Modernizing the Ohio River Navigation System

Presented By: R. Barry Palmer

DINAMO, The Association For The Development Of Inland Navigation In America's Ohio Valley

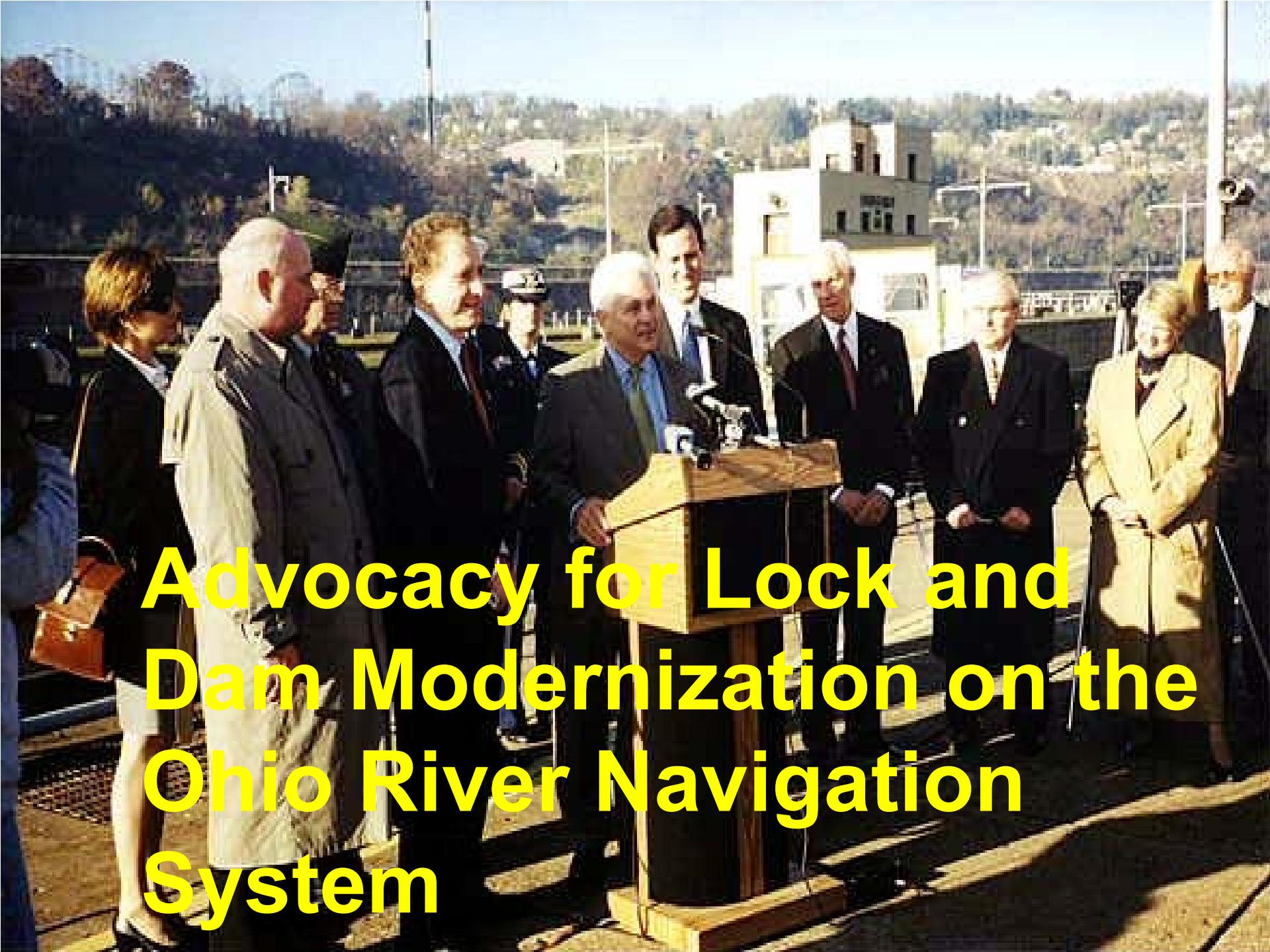

Modernizing The Ohio River Navigation System
McAlpine Lock Replacement

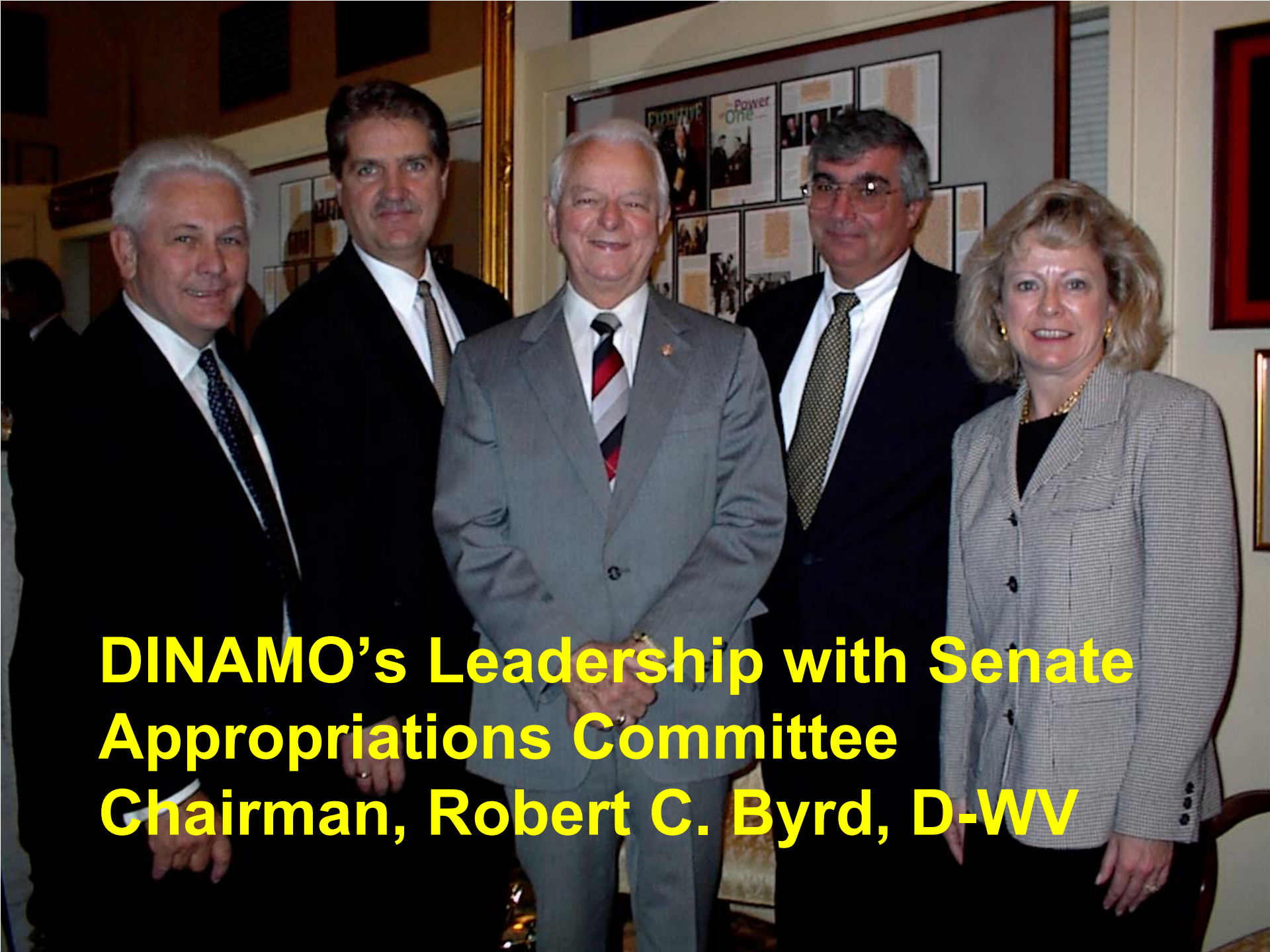

By Focusing On The Importance Of The River To The Economy Of The Nation/Region
McAlpine Lock Replacement

- **DINAMO Created in 1981**
- **Private Sector, State Government, Labor Leaders in the Ohio Valley**
- **16 System Locks/Dams Need Improvement by 2000 -- National Waterways Study**
- **17 Authorized for Construction, Under Construction, or Complete, 6 More Identified, $7 Billion**

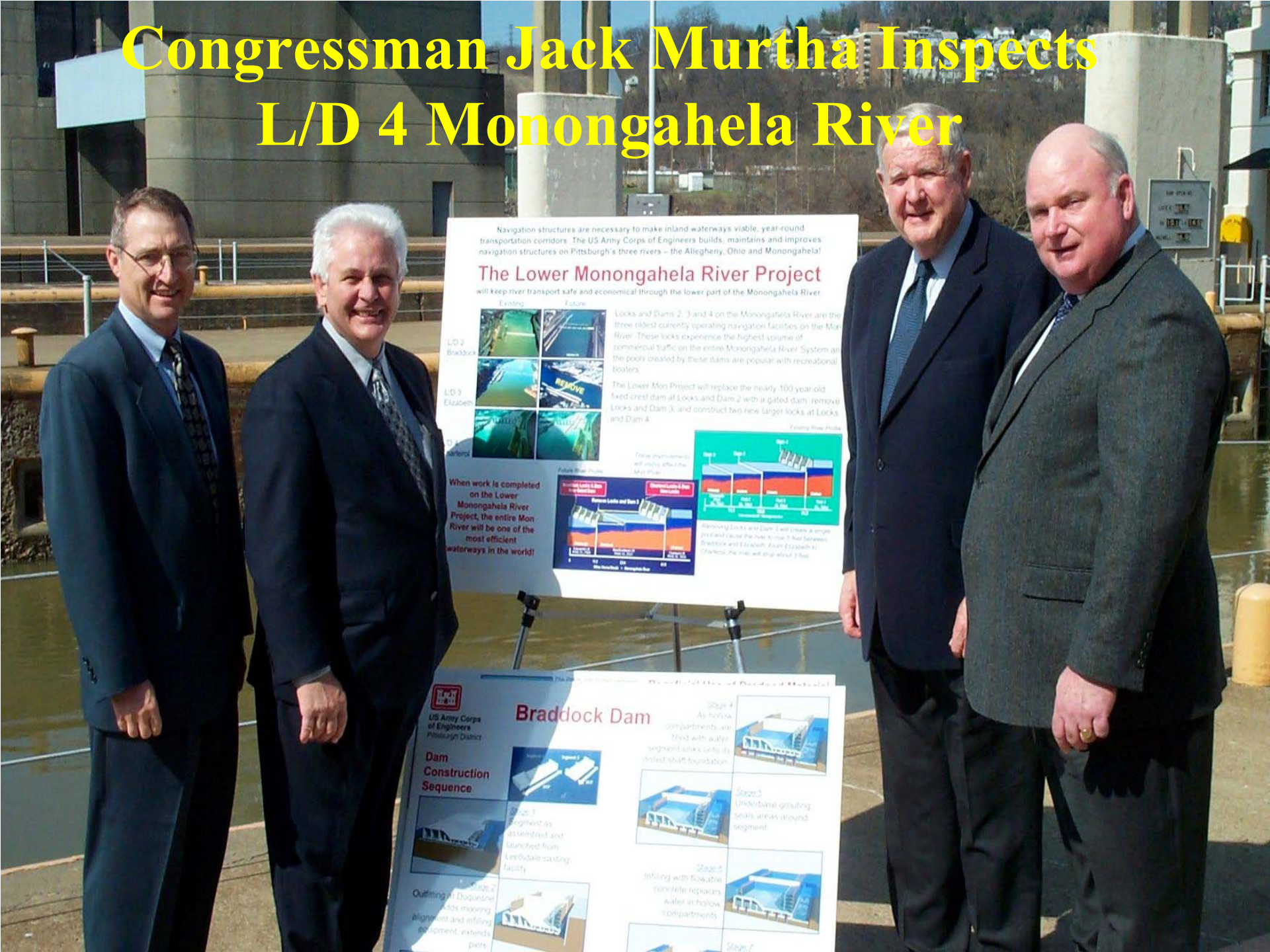
WHAT DOES DINAMO DO?

