



Coal for Electric Power Generation



The Ohio River Basin is a major coal producing and power generating area. Utility companies have historically been attracted to a plentiful supply of water for plant use. The utilities also take advantage of the transportation savings provided by barges and the lock and dam system on the basin's waterways.

2008 coal shipments on the Ohio River basin's waterways totaled almost 150 million tons, or about 58% of all barge cargo. Of this amount, more than 116 million tons were destined for coal-fired power plants. In 2008, this coal moved to 40 power plants along the Ohio River and its tributaries (see map). Coal moving in the Ohio River basin destined for power plants had a value of almost \$4.4 billion.

Most of the utility coal moving by barge in the Ohio River basin originated on the Ohio River. Some of this coal actually was mined in the western United States and moved by rail to docks on the Ohio River, where it was loaded into barges to complete the trip to power plants. Other significant origins for utility coal were the Monongahela River and the low-sulfur coal producing areas along the Kanawha and Big Sandy Rivers. Rivers outside the Ohio River system that received coal from the basin included the Mississippi, Black Warrior/Tombigbee, Panama City Harbor, Escambia, Biloxi Harbor, Arkansas, Illinois and Neches.

Ohio River Basin Barge Traffic					
2008 Utility Coal Barge Movements by River					
River	Shipped	Received	Within	Through	Total
Ohio	16,278,281	34,494,611	49,426,933	12,300,576	112,500,401
Tennessee	7,435,167	39,808	5,863,332	8,301,553	21,639,860
Mississippi	6,554,208	9,683,756	0	-	16,237,964
Monongahela	6,740,484	2,552,197	6,234,177	-	15,526,858
Kanawha	9,865,055	596,199	1,459,526	-	11,920,780
Cumberland	0	7,121,131	0	4,639,047	11,760,178
Big Sandy	11,676,473	0	0	-	11,676,473
Green	4,637,856	1,932,070	862,177	-	7,432,103
Allegheny	37,549	1,008,978	0	-	1,046,527
<i>source: U.S. Army Corps of Engineers Waterborne Commerce Statistics</i>					

West Virginia shipped the most utility coal by water, moving over 35 million tons of primarily low sulfur coal to 29 plants in 6 states. Kentucky, also a source of low sulfur coal, was next with over 31 million tons to 31 plants. Ohio's 10 power plants which received coal by barge took over 34 million tons of coal worth over \$1.3 billion.

Ohio River Basin Barge Traffic Utility Coal Shipments and Receipts By State - 2008			
State	Tonnage Shipped	Receipts	
		Plants*	Tonnage
Ohio	7,780,014	10	34,585,473
Indiana	3,207,000	4	17,950,092
West Virginia	32,050,816	8	16,385,701
Kentucky	31,060,368	8	17,801,260
Tennessee	0	3	15,026,140
Pennsylvania	15,564,634	5	11,844,342
Alabama	0	2	2,572,814
Illinois	26,489,089	0	0
<i>* Plants on Ohio River Basin Waterways Only</i>			
<i>Source: U.S. Army Corps of Engineers Waterborne Commerce Statistics</i>			

