1955	active	561,748	37%	11,065	316,347
Kingston	TN	6	200	174	1955	active	558,162	37%	11,160	318,436
Kingston	TN	3	175	132	1954	active	417,339	36%	11,094	237,375
Kingston	TN	8	200	174	1955	active	516,700	34%	11,163	294,052
Kingston	TN	4	175	132	1954	active	390,527	34%	11,220	223,742
Bull Run	TN	1	950	863	1967	active	1,675,241	22%	9,642	675,733
Johnsonville	TN	4	125	107	1952	plan to retire	524,503	56%	13,616	383,711
Colbert	AL	4	200	178	1955	plan to retire	865,488	56%	10,934	490,291
Colbert	AL	2	200	178	1955	plan to retire	833,131	53%	10,771	462,751
Colbert	AL	1	200	178	1955	plan to retire	816,175	52%	11,017	466,641
Johnsonville	TN	3	125	107	1952	plan to retire	396,252	42%	13,093	277,650
Johnsonville	TN	2	125	107	1951	plan to retire	365,012	39%	13,516	264,419
Colbert	AL	3	200	178	1955	plan to retire	592,193	38%	11,139	334,264
Johnsonville	TN	1	125	107	1951	plan to retire	319,999	34%	13,732	237,166
Active Units		41	14,053	11,933			61,943,750	59%	10,545	31,201,436
Colbert	AL	5	550	472	1965	mothballed	-57,021			0
Widows Creek	AL	1	141	111	1952	mothballed	0			0
Widows Creek	AL	2	141	111	1952	mothballed	0			0
Widows Creek	AL	4	141	111	1953	mothballed	-2,912			0
Widows Creek	AL	6	141	111	1954	mothballed	0			0
Shawnee	KY	10	175	124	1956	mothballed	-1,460			0
John Sevier	TN	3	200	176	1956	mothballed	-4,309			0
John Sevier	TN	4	200	176	1957	mothballed	-4,111			0
Johnsonville	TN	7	173	141	1958	mothballed	-1,321			0
Johnsonville	TN	8	173	141	1959	mothballed	-1,332			0
Johnsonville	TN	5	147	107	1952	mothballed	318,865	34%	13,191	225,626
Johnsonville	TN	6	147	107	1953	mothballed	166,071	18%	14,003	125,630
Johnsonville	TN	9	173	141	1959	mothballed	77,397	6%	10,339	37,216
Johnsonville	TN	10	173	141	1959	mothballed	56,212	5%	9,285	23,828
Widows Creek	AL	3	141	111	1952	retired	0			0
Widows Creek	AL	5	141	111	1954	retired	0			0
John Sevier	TN	1	200	176	1955	retired	-4,293			0
John Sevier	TN	2	200	176	1955	retired	-4,227			0
Total		59	17,407	14,677			62,481,309	49%	10,580	31,613,736

TVA has signed a consent decree with the Environmental Protection Agency (“EPA”) under which it must retire, remove from service, retrofit controls or repower another 8 coal-fired units at Johnsonville and Colbert, which total 1,300 MW of nameplate capacity (TVA has announced plans to retire these units).⁴ This would bring the total amount of retired capacity to 4,654 MW of nameplate capacity (3,884 MW of summer net capability).

TVA’s remaining coal-fired plants are largely controlled for emissions of SO₂ and NO_x, including:

- Cumberland 1-2 have wet scrubbers and SCR
- Paradise 1-3 have wet scrubbers and SCR
- Bull Run has wet scrubber and SCR
- Kingston 1-9 have wet scrubbers and SCR
- Widows Creek 7-8 have wet scrubbers and SCR
- Allen 1-3 have SCR and use low-sulfur coal
- Gallatin 1-4 use low-sulfur coal
- Shawnee 1-9 use low-sulfur coal

TVA has already approved a project to retrofit emissions controls (dry scrubber, SCR, activated carbon injection and fabric filters) at the Gallatin 1-4 station by 2017.⁵

As shown on Exhibit 2, the Paradise 1-2 units have two of the highest capacity factors on the TVA system for the last 12 months (ended August 2013, the latest data available). This indicates that these units are the most economic coal-fired units to operate on the TVA system. With capacity factors of 82% and 76%, these units are being dispatched ahead of TVA’s lowest-cost natural gas units. While Widows Creek unit 8 is not as low-cost as Paradise 1-2, it still averages a capacity factor over 50%.

⁴ Source: TVA Form 10-K

⁵ The consent decree also mandates that TVA control, retire or convert Shawnee units 1 and 4 no later than December 31, 2017. TVA has not yet announced an action at these units.

TVA's 2011 Integrated Resource Plan

In April 2011, TVA completed its most recent IRP and the associated environmental impact statement ("EIS"). In this plan, TVA evaluated six alternative energy resource strategies, which differed in the amount of energy efficiency, nuclear generation, renewable energy, purchased power and retirement of existing coal-fired plants. TVA evaluated a range of potential coal-fired plant retirements, under a combination of five planning strategies and seven scenarios for each strategy. The range of retirements of existing coal-fired power plants was from a low of 2,400 MW to a high of 4,700 MW. The analysis concluded that the retirement of 4,000 MW of coal-fired capacity was the preferred strategy.

Prior to the most recent announcement that TVA would close Paradise 1-2, Widows Creek 8 and Colbert 1-4 (unit 5 was already mothballed), TVA had retired or mothballed 18 units totaling 3,354 MW. Including the retirement of Johnsonville 1-4, which is required by the consent decree, TVA had already decided to retire 22 coal-fired units totaling 3,854 MW of capacity. These retirements already were approximately equal to the preferred strategy of 4,000 MW in the 2011 IRP. Including the retirement of Colbert 1-4, which was a possibility under the consent decree, the coal-fired retirements would total 4,654 MW, which was the maximum amount evaluated in the 2011 IRP. Including the most recent announcement to retire Paradise 1-2 and Widows Creek 8, TVA would be retiring 6,642 MW of coal-fired capacity, much greater than the upper limit of 4,700 MW evaluated in the 2011 IRP.

It is clear that TVA never considered the retirement of Paradise 1-2 and Widows Creek 8 in the 2011 IRP. The decision of TVA's board of directors to close these units was made without the benefit of the comprehensive analysis performed in the IRP process. It appears to be an *ad hoc* decision, made without disclosing the basis of the decision or receiving comments from the public and interested stakeholders.

Economic Analysis of Closing Paradise and Widows Creek

TVA did not disclose the economic parameters of its evaluation of the decision to close the Paradise, Widows Creek and Colbert coal units. The limited information provided by TVA is:

- Capital cost for environmental controls:
 - Widows Creek - \$163 million⁶
 - Colbert - \$1.01 billion⁷
 - Paradise - not disclosed
- Capital cost for new gas combined cycle plant:
 - Authorized up to \$1.12 billion (capacity not disclosed)⁸
- Capital recovery and O&M cost:
 - Combined cycle plant would cost \$140 million in depreciation, interest, O&M and base capital for a plant costing \$1,200 million⁹
- Fuel cost forecast not disclosed

This EVA analysis uses the limited data disclosed by TVA plus the following assumptions based on industry experience and data:

- Capital cost for Paradise 1-2 controls would equal the same cost per kW as the Widows Creek capital estimate from TVA, yielding a cost of \$431 million
- Capital recovery costs would be the same as presented by TVA for a combined cycle plant in its Congressional Briefing, with a total cost of 10% for depreciation, interest and base capital
- Annual non-fuel operation and maintenance costs would be \$30 per kW-year for a baseload coal plant and \$20 per kW-year for a combined cycle plant¹⁰
- Heat rates are based on the actual 2013 heat rates to the Paradise and Widows Creek plants and to TVA's existing combined cycle gas plants¹¹

⁶ Source: TVA Board Meeting presentation, November 14, 2013, page 52

⁷ Ibid

⁸ Id, page 54

⁹ Source: TVA Congressional Briefing, September 13, 2013, page 9

¹⁰ Based on the 2012 FERC Form 1 data for Duke Energy plants

¹¹ Source: EIA Form 923 data

- First-year fuel costs are equal to the year-to-date through August 2013 reported delivered fuel prices to TVA's Paradise, Widows Creek and combined cycle plants¹²

The estimated full-year impact after the in-service date (assuming the same in-service date in 2017) is shown on Exhibit 3.¹³

Exhibit 3: Full Year Impact of Retrofit Controls and New Gas Unit

		Paradise 1-2	Widows Creek 8	Combined Cycle
Capacity (MW)		1,230	465	1,000
Capacity Factor		75%	75%	75%
Generation	GWh	8,081	3,055	6,570
Capital cost (mm)		\$ 431	\$ 163	\$ 1,120
	Depreciation 2.5%	11	4	28
	Interest 5.0%	22	8	56
	Base capital 2.5%	11	4	28
Annual Capital Cost		\$ 43	\$ 16	\$ 112
O&M Cost		37	14	20
		\$ 80	\$ 30	\$ 132
Capital Cost	\$/MWh	\$9.90	\$9.90	\$20.09
Fuel Cost				
Delivered price	\$/mmBtu	\$2.33	\$2.69	\$3.75
Heat rate	Btu/kWh	10,295	11,125	7,000
Fuel cost	\$/MWh	\$23.99	\$29.93	\$26.25
Total Cost	\$/MWh	\$33.89	\$39.83	\$46.34

Even using current 2013 fuel prices for coal and gas (the actual delivered prices to TVA's Paradise, Widows Creek and combined cycle gas plants), the cost per MWh is significantly lower to retrofit environmental controls on the Paradise and Widows Creek coal units rather than close them and replace them with a combined cycle gas unit.

¹² Source: EIA Form 923 data

¹³ This approach is the same as used by TVA in its Congressional Briefing, September 13, 2013

This analysis is presented in a fashion unfavorable to coal, because it assumes that the natural gas combined cycle unit will run at the same high capacity factor as coal, which is unlikely due to the higher fuel cost for natural gas which leads to lower dispatch. TVA's combined cycle gas plants actually ran at a capacity factor of 46% during the last 12 months through August 2013, compared to 82% for Paradise unit 2, 76% for Paradise unit 1, and 53% for Widows Creek unit 8. This disparity in dispatch is likely to grow over time as the difference in fuel costs increases.

The price of natural gas is projected to increase more rapidly from today's prices than the price of coal. According to the most recent long-term forecast from the US Department of Energy, Energy Information Administration ("EIA"):

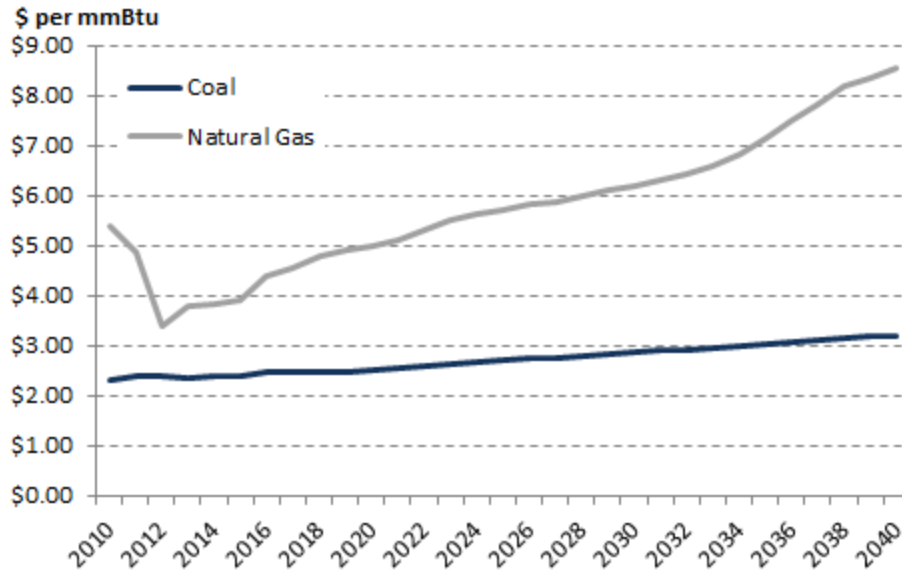
"U.S. natural gas prices have remained relatively low over the past several years as a result of abundant domestic supply and efficient methods of production. However, the cost of developing new incremental production needed to support continued growth in natural gas consumption and exports rises gradually in the *AEO2013* Reference case, leading to an increase in the Henry Hub spot price. Henry Hub spot prices for natural gas increase by an average of about 2.4 percent per year, to \$7.83 per million Btu (2011 dollars) in 2040."¹⁴

In contrast, EIA projects that coal prices will stay low over the forecast period through 2040, rising from a low delivered price of \$2.34 per million Btu in 2013 to just \$3.20 per million Btu in 2040 in constant 2011 dollars.¹⁵ EIA's forecast of delivered coal and natural gas prices is shown on Exhibit 4.

¹⁴ Source: EIA, Annual Energy Outlook 2013, page 76

¹⁵ Id, supporting tables at http://www.eia.gov/forecasts/aeo/topic_prices_all.cfm#natgas_prices

Exhibit 4: EIA Forecast of Coal and Gas Prices Delivered to the Electric Power Sector (constant 2011 dollars)



Thus, the economic advantage of investing in environmental controls at the Paradise and Widows Creek plants compared to replacing them with a natural gas plant will grow over time. EVA’s dispatch model forecasts the capacity factor for the Paradise plant to stay about 80% and for the Widows Creek plant to grow to 80% as well, while the combined cycle gas plants continue to run at less than 50% capacity factors. With higher future gas prices and the closure of some existing coal units, the remaining coal units are projected to operate at higher capacity factors, dispatching ahead of gas combined cycle units.