- Work With The US Army Corps Of Engineers, 4 Districts, 1 Division, Headquarters, Plan, Design, Engineer, Build
- Principally Educate Congressional Interests At Home and in Washington DC
- To Authorize And Fund Lock And Dam Modernization Projects


Advocacy for Lock and Dam Modernization on the Ohio River Navigation System


DINAMO's Leadership with Senate
Appropriations Committee
Chairman, Robert C. Byrd, D-WV

Congressman Jack Murtha Inspects L/D 4 Monongahela River



Congresswoman Anne Northup Visits McAlpine Lock and Dam

Congressman Ed Whitfield at Kentucky Lock and Dam, Tennessee River

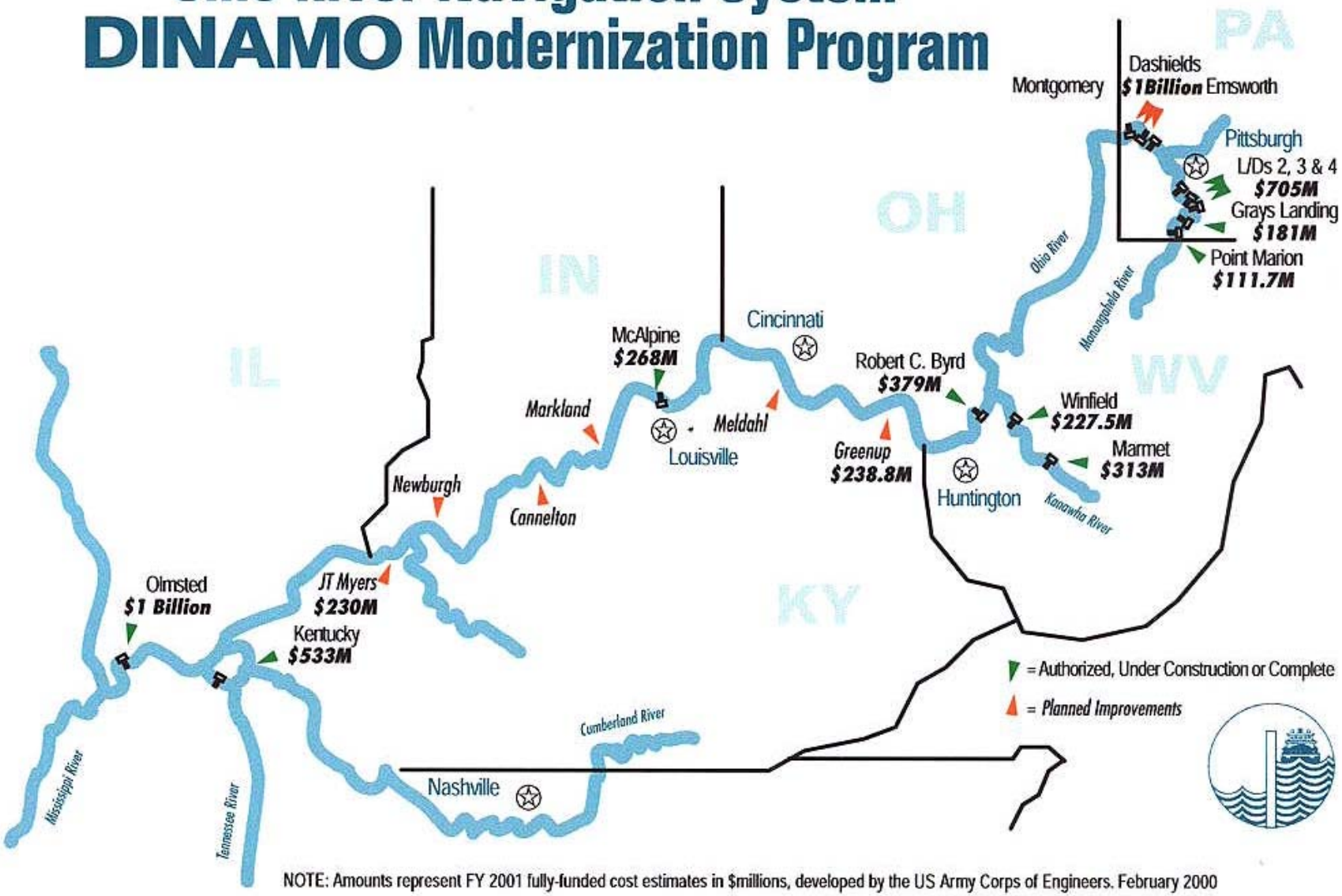
Congresswoman Melissa Visit Lock 4, Allegheny River

America's Inland Navigation System

Ohio River Navigation System

- Ohio River and 7 Tributaries
- 69 locks, 104 chambers
- 2700 miles of waterways
- 275 million tons annually worth $32 billion
- 61% is coal and petroleum products

Ohio River Navigation System
DINAMO Modernization Program



NOTE: Amounts represent FY 2001 fully-funded cost estimates in $millions, developed by the US Army Corps of Engineers. February 2000

The Association for the Development of Inland Navigation in America's Ohio Valley

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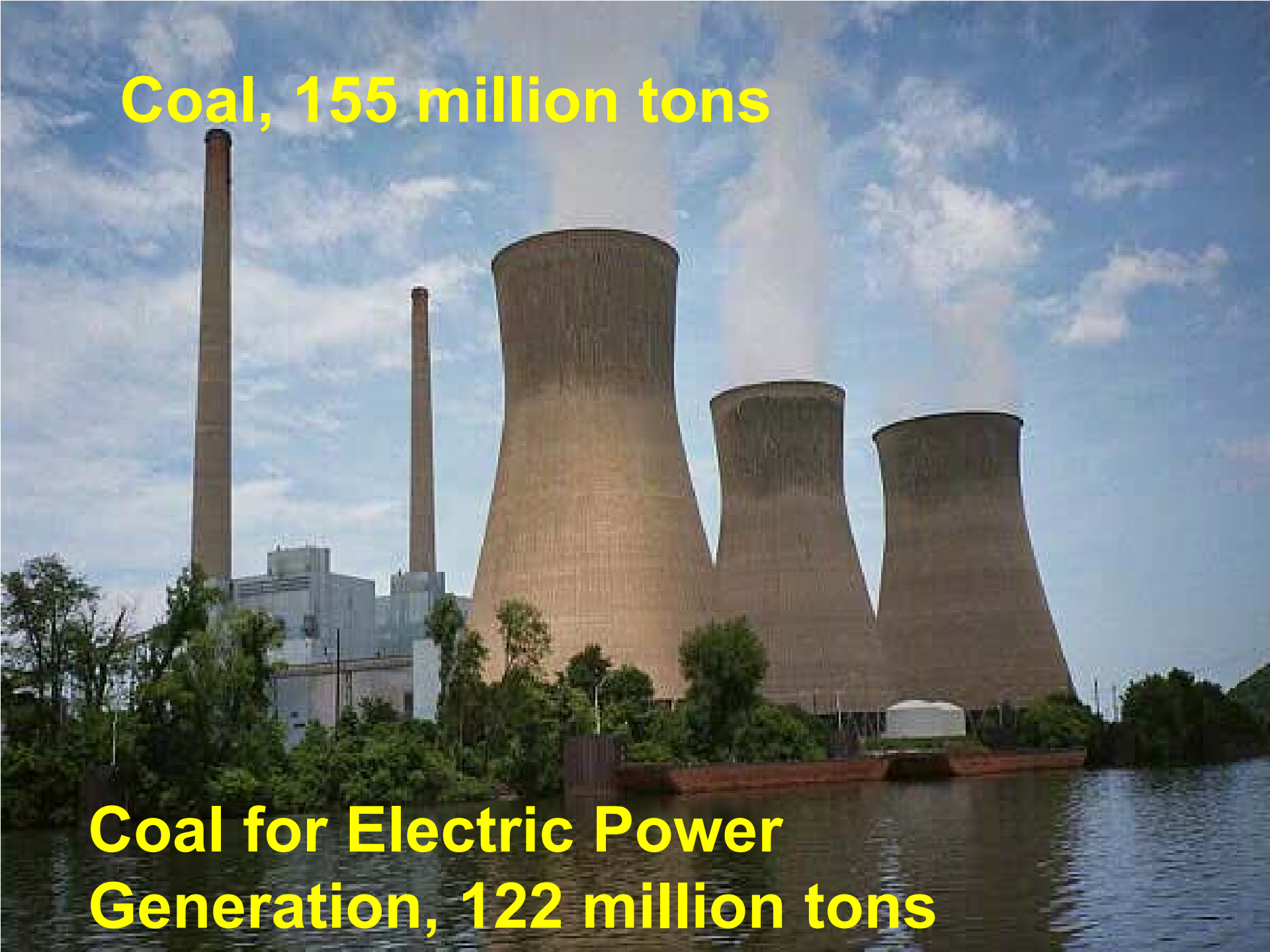
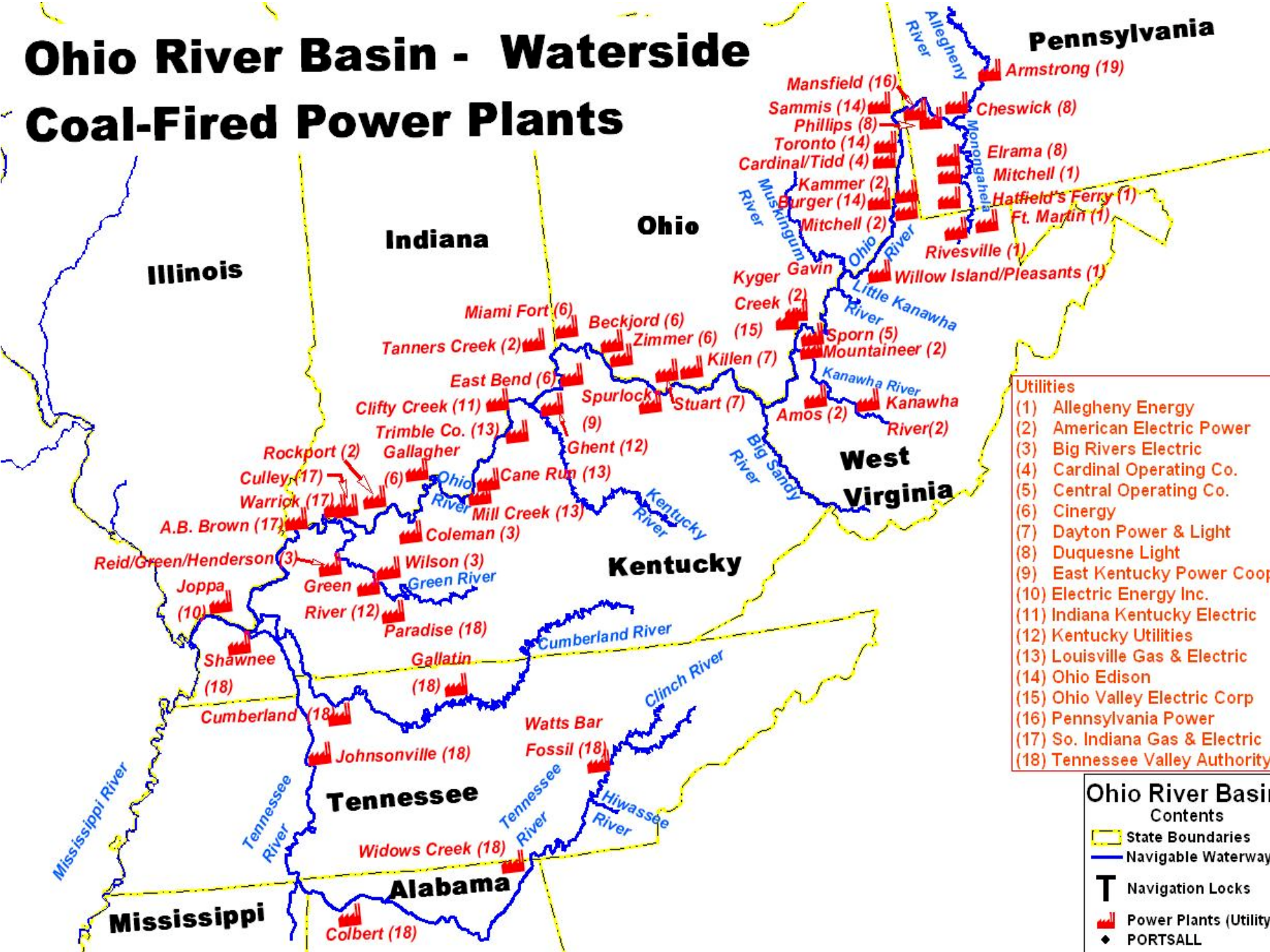
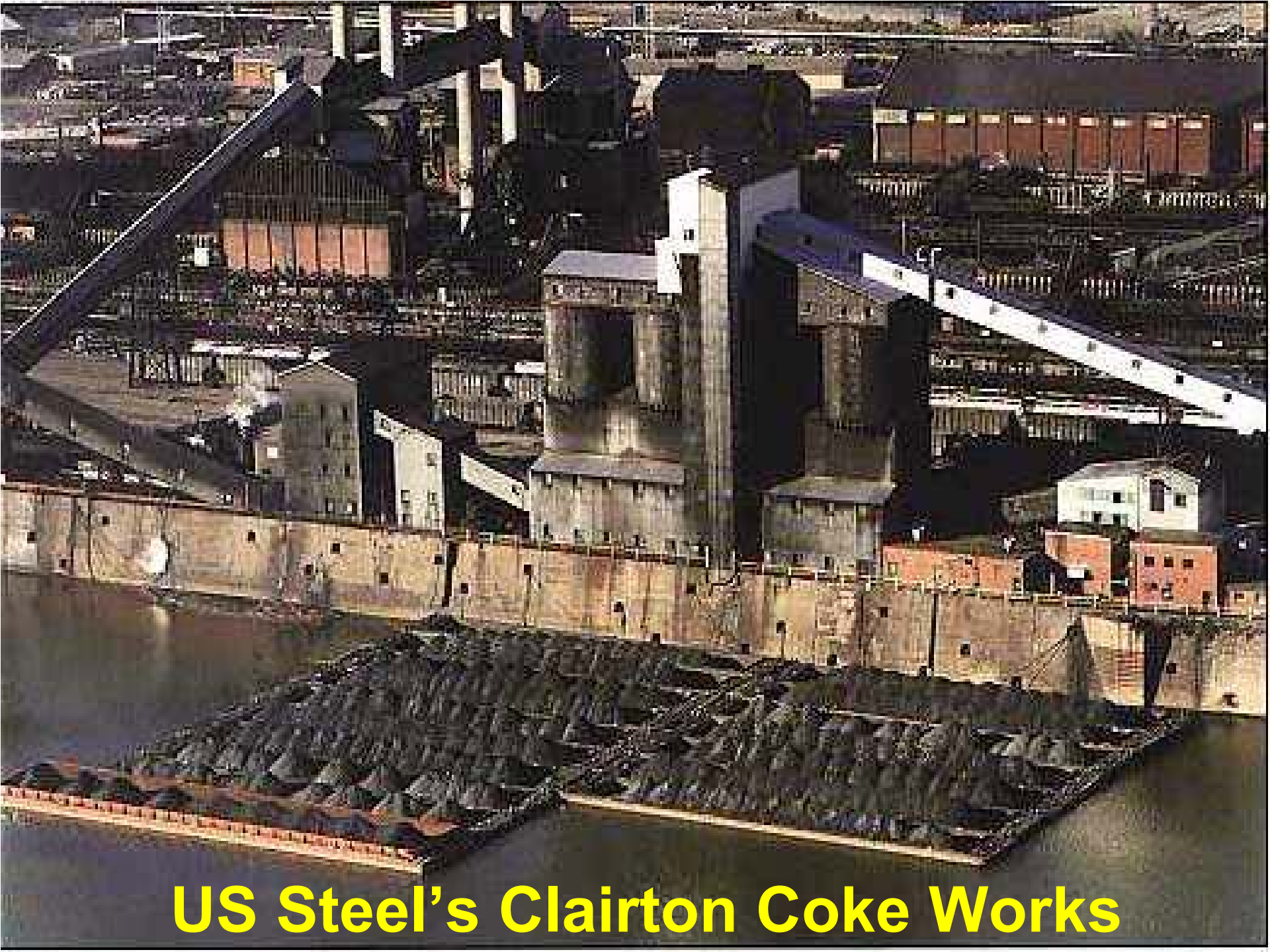

Coal, 155 million tons
Coal for Electric Power Generation, 122 million tons

Ohio River Basin - Waterside Coal-Fired Power Plants




US Steel's Clairton Coke Works



Steel Coils Moving from Ohio Valley to Markets As Far Away As Mexico

CARGO CAPACITY COMPARISON

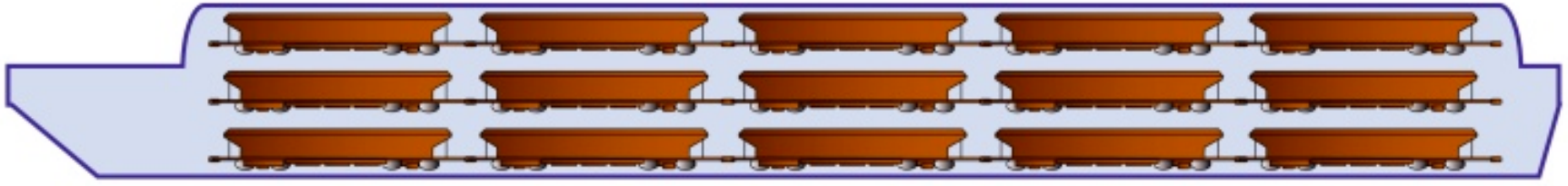
Port of Pittsburgh Commission

ONE JUMBO HOPPER CAR (100 tons)

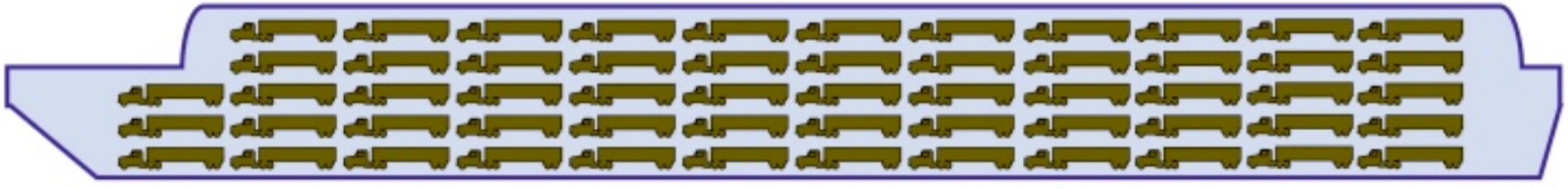
=

3.8 LARGE SEMI TRUCKS (26 tons each)

ONE BARGE (1,500 TONS) = 15 JUMBO HOPPER CARS



ONE BARGE (1,500 TONS) = 58 LARGE SEMI TRUCKS

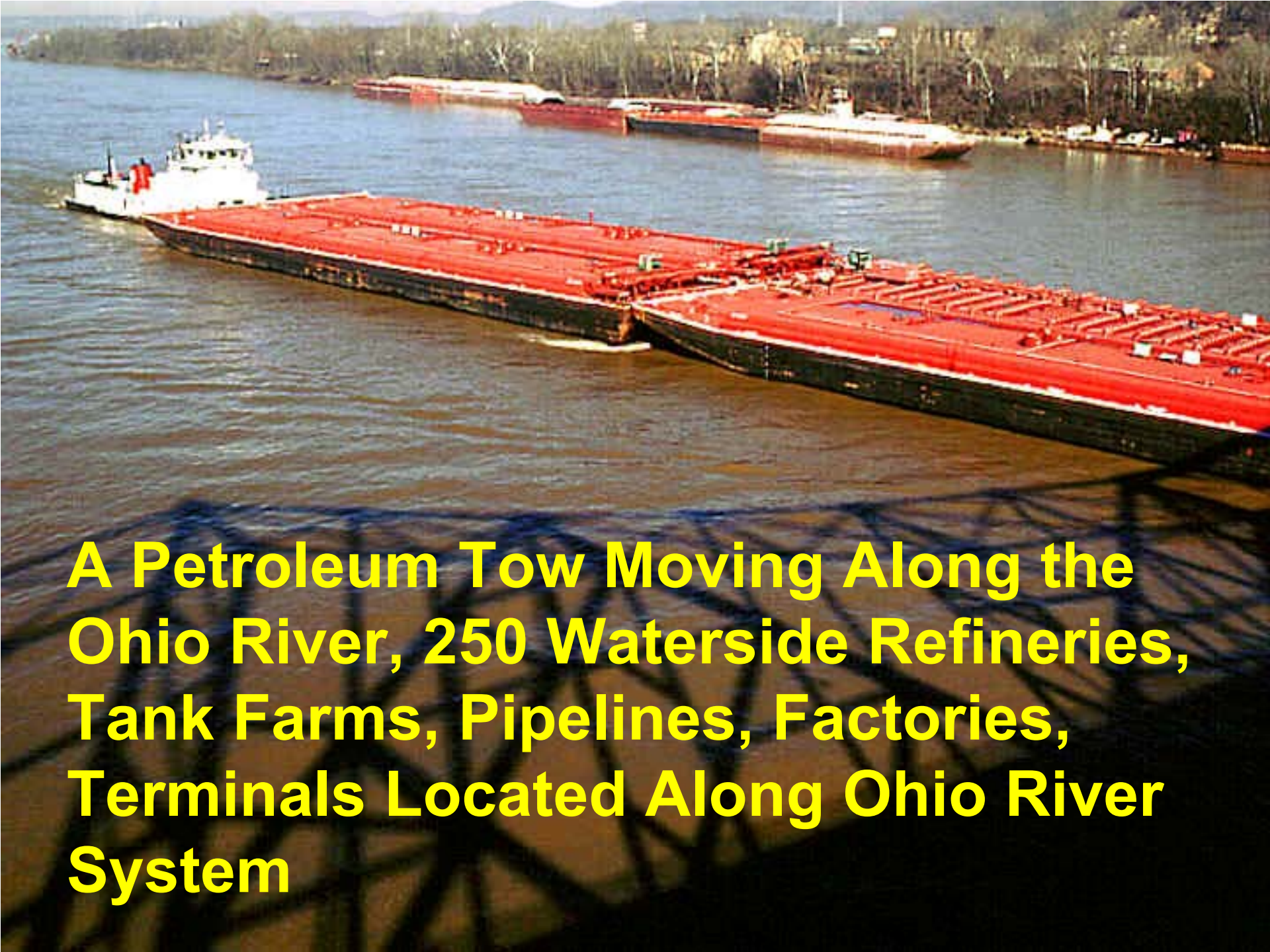


15 BARGE TOW = 2¼ ONE-HUNDRED CAR UNIT TRAINS OR 870 TRUCKS

Port of Pittsburgh Commission 425 Sixth Avenue Suite 2990 Pittsburgh PA 15219 www.port.pittsburgh.pa.us

236 Waterside Chemical Plants, Terminals, Docks Located Along the Ohio River Navigation System


144 Waterside Grain Elevators, Plants, Docks Located Along Ohio River System



A Petroleum Tow Moving Along the Ohio River, 250 Waterside Refineries, Tank Farms, Pipelines, Factories, Terminals Located Along Ohio River System

Aggregates: Sand and Gravel, Limestone, Gypsum, Stone, Soil and Dirt, 49 Million Tons, 2nd Largest Commodity Moved on the River

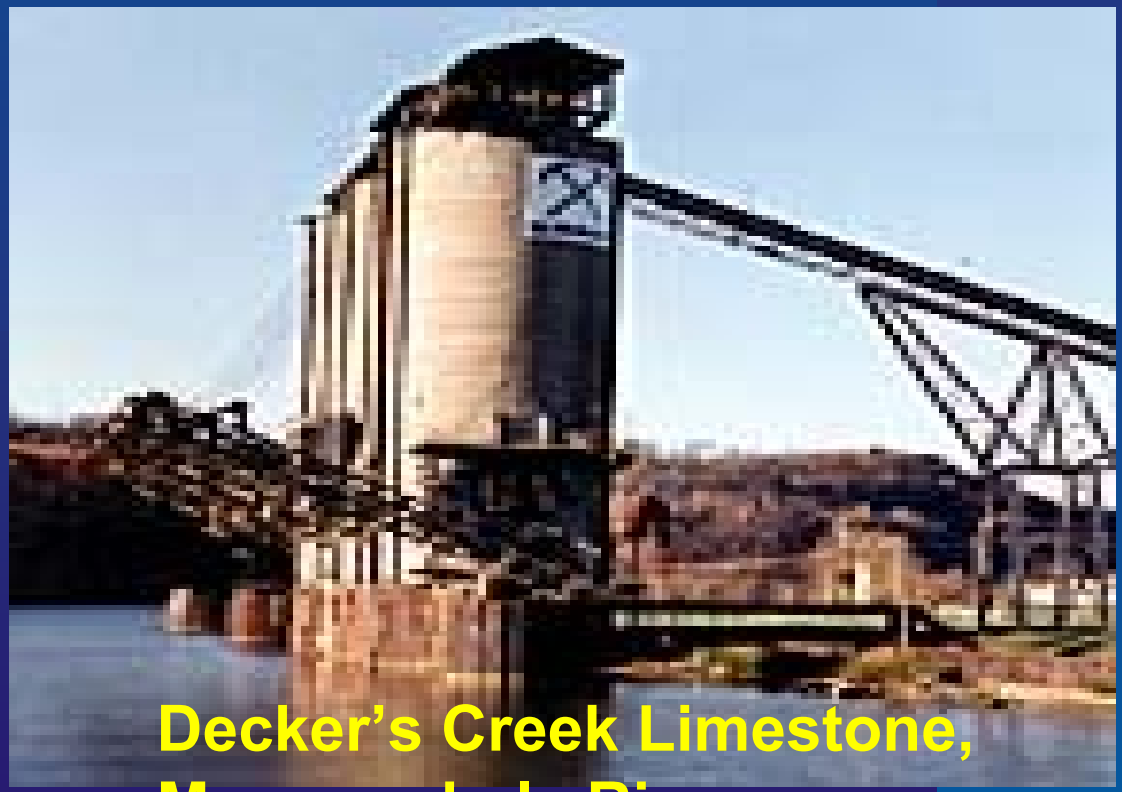
382 Loading and Unloading Sites Located Along the Ohio River System

Aggregate Materials Go Mostly to Yards for Retail Sales to Construction Contractors or to Manufacture Ready-Mix Concrete or Asphaltic Materials.

Mulzer Crushed Stone, Tell City, IN

Limestone, newest growing market for waterborne limestone, used in coal-fired power plants for desulfurization.

Indiana ranked 2nd in Limestone Shipments



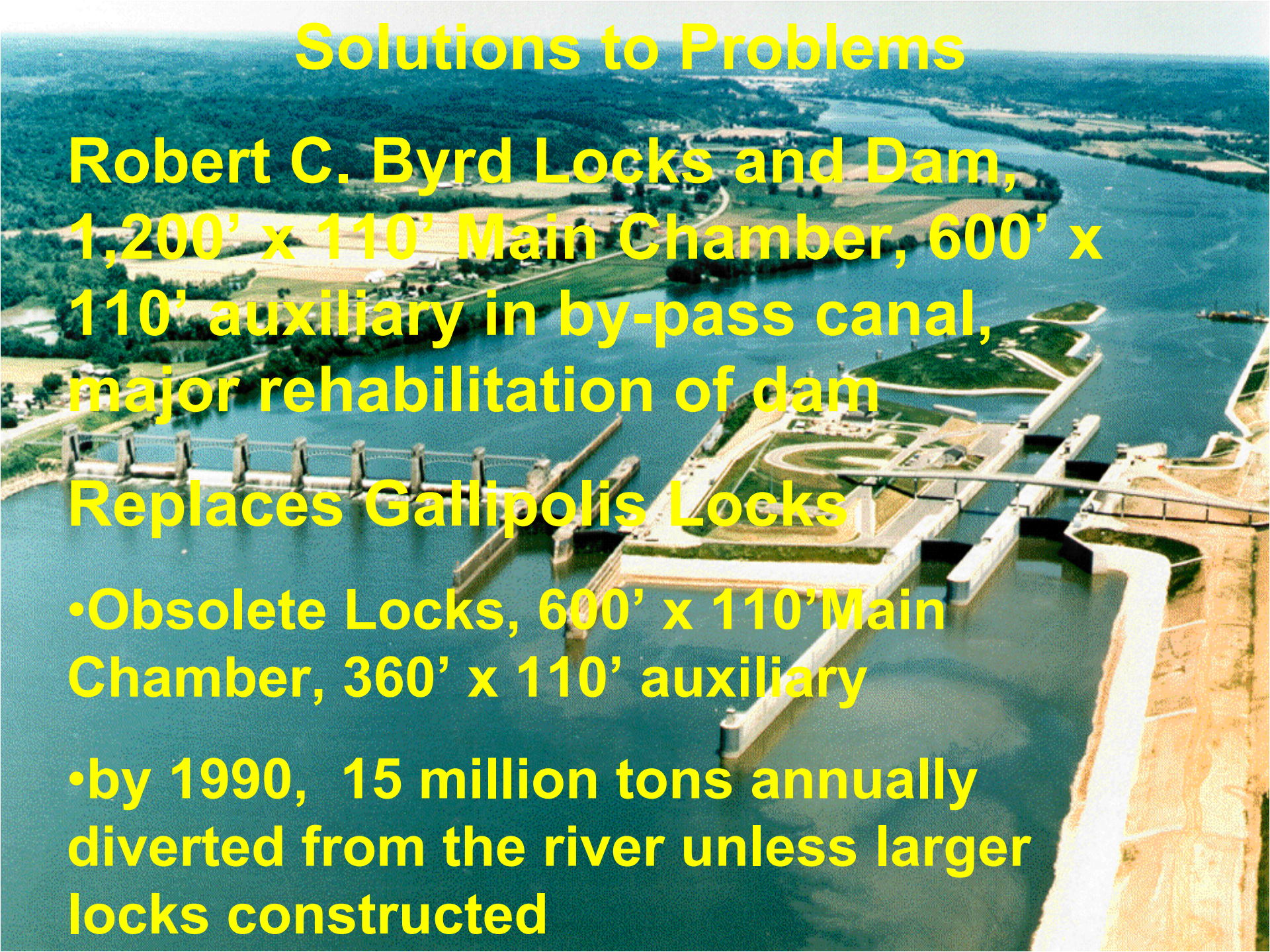
Decker's Creek Limestone, Monongahela River



1000 Manufacturing Plants, Power Plants, Terminals, Docks Located Along River System

Economic Impact of River System in W PA (Port of Pittsburgh Commission Study)

- $13.3 Billion in Economic Activity
- $460 Million in State and Local Taxes
- 180,000 Family-Wage Jobs Tied to the River
  - -52,924 direct jobs, port/shipper/consignee
  - -89,689 indirect jobs, maintenance/repair, electric/gas/telephone/surface transport
  - -35,332 induced, purchases by individuals directly employed by river system activity

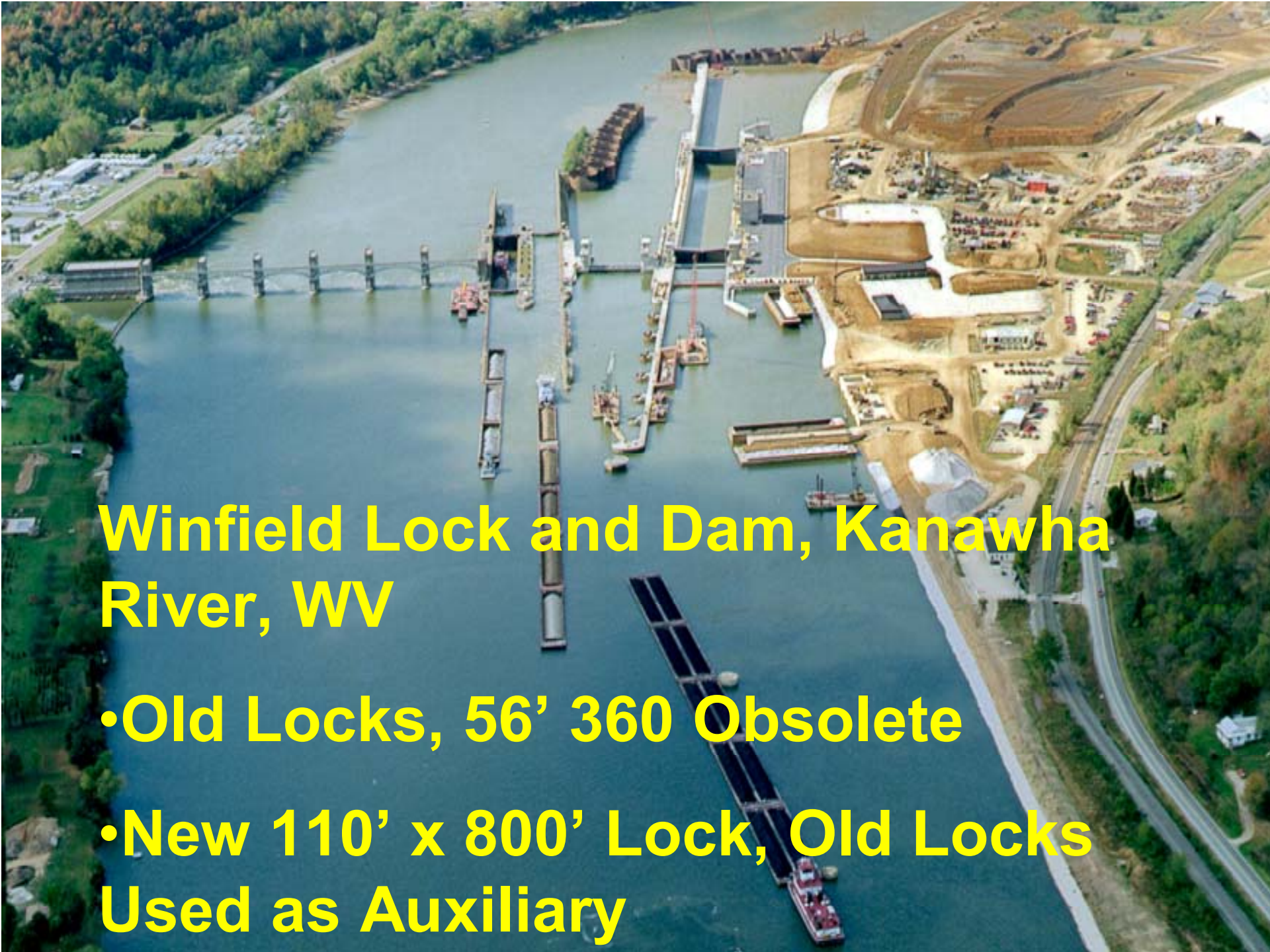


Solutions to Problems

Robert C. Byrd Locks and Dam, 1,200’ x 110’ Main Chamber, 600’ x 110’ auxiliary in by-pass canal, major rehabilitation of dam

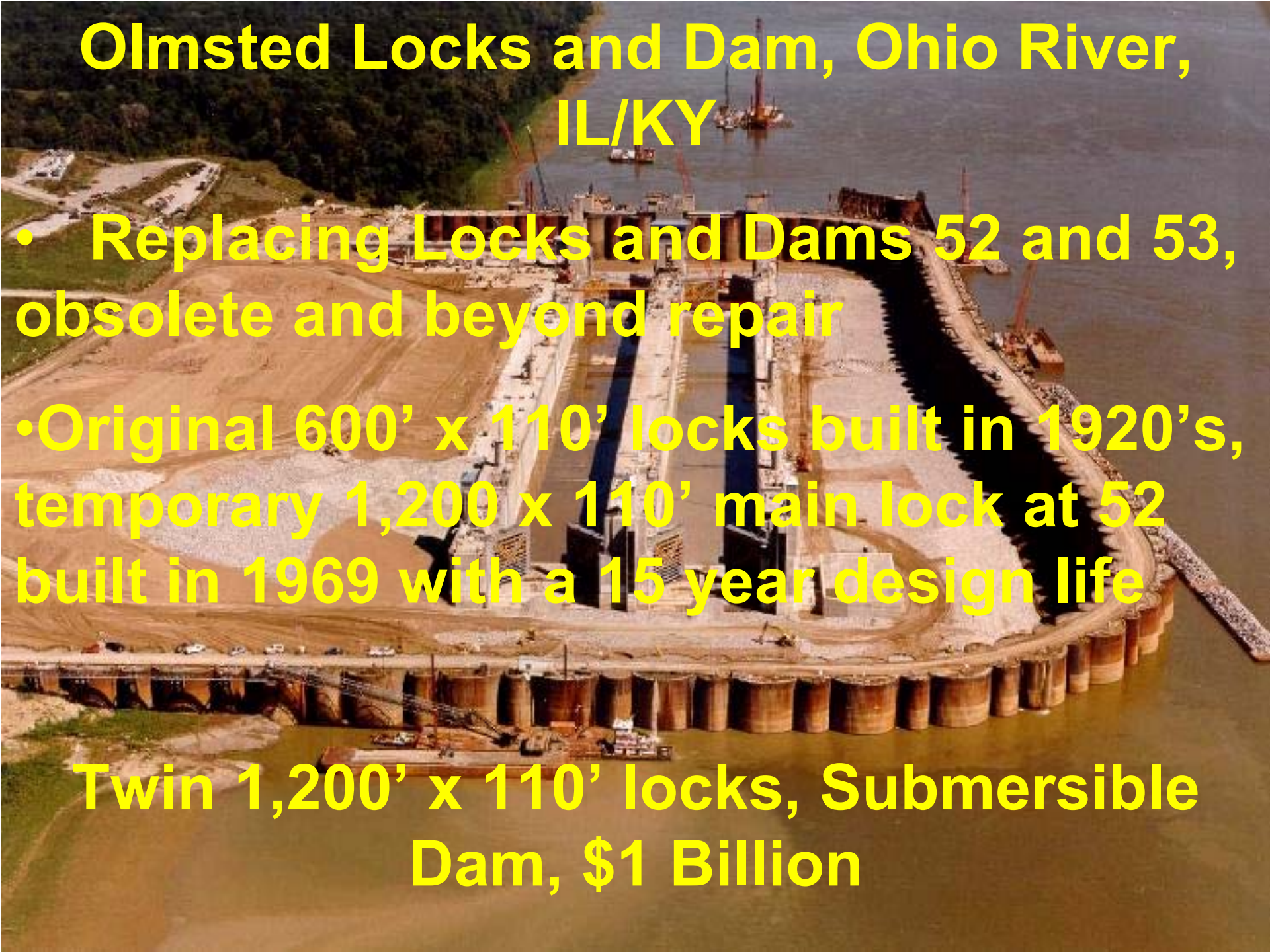
Replaces Gallipolis Locks

- Obsolete Locks, 600’ x 110’Main Chamber, 360’ x 110’ auxiliary
- by 1990, 15 million tons annually diverted from the river unless larger locks constructed



Winfield Lock and Dam, Kanawha River, WV

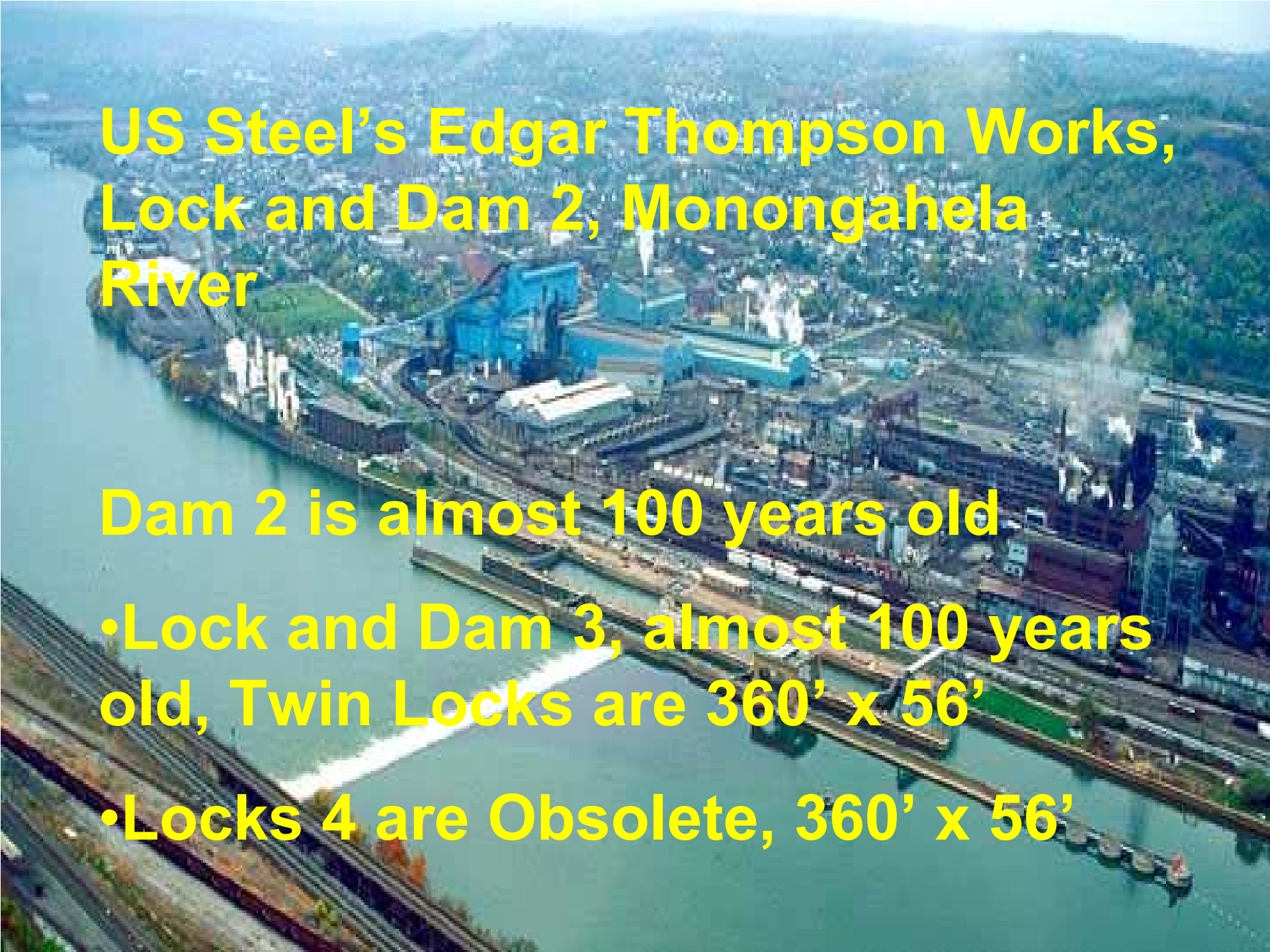
- Old Locks, 56’ 360 Obsolete
- New 110’ x 800’ Lock, Old Locks Used as Auxiliary



Olmsted Locks and Dam, Ohio River, IL/KY

- Replacing Locks and Dams 52 and 53, obsolete and beyond repair
- Original 600’ x 110’ locks built in 1920’s, temporary 1,200 x 110’ main lock at 52 built in 1969 with a 15 year design life

Twin 1,200’ x 110’ locks, Submersible Dam, $1 Billion

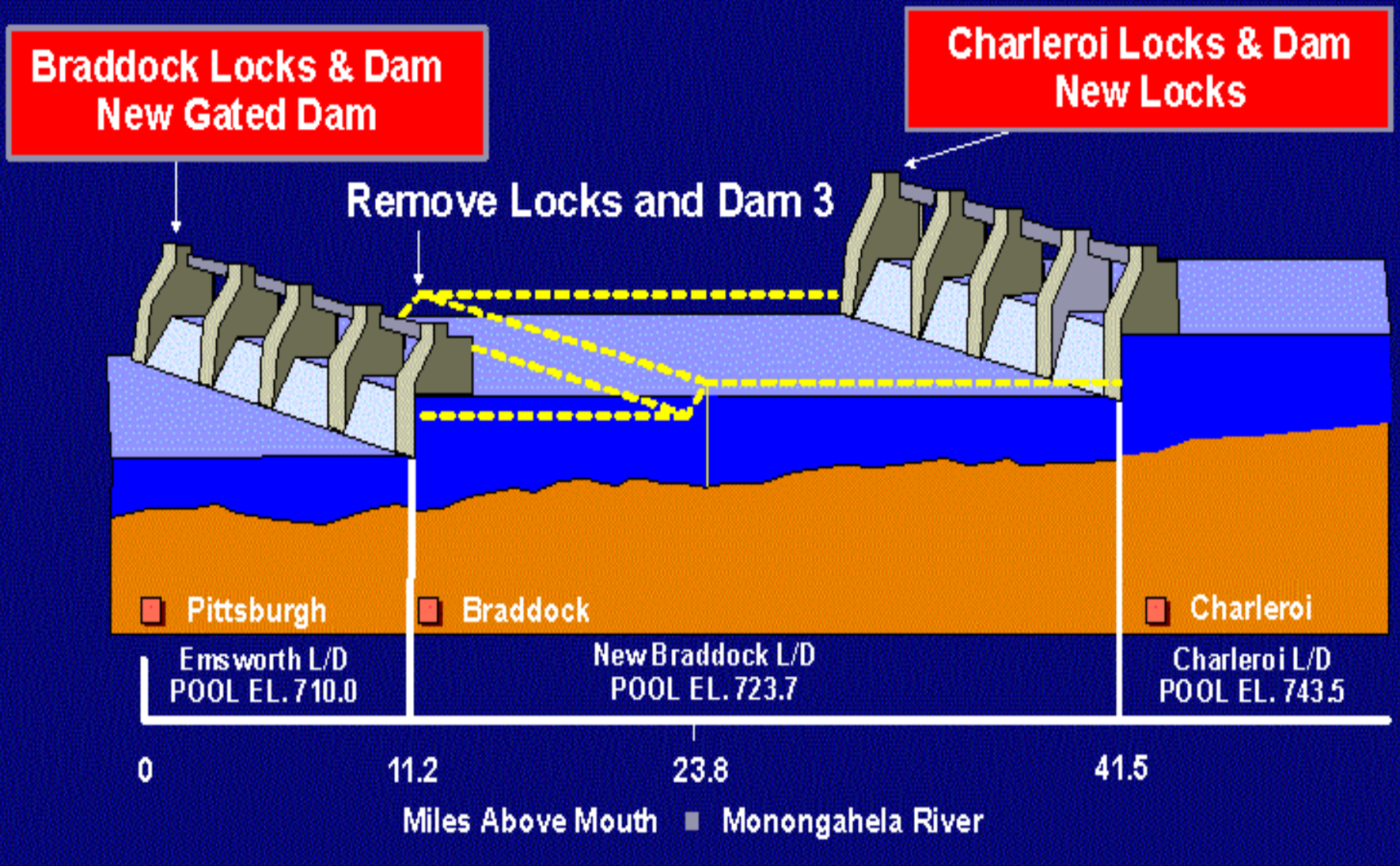


US Steel's Edgar Thompson Works, Lock and Dam 2, Monongahela River

Dam 2 is almost 100 years old

- Lock and Dam 3, almost 100 years old, Twin Locks are 360' x 56'
- Locks 4 are Obsolete, 360' x 56'

Monongahela River
Proposed River Profile



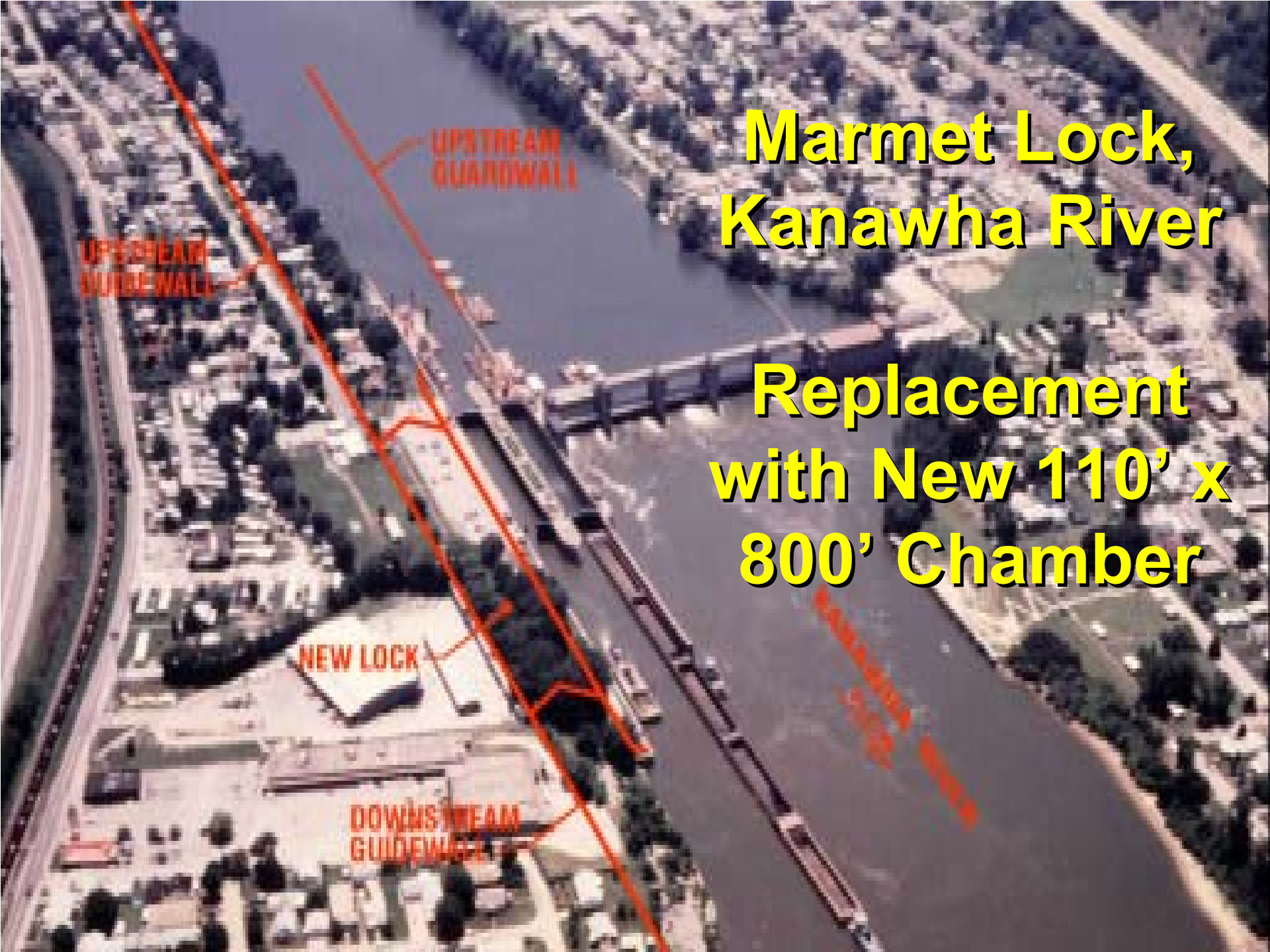
McAlpine Locks and Dam

- Main Chamber, 110’ x 1,200’
- Auxiliary Locks Obsolete and Beyond Repair

Solution – Twin 110’ x 1,200 locks

McAlpine Locks and Dam, IN/KY, near Jeffersonville,IN

Kentucky Lock, Tennessee River, KY



Marmet Lock, Kanawha River

Replacement with New 110’ x 800’ Chamber

London Locks and Dam, Kanawha River, WV

Major Rehabilitation

- Contract Award FY 2001, Extend Lock to Accommodate Two Jumbo Barges
- Rehab Complete FY 2002

Ohio River Mainstem System Study

- Purpose of the study is to identify a comprehensive investment plan for the next 50 years
- Study is assessing system economic and environmental impacts associated with the investment plan

Ohio River Mainstem System Study

Ohio River Mainstem Study: WRDA 2000 Authorized Two Modernization Projects

Greenup Locks and Dam

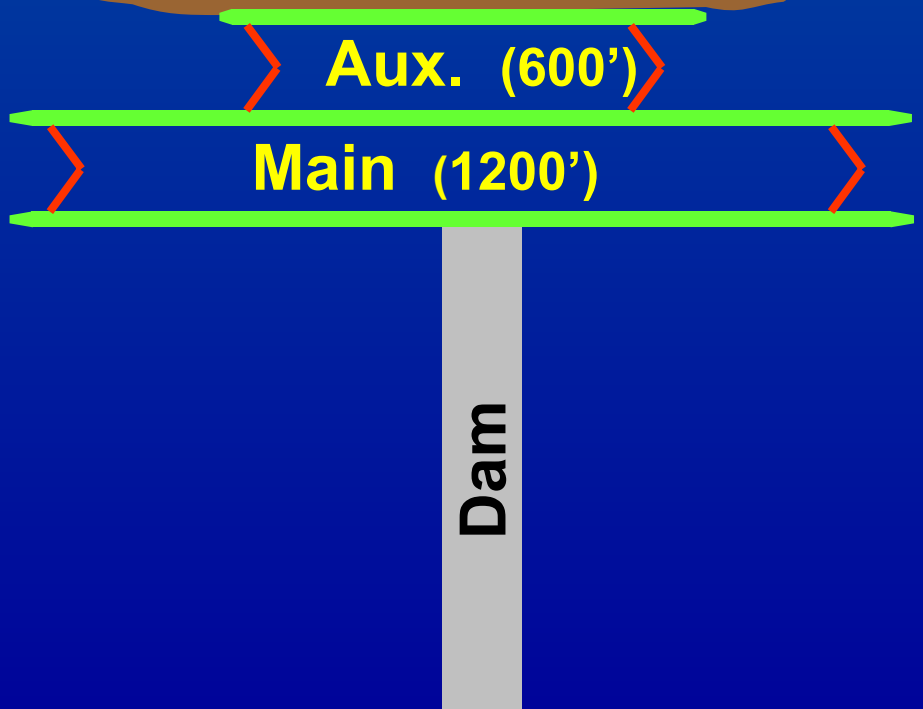
- Extend existing lock chamber from 600 ft to 1200 ft
- $175M

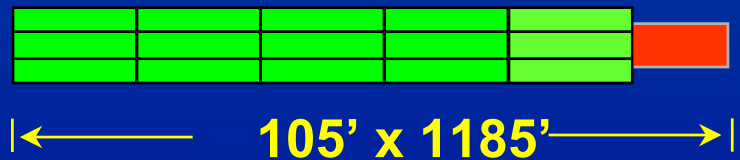
J.T. Myers Locks and Dam

- Extend existing lock chamber from 600 ft to 1200 ft
- $182M (current price level)

Typical Ohio River Barge/Tow Configuration

- Both Chambers Open for Traffic
- Total Lockage Process - Approximately 1 Hour

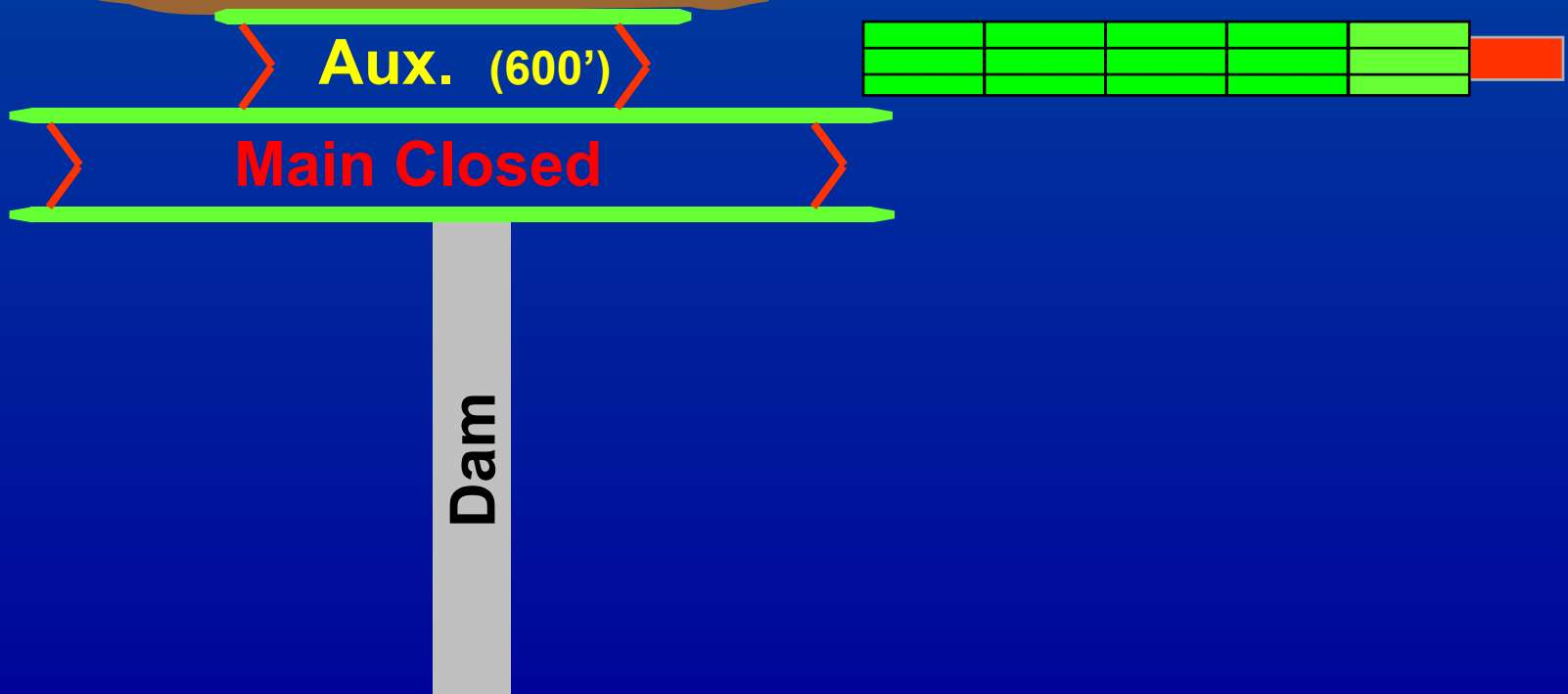




Typical 15 Barge Tow

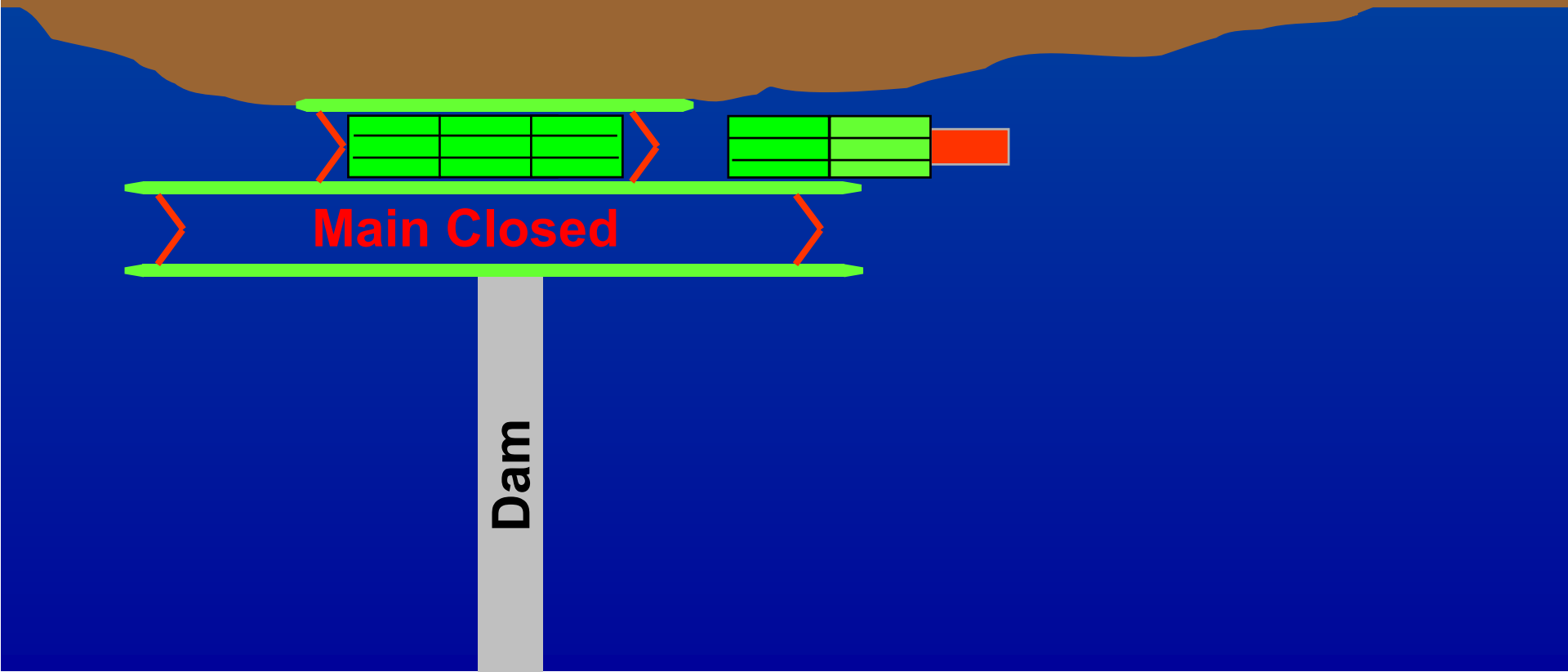
Typical Ohio River
Use of Auxiliary Locks

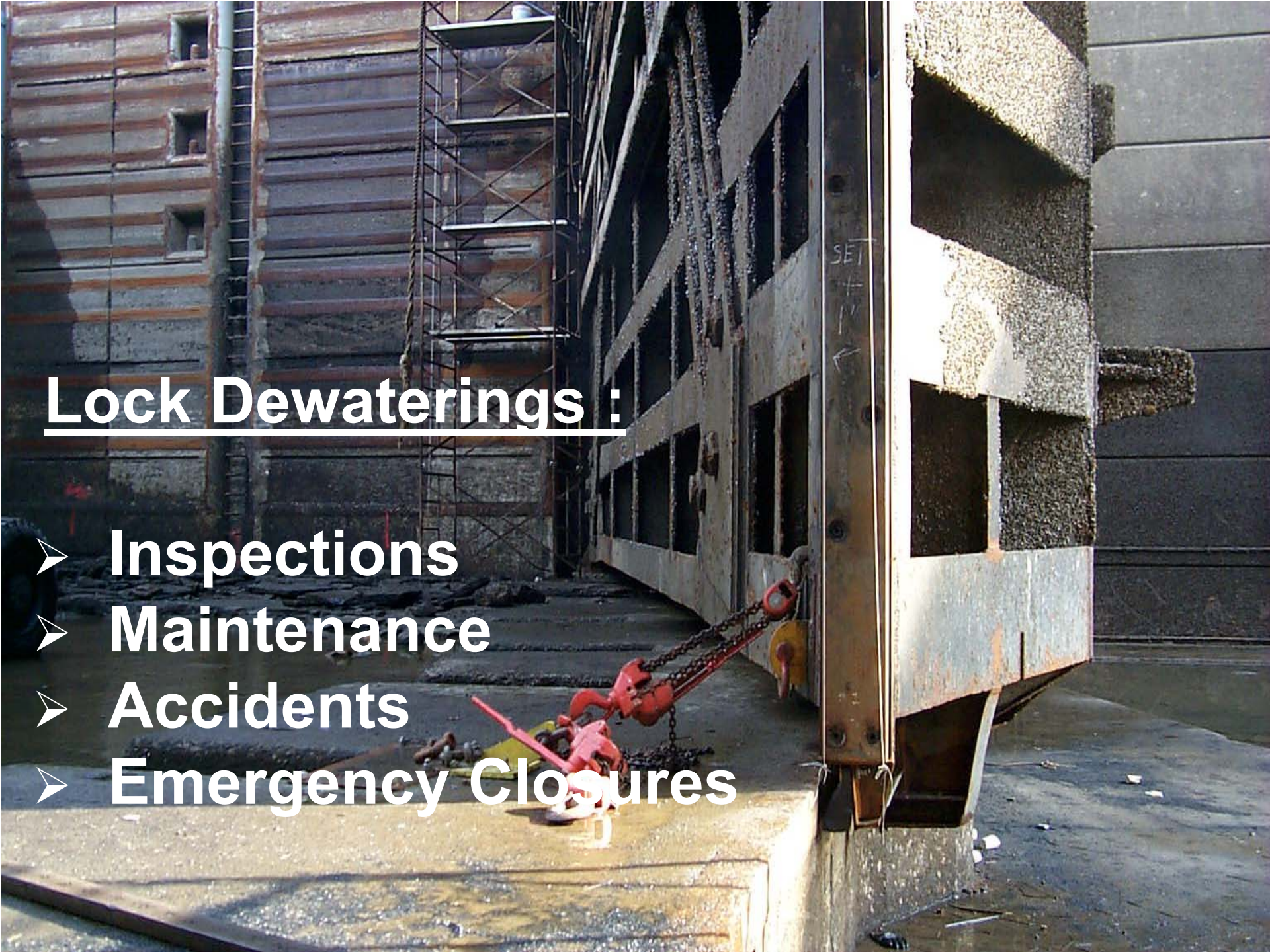
- Main Chamber Closed for Inspection/Repairs



Typical Ohio River
Use of Auxiliary Locks

- Tows Must "Double Cut" Through Smaller Auxiliary





Lock Dewaterings :

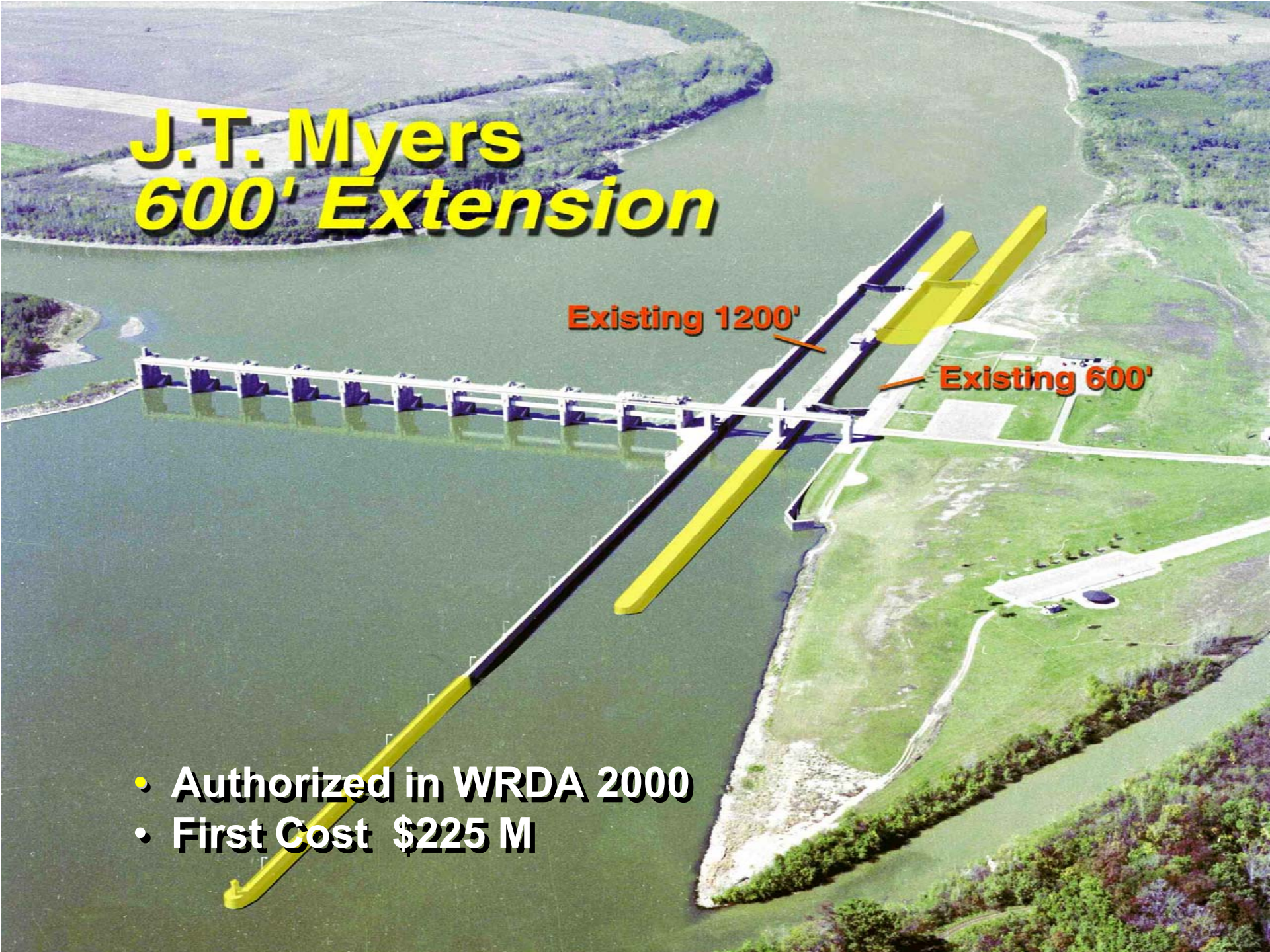
- Inspections
- Maintenance
- Accidents
- Emergency Closures



Ohio River Main Chamber Dewatering

Main Chamber Closure - Sept. 1989

- *40-Day closure for lock maintenance*
- *Tow operating costs over $400/hour*
- *Up to 4 days Tows Delay*
- *Estimated cost to industry: over $20 million dollars in FYO1 cost levels*


J.T. Myers
600' Extension
Existing 1200'
Existing 600'
• Authorized in WRDA 2000
• First Cost $225 M

Outreach

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Development of Information/Communication Tools
State, Congressional, Industry, Project Profiles

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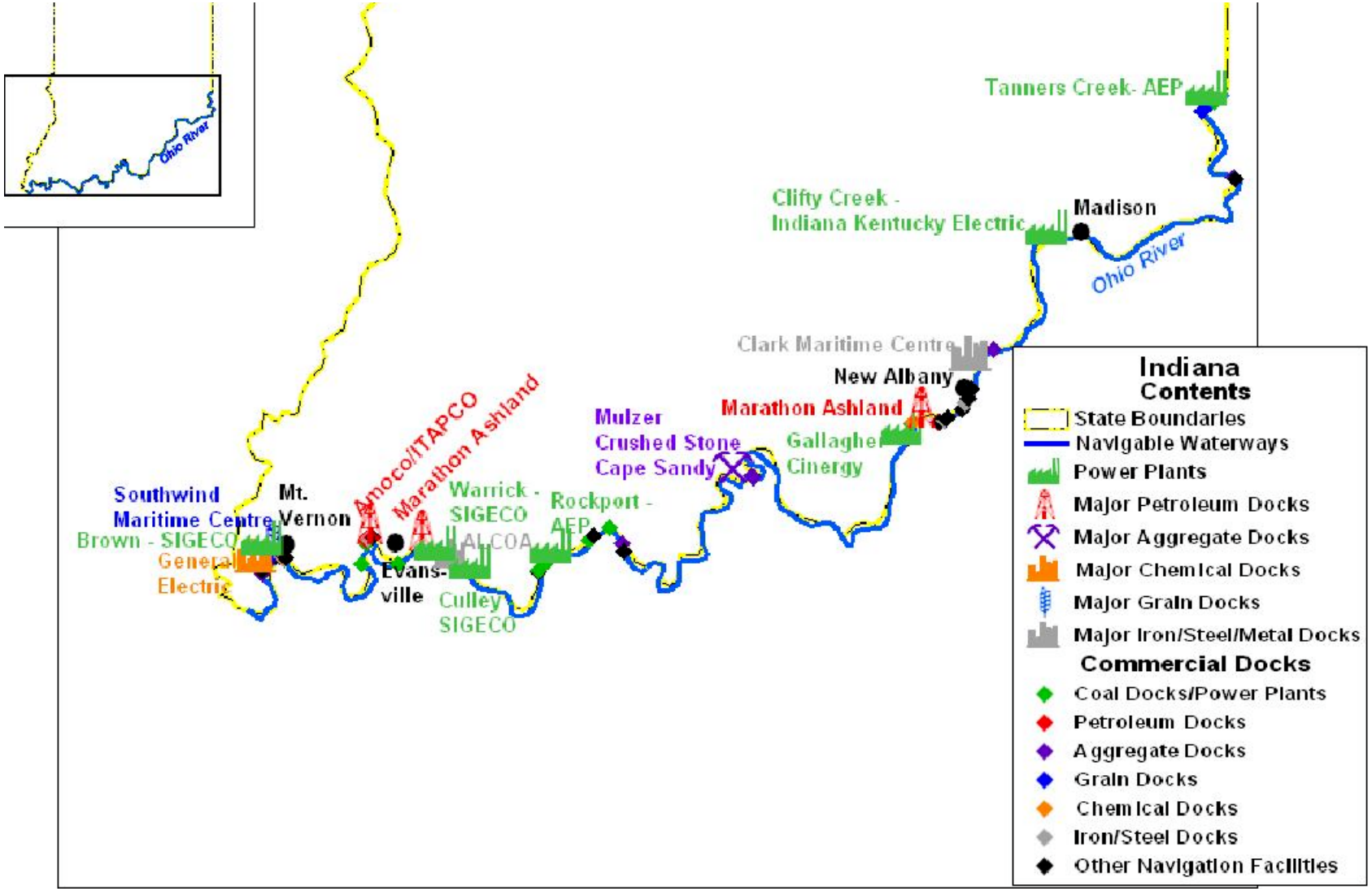
Indiana Senators
Richard Lugar and Evan Bayh

The State of Indiana borders 358 miles of the Ohio River, from mile 491 through mile 848. The Ohio River in this reach carries a variety of commodities, including coal, aggregates, grain, petroleum products and chemicals.

In 1999, 114 million tons of commodities (mostly coal, petroleum and aggregates) moved to, from, within and past Indiana and were valued at more than $16.8 billion. Coal, the leading commodity, comprised 44% of the tonnage, followed by aggregates at 17%.

An analysis of the waterborne commerce data for the State of Indiana shows that approximately 11.2 million tons of commodities were shipped on the river system out of the state. Over half of this amount consisted of aggregates and coal. Docks in the state received nearly 25 million tons, with coal being the largest commodity. More than 3.2 million tons moved within the state. In 1999, the 39.4 million tons shipped to, from and within Indiana had a value of $3.6 billion. Shippers moving commodities by barge to, from and within Indiana realized savings of over $380 million compared to other transportation modes.

94 Manufacturing Facilities, Power Plants, Terminals and Docks Are Located Along Indiana's Navigable Rivers



Indiana District 8
Congressman John Hostettler

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Indiana's 8th Congressional District borders a small but vital area of the Ohio River Basin. The district borders 79 miles of the river, from mile 769 to mile 848, which includes the Mount Vernon and Evansville areas.

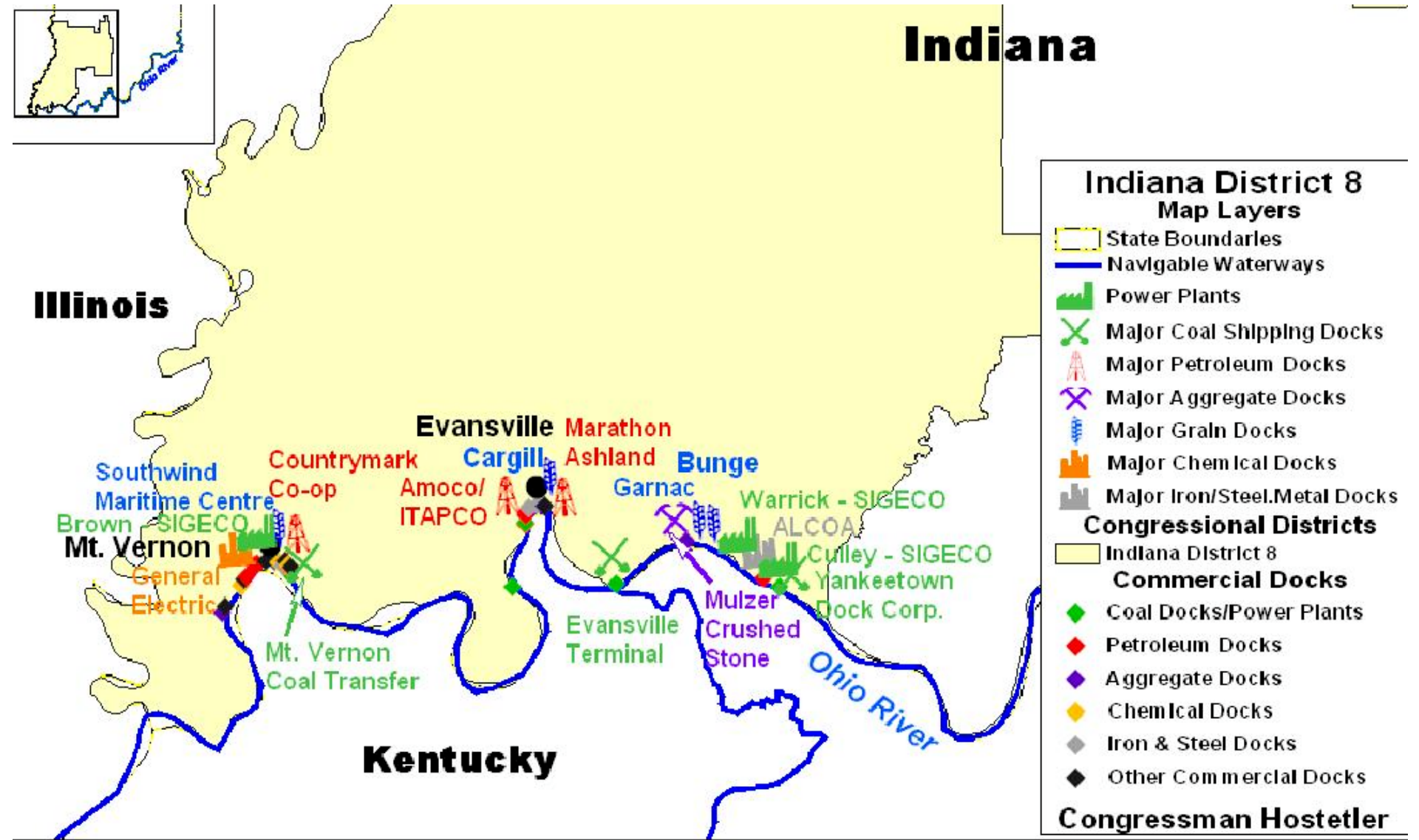
In 1999, more than 79 million tons of commodities (mostly coal, chemicals, iron, steel and aggregates) moved in, out, within or past this area of the Ohio River. These commodities had a total value of $14 billion. Coal made up about 41% of the district traffic. Iron and steel were next, with 11% of the traffic.