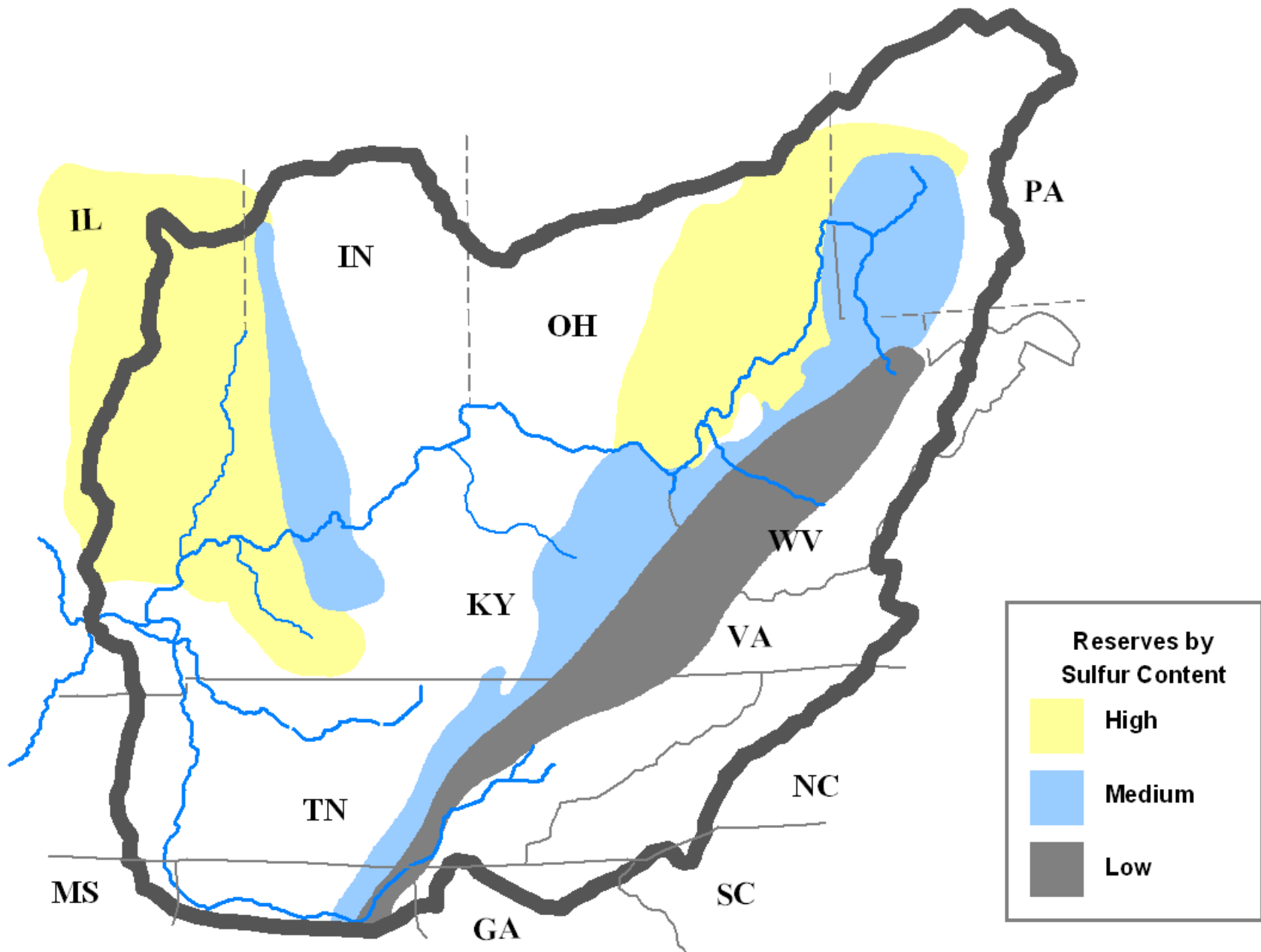
With over 116 million tons of utility coal moving on the Ohio River, any delays encountered by barges factor into the efficiency and cost of electric power generation. At John T. Myers and Greenup Locks and Dams, major repairs of the main chambers associated with heavy use and age force greater future reliance on the inadequately-sized auxiliary chamber. This results in accelerating transit costs. In 2008, Greenup Locks transited over 36.3 million tons of utility coal, and more than 26.1 million tons moved through John T. Myers Locks. The John T. Myers and Greenup Locks Improvements Interim Feasibility Report, a product of the Ohio River Mainstem Study, recommends a 600' extension of the auxiliary chamber and a miter gate quick changeout system at both projects, along with rehabilitation of the main chamber at Greenup. These projects were authorized for construction in the Water Resources Development Act of 2000.

McAlpine Locks, in downtown Louisville, KY, passed over 28.1 million tons of utility coal in 2008. Construction began in 1996 and is a new 110 x 1200' chamber became operational in 2009.

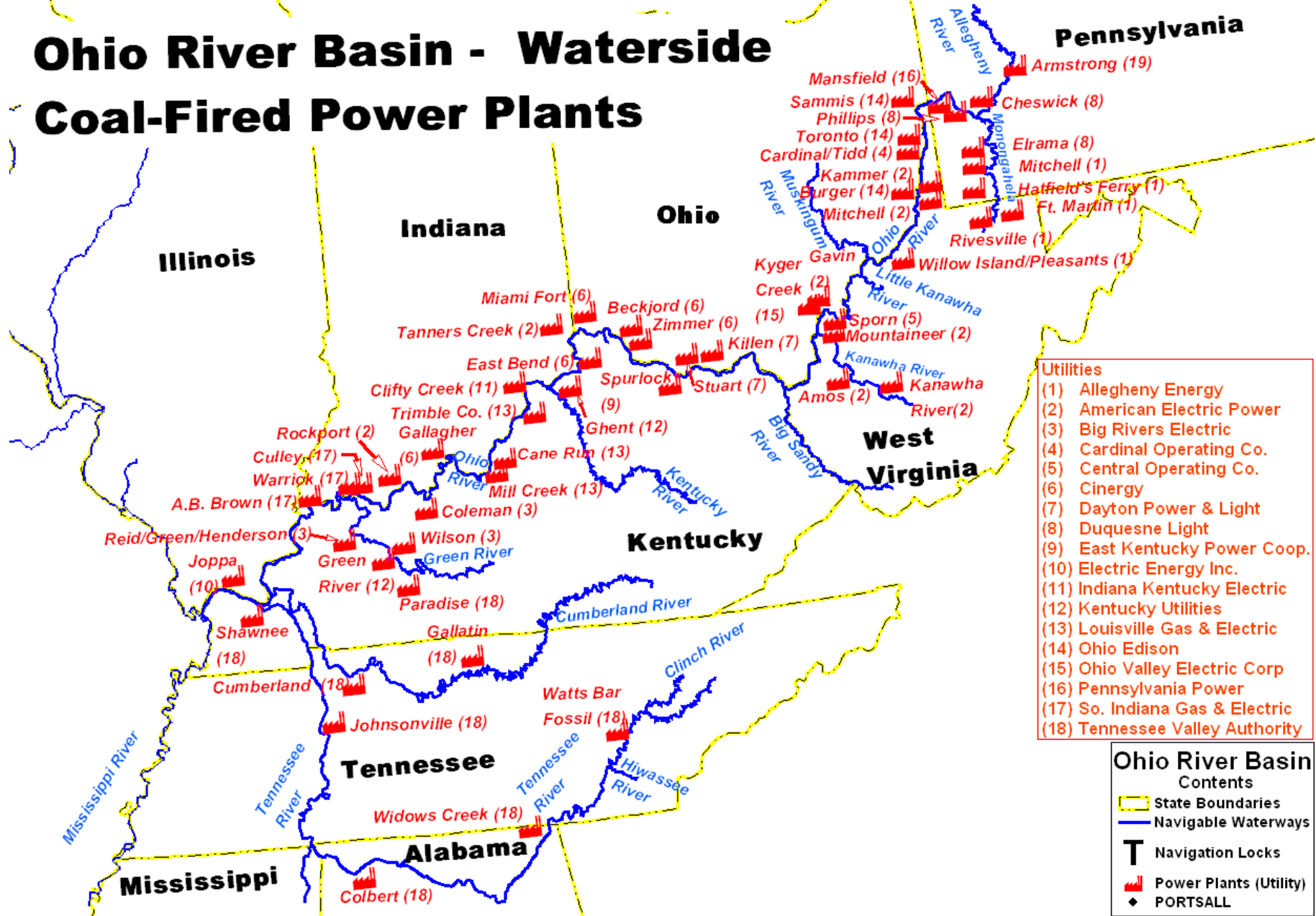
Future improvements to navigation on the Ohio's tributaries will also benefit utility coal shipments. In 2008, 76% of the Kanawha River's 20.1 million tons was coal bound for power plants. An improvement to Marmet Locks on the Kanawha River was authorized in 1996. Marmet L&D on the Kanawha River officially opened the new 800 x 110' lock on January 23, 2008 ahead of schedule, with all construction completed by 2009. The existing chambers would remain open for emergency use and during maintenance. At London Locks, a major rehabilitation project is planned. The failing upstream guardwall will be replaced, and the riverward lock chamber will be extended in length by moving the existing miter gate 47 feet upstream. This will allow two jumbo barges to fit in the chamber instead of one.

The modernization plan for the lower Monongahela River includes replacement of the fixed crest dam at Lock and Dam 2 with a gated dam (to be called Braddock Dam). The locks at Locks and Dam 4 would be replaced with new twin 84' x 720' chambers, and this project will be renamed Charleroi Locks and Dam. Locks and Dam 3 will be removed. The current schedule calls for completion of work by 2013 depending on funding. In 2008, over 10.1 million tons of coal bound for power plants moved through the existing 3 locks. This was 73% of the total coal tonnage of the project.

Most of this tonnage also moves through Emsworth, Dashields and Montgomery Locks, which are the first three navigation projects on the Ohio River. These three projects are the only remaining navigation projects on the Ohio River that do not have a 110' x 1200' lock chamber. The costs associated with major rehabilitation and major maintenance over a 50 year economic design life may exceed the cost of replacement with new larger facilities. Any closures of the main chambers for repairs force greater future reliance on the very small auxiliary chambers. As part of the Ohio River Main Stem Study of navigation modernization, replacement plans involving 2 or 3 projects are being evaluated.



Ohio River Basin - Waterside Coal-Fired Power Plants



- Utilities**
- (1) Allegheny Energy
 - (2) American Electric Power
 - (3) Big Rivers Electric
 - (4) Cardinal Operating Co.
 - (5) Central Operating Co.
 - (6) Cinergy
 - (7) Dayton Power & Light
 - (8) Duquesne Light
 - (9) East Kentucky Power Coop.
 - (10) Electric Energy Inc.
 - (11) Indiana Kentucky Electric
 - (12) Kentucky Utilities
 - (13) Louisville Gas & Electric
 - (14) Ohio Edison
 - (15) Ohio Valley Electric Corp
 - (16) Pennsylvania Power
 - (17) So. Indiana Gas & Electric
 - (18) Tennessee Valley Authority

Ohio River Basin Contents

- State Boundaries
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- PORTSALL