Even the Sierra Club’s economic consultant, Synapse Energy Economics (“Synapse”), agreed that the Paradise and Widows Creek plants are economic to invest in emissions controls rather than retire. In its report dated August 14, 2012, Synapse categorized all of TVA’s coal-fired units based on their estimates of the cost to invest in emissions controls and their expected market cost of power. Synapse rated the Paradise 1-2 and Widows Creek 8 units as having a lower cost to retrofit all possible environmental controls than to retire.¹⁶ Synapse based its analysis using capital costs to invest in

¹⁶ Source: Synapse Energy Economics, “TVA Coal in Crisis”, August 12, 2012, Table 4

Widows Creek unit 8 of \$291 million,¹⁷ 78% higher than the actual capital costs disclosed by TVA of \$163 million.

Impacts of Closing Paradise and Widows Creek

Socio-Economic Impacts on West Kentucky

TVA has failed to consider the socio-economic impact of closing these units on the communities that supply the coal to Paradise and Widows Creek. In the environmental assessment prepared regarding the closure of Paradise 1-2,¹⁸ TVA focused its attention on the number of jobs directly employed at the power plant.¹⁹ However, the major impact of the closure of these plants is on the jobs and economy in the surrounding community in West Kentucky. TVA failed to evaluate where the coal for these plants is produced and the impact on the community of the loss of these jobs.

The Paradise plant is located in Muhlenberg County, Kentucky. As TVA observed, the per capita income in the West Kentucky counties surrounding the Paradise plant is significantly lower than the Commonwealth of Kentucky as a whole, with the disparity especially severe in Muhlenberg County at just 83.6% of the average income in Kentucky.

In the first 8 months of 2013, the total coal purchases at the Paradise and Widows Creek power plants are shown on Exhibit 5. West Kentucky coal supplied 81% of the coal to the Paradise plant and 73% of the coal to the Widows Creek plant.

¹⁷ Id, Table 3

¹⁸ Source: TVA, Final Environmental Assessment, Paradise Fossil Plant Units 1 and 2, Mercury and Air Toxics Standards Compliance Project, November 2013

¹⁹ TVA did not prepare an environmental assessment of the decision to close Widows Creek unit 8

**Exhibit 5: Coal Purchases to the Paradise and Widows Creek Plants
January – August 2013²⁰**

Supplier	Mine	State	County	Shipment	Tons
<i>Paradise Plant</i>					
Armstrong Energy	Parkway	KY	Muhlenberg	truck	856,177
Armstrong Energy	Kronos	KY	Ohio	barge	172,617
KenAmerican	Paradise	KY	Muhlenberg	truck	1,036,498
Alliance	Elk Creek	KY	Hopkins	rail	416,202
Alliance	Onton	KY	Webster	barge	297,447
Alliance	River View	KY	Union	barge	24,073
Alliance	Pattiki	IL	White	rail/barge	<u>677,054</u>
					3,480,068
<i>Widows Creek Plant</i>					
Armstrong Energy	Kronos	KY	Ohio	rail	395,985
Alliance	Warrior	KY	Hopkins	rail	382,083
Alliance	Dotiki	KY	Hopkins	rail	295,336
Alliance	Gibson	IN	Gibson	rail	63,285
Alliance	Pattiki	IL	White	rail	247,263
Foresight	Sugar Camp	IL	Hamilton	rail	<u>95,349</u>
					1,479,301

In the last 12 months ending in August 2013, the total burn at Paradise 1-2 was 3.74 million tons and at Widows Creek 8 was 1.04 million tons.²¹ Using the share of coal supplied from mines in West Kentucky in 2013, the coal production in West Kentucky that will be lost due to the proposed closures is 3.8 million tons per year at the current burn rates.

The EIA Annual Coal Report for 2011 reported total annual production in West Kentucky of 40.8 million tons and direct employment in coal mining in this region of 4,353 persons.²² The closure of the coal units at Paradise 1-2 and Widows Creek 8 would reduce production in West Kentucky by 9.3%, reducing direct employment by about 405 jobs.

The job loss would be especially severe in Muhlenberg County, where the Paradise plant is located, as the only 2 operating coal mines (KenAmerican's Paradise mine and Armstrong Energy's Parkway mine) ship the majority of their production to the Paradise

²⁰ Source: EIA Form 923 data

²¹ Source: EIA Form 923 data

²² Source: EIA, Annual Coal Report 2011, Tables 1 and 18

plant by truck. These 2 mines supply 54% of the coal to the Paradise plant and would likely lose 2.0 million tons of annual production (these mines produced a total of 3.8 million tons in 2012, most of which was shipped to the Paradise plant). These mines employ a total of 476 employees,²³ so the loss of 53% of their production would be a loss of 251 jobs in Muhlenberg County. In addition, there would be numerous jobs lost supporting the coal mining and shipment, including truck drivers, engineers, surveyors, suppliers, etc.

In its Environmental Assessment, TVA reports that the total employment in Muhlenberg County in 2011 was 12,485 jobs with average per capita income of \$28,429. According to confidential information from a West Kentucky coal producer, the average employee at its mines received direct wages of \$67,000 per year, with total labor costs (including fringe benefits) of \$114,750 per employee.

These mines also pay a state severance tax of 4.5%, of which 50% is shared with the counties. TVA reported an average delivered cost of coal about \$50.00 per ton for these mines in 2013. Less estimated transportation costs, the state severance tax at this price would be \$2.14 per ton. The loss of 3.8 million tons per year of Kentucky production would be a loss of \$8.1 million annually in severance taxes. The loss of tax revenue to Muhlenberg County would be about \$2.2 million annually.

Coal Keeps Retail Power Prices Low

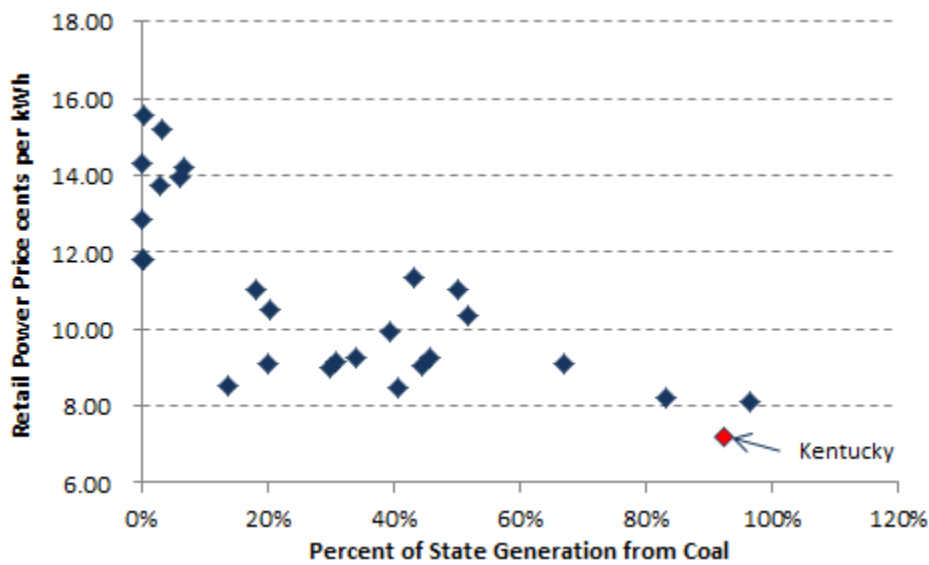
Because of its low fuel costs, the use of coal for power generation results in low electric power rates for retail ratepayers, including homeowners and businesses. This correlation has been consistent for a long period of time, when natural gas prices have been low as well as when they have been high. Even during 2012, at the lowest point of gas prices in the last decade, states with a high share of coal generation in their power supply have had the lowest retail rates for their customers.

Exhibit 6 shows the average retail power price by state for states east of the Mississippi River during calendar year 2012 and the share of electric power generated from coal in that state. While state borders do not correlate perfectly with power sales (some power plants are located in a different state than where most of the power is sold), the relationship between the share of coal generation and the retail power rates is

²³ Mine Safety and Health Administration data on Form 7000-2

unmistakable. There were 3 states in the east where the share of power generated from coal was greater than 70% - Kentucky, West Virginia and Indiana. These 3 states also had the lowest average retail power price of any state in the East, by a wide margin in many cases. There were 9 states in the east where the share of power generated from coal was less than 10%; these 9 states had the highest retail power price in 2012. The Commonwealth of Kentucky had the lowest average retail power price of any state in the Eastern U.S. in 2012,

Exhibit 6: 2012 Retail Power Prices and Share of Coal Generation by State, Eastern US²⁴



The impact on the TVA ratepayers of closing the Paradise and Widows Creek coal-fired power plants is clear; it will result in higher power prices.

²⁴ Data source: EIA, Electric Power Monthly, February 2013, with data for December 2012, Tables 1.6.B, 1.7.B, and 5.6.B