Indiana Congressional District 8
Commodities Moved by Barge – 1999

Commodity	Shipped	Received	Within	Total	Value
Coal	644,865	894,527	0	1,539,392	$ 60
Petroleum	194,675	1,380,391	**	1,575,066	$ 206
Aggregates	292,375	3,625,947	**	3,918,322	$ 236
Grain	2,201,384	35,196	0	2,236,580	$ 383
Chemicals	139,448	762,379	0	901,827	$ 239
Ores/ Minerals	**	718,994	0	718,994	$ 40
Iron & Steel	15,171	47,275	0	62,446	$ 29
Other	63,082	1,927	124,320	189,329	$ 65
Total	3,551,000	7,466,636	124,320	11,141,956	$1,258

***** Insufficient barge operators to release this tonnage – included in "Other Commodities."***
Source: U.S. Army Corps of Engineers Waterborne Commerce Statistics

51 Manufacturing Facilities, Power Plants, Terminals & Docks Are Located Along Navigable Rivers in Indiana Congressional District 8




Project Profiles
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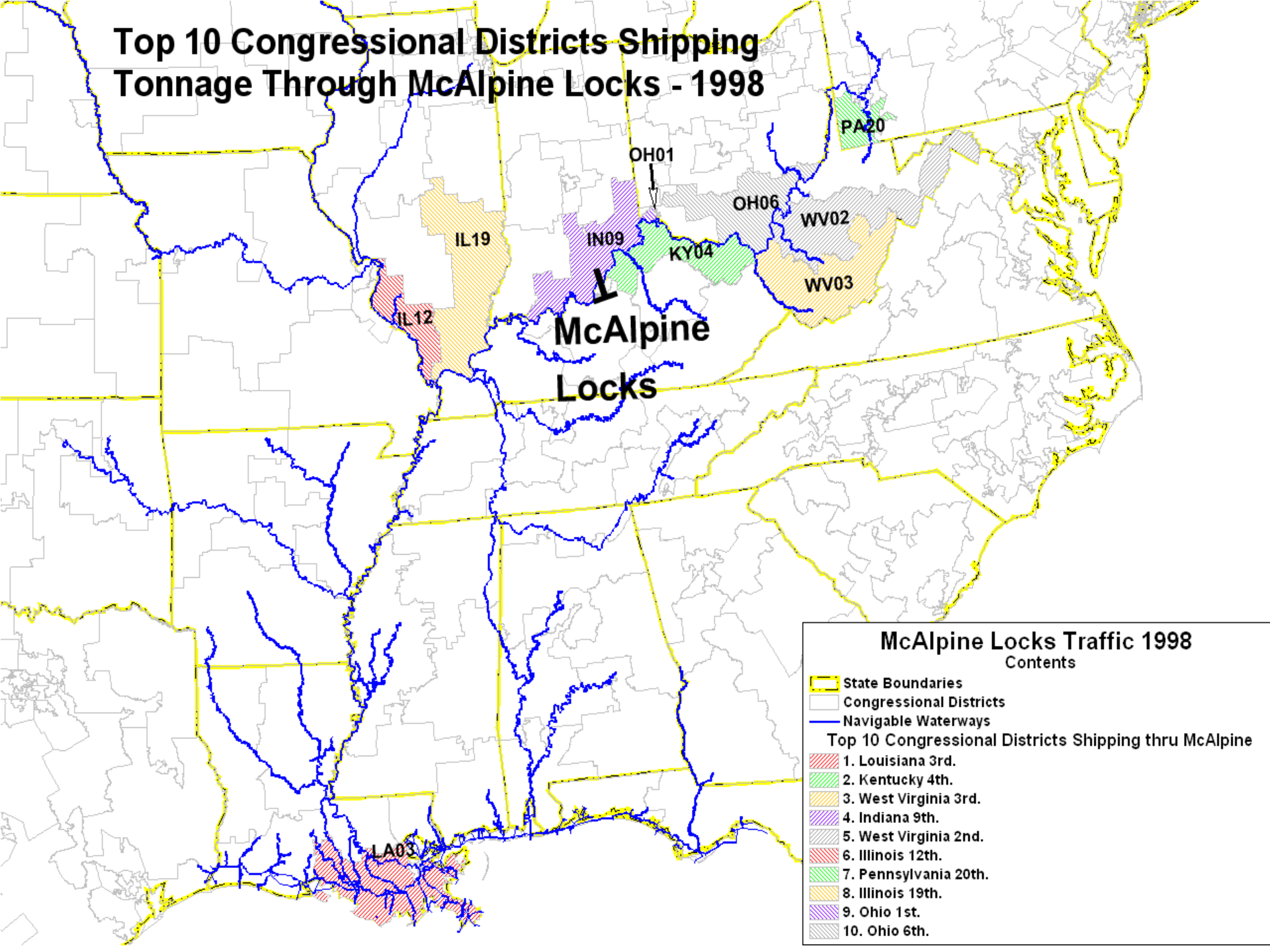
McAlpine Locks
and Dam, IN/KY,
near Louisville, KY

Top 10 Congressional Districts Shipping Tonnage Through McAlpine Locks - 1998



Industry Profiles

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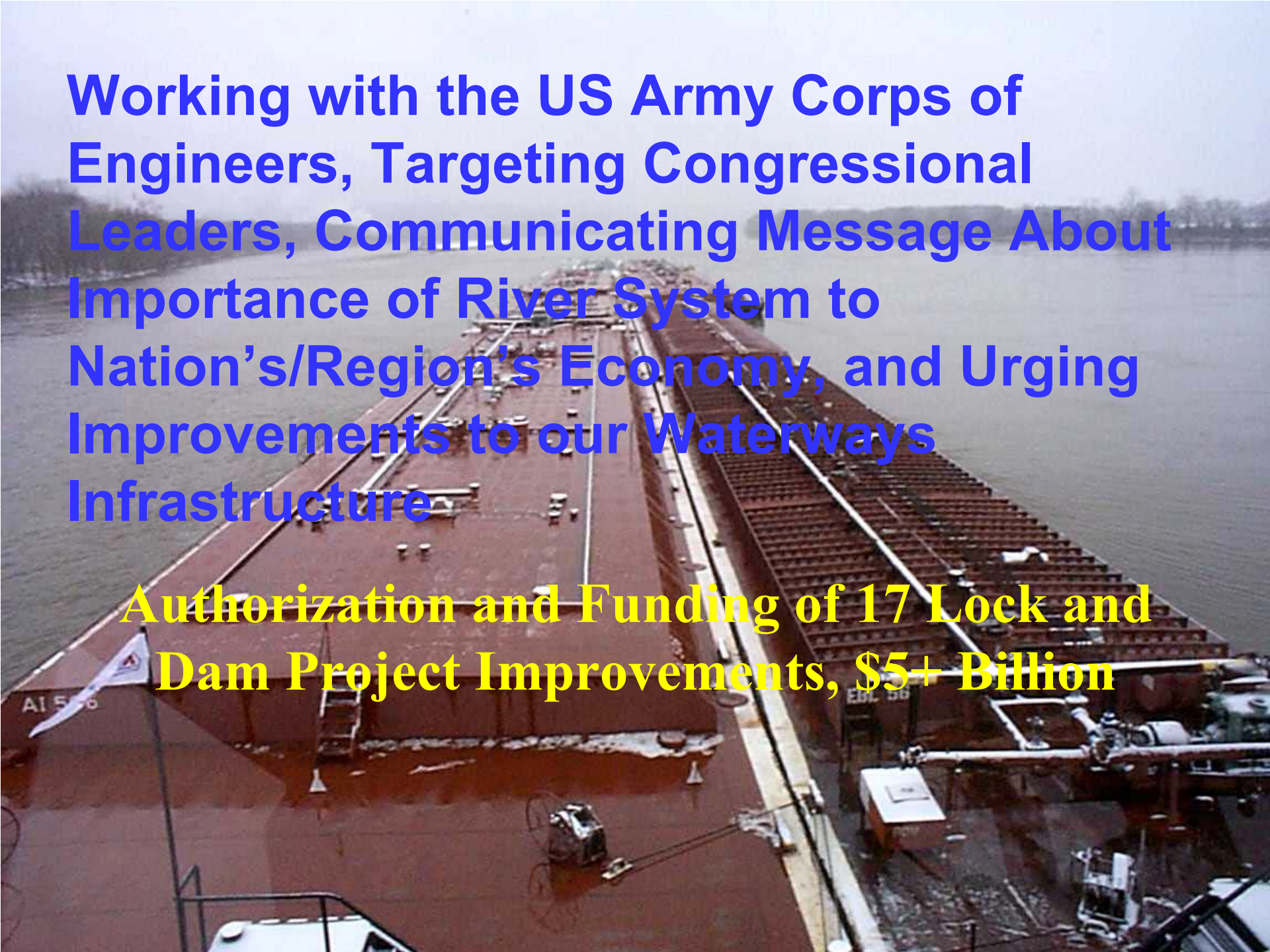
Coal for Electric Power Generation

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.

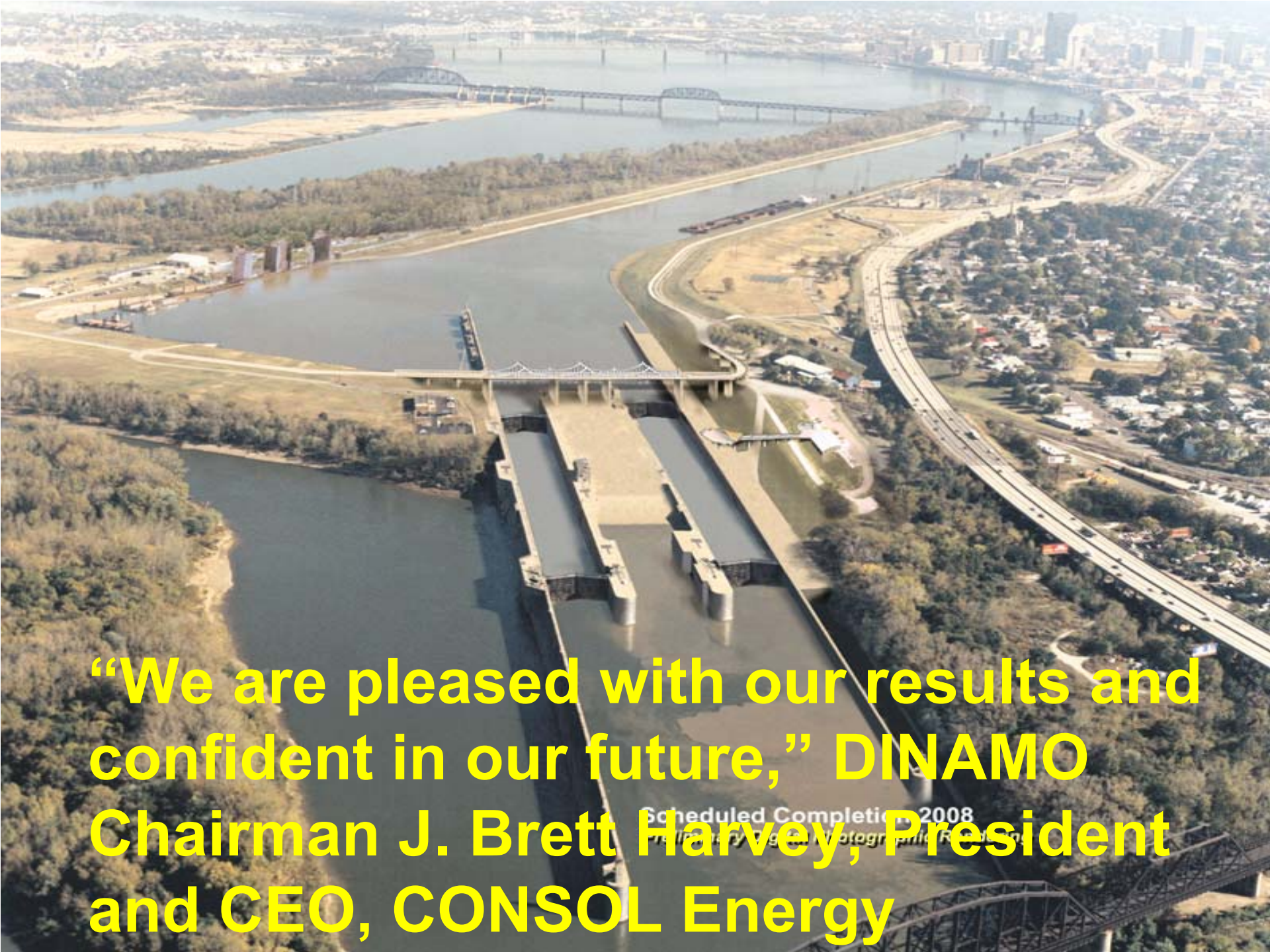
American Electric Power's John C. Amos Plant – Kanawha River Mile 39.2
Photo by Tim Smith, US Army Corps of Engineers

Congressional Staff Aboard the M/V Ashland



Working with the US Army Corps of Engineers, Targeting Congressional Leaders, Communicating Message About Importance of River System to Nation's/Region's Economy, and Urging Improvements to our Waterways Infrastructure

Authorization and Funding of 17 Lock and Dam Project Improvements, $5+ Billion



“We are pleased with our results and confident in our future,” DINAMO Chairman J. Brett Harvey, President and CEO, CONSOL Energy