Lower Monongahela River 2, 3 & 4

PROJECT DESCRIPTION: The Lower Monongahela River Project is located in southwestern Pennsylvania and was authorized for construction by the Water Resources Development Act (WRDA) of 1992 to address the deteriorated condition of navigation facilities along the Lower Monongahela River. Specific concerns were the very real risks of navigation system failure related to the poor structural condition of Dam 2, Locks & Dam 3, and Locks 4 on the Monongahela River. Although Braddock Dam was completed in July 2004, the condition and sustained operability of Locks and Dam 3, and Locks 4 remains a significant concern. Locks and Dam 3 was built in 1907. It is among the oldest structures operating in our inland navigation system, and the most structurally deficient navigation facility on the Monongahela River. Under the "two-for-three" replacement plan, this 100 year old Locks and Dam # 3 will be removed from the inland waterway system as soon as the 75-year old, undersized Locks 4, are replaced with larger and modernized lock facilities, and Pools 2 and 3 can be adjusted and regulated as one navigation pool by the new gated Braddock Dam.

TRANSPORTATION IMPORTANCE TO THE SYSTEM: This strategic reach of the Monongahela River is critical to the export of bituminous coal out of the Northern Appalachian coal-fields of southwestern Pennsylvania and northwestern West Virginia, and for the import of fuels and other bulk commodities into the region. The Lower Monongahela River System links the country's largest metallurgical coke plant and the country's largest underground coal mine with the Ohio River and other ports further south. Traffic through the Lower Monongahela River System is projected to increase from the actual 22.6 million tons logged in 2000, to between 24.3 and 31.4 million tons in 2020.

PROJECT FUNDING HISTORY: The project is cost-shared 50/50 with the Inland Waterway Trust Fund. Total authorized Project Cost is $750 million, fully funded. Although unapproved, the fully funded total project cost is now estimated to approach $1.7B. The majority of this increase is due to inefficient funding that has extended the original 2004 completion date to 2022 or beyond. Approximately $450 million has been expended through FY 2009, leaving a balance of $1.2B to complete the project. The project allocations for the past two fiscal years, as well as 2010, have been constrained to an amount significantly less that the respective year's

appropriation amount. This constraint is due entirely to the IWTF revenues. In FY 2009 the American Recovery and Reinvestment Act (ARRA) identified a potential use for $84M for the project. To date, approximately $55M of the ARRA funds have been committed to work at Charleroi Locks. In FY 2010 the Pittsburgh District has plans to maintain momentum on Charleroi Lock, continuing ongoing construction and continued design of the Charleroi River Chamber completion. These navigation facilities have already outlived their design life, and their respective removal and replacement is critical to keeping the Lower Monongahela River system a reliable and efficient component of the Inland Waterway Navigation System. Out year funding for the project is expected to be far short of what is required to maintain an efficient construction schedule. The most efficient funding will now extend the project into FY 2022.

RISK OF ECONOMIC IMPACT OF CONSTRAINED FUNDING: The challenge is to maintain an efficient construction schedule for the Lower Monongahela River Project and to keep existing L/D 3 and Lock 4 safely operating until they can be removed. The Lower Monongahela River Project has already slipped its completion significantly resulting in lost benefits of more than the project's new estimated cost of $1.7B. The project will not be able to regain the previous schedule (2016 completion) even if higher levels of funding are available. The major challenge for the Lower Monongahela river will be to maintain safe and reliable navigation through project completion utilizing limited operations and maintenance funds. The optimum funding needs through 2014 are shown in the table below.

$M	Optimum Funding Levels	
Year	CG / IWTF	ARRA
10	$6**	$25
11	$112	NA
12	$109	NA
13	$78	NA
14	$126	NA

** FY10 appropriation

Emsworth Locks and Dams
Ohio River

Project Description

Emsworth Locks and Dams are located on the Ohio River immediately downstream of the City of Pittsburgh. The main channel dam and locks are located at river mile 6.2 and the back channel dam is located at river mile 6.4. The Emsworth locks consist of a 110 ft wide by 600 ft long main chamber and 56 feet wide by 360 feet long auxiliary chamber. The structural components of the project are the oldest of any project on the Ohio River, dating back to 1919 to 1922 when Emsworth was constructed.

The Emsworth Dams are presently in an exigent situation. Prior to temporary, emergency repairs to the erosion protection downstream of the dams, there were 10 foot deep scour holes and 65 percent of the erosion protection was in a failed state. A temporary repair of the erosion protection was completed in January 2005 by infilling the scour holes with stone. Due to the temporary nature of the repair, soundings are required on an annual basis and following major flood events until a permanent repair is in place. Due to the extreme corroded state of the dam gates, failure of any one of the seven lift gates yet to be replaced would most likely cause a portion of the stilling basin to fail and possibly undermine the dam. The systems are proven to be unreliable due to multiple failures within the past four years. The dams have been categorized as Dam Safety Action Class 1, urgent and compelling.

Transportation Importance

Emsworth L/D is the first of six navigation facilities on the Ohio River operated by the Pittsburgh District. From 2000 to 2007, Emsworth Locks averaged 2,633 recreational vessels, 5,477 commercial tows, and 21.1 million tons of cargo. Coal (76 percent) was the principal commodity at Emsworth. Electric utilities move coal from mines in Pennsylvania and Ohio to power plants serving the mid-Atlantic, southeastern and Midwestern regions of the country. Steel companies move coal from West Virginia and Kentucky mines to coking facilities above Emsworth. Construction companies use the project to move materials like stone, sand and gravel, and cement into the Pittsburgh area. These and other shippers that rely on Emsworth realized average annual transportation cost savings in excess of $163 million from 2000 to 2005.

Risk & Reliability, Economic Impacts of Unscheduled Lock Outages

Failure of any of the dam lift gates could cause a portion of the stilling basin to fail, possibly undermining the dam. Reliability analysis shows that the dam gates, which were not yet replaced, have a 74% likelihood of failure. Loss of Emsworth Pool and navigation may occur as a result. Shippers using Emsworth have estimated annual transportation savings of $130 million. During low flow conditions loss of the pools of the Ohio, Monongahela and Allegheny Rivers at the Point of Pittsburgh may occur and all navigation would cease. If the Emsworth pool is lost, two major facilities dependent on river transportation are impacted – the US Steel Clairton Works, the largest coke plant in the United States and the Bailey/Enlow Fork Complex owned by

Consol Energy, the largest underground coal mine in the United States. Disruption in coal supply and transportation would also impact steel plants and coal-fired electric power plants. The impact of the loss of Emsworth pool on the local economy and other communities would be substantial. Approximately 11,700 jobs would be directly at risk due to loss of navigation and disruption to services and material. Lost wages alone would range from $1.5M to $2.2M per day.

Description of Work included in Optimum Plan

A Major Rehabilitation Evaluation Report for the Dams recommending a $78 million project was approved in 2002. The total project cost was updated to $163.8M and approved in 2007. The dam gates, gate hoisting machinery, electrical power and distribution system, emergency bulkheads and a permanent scour protection system will be replaced with construction general funding beginning in 2005 and completed in 2014.

Temporary emergency repairs to the emergency bulkheads and scour protection were initiated in 2004 with operation and maintenance funding and were completed in 2005. Construction General funds were received, $5 thousand in 2004 and $3.5 million in 2005, under the Dam Safety and Seepage/Stability Correction Program.

In 2005 the design for the emergency bulkheads and Back Channel lift gate and machinery replacement were completed. This enabled a $2.4 million contract to be awarded in August 2005 for the supply of new emergency bulkheads and an $18.6 million continuing contract to be awarded in September 2005 for the replacement of the six Back Channel Dam lift gates and operating machinery.

In 2006 $14.935 million was received from the Construction General appropriation. $8.8 million was used to continue the Back Channel Dam Gate replacement, $1.6 million to fully fund the Emergency Bulkhead Supply Contract, $1.2 million to award and fully fund a Lift Gate Supply contract, $732 thousand to award and fully fund Emergency Bulkhead Hoist Supply Contract and $2.6 million to advance the engineering and design of the Main Channel Apron and Erosion Protection to enable construction award in 2008.

In FY 2007 the work allowance amount of $17.0M was used to continue the Back Channel Dam lift gates and operating machinery contract, fully fund contracts for the fabrication of Main Channel lift gates, and engineering for future contracts.

In FY 2008 $42.3M was used to initiate and complete the $2.36M main channel abutment stabilization contract and award the main channel dam gate, machinery and scour protection replacements base contract for $34.44M and engineering for future contracts.

In the FY 2009 appropriations act and in the FY 2009 President's budget, this project was identified to equally share the total construction cost with the Inland Waterways Trust Fund.

In 2009 $25.8M CG and $3.33M ARRA was used to award the main channel dam scour protection options, award the back channel dam service bridge rehabilitation contract, award the back channel dam abutment stabilization contract, and engineering for future contracts.

The optimum plan in 2010 through 2014 includes the use of fully funded construction contracts to complete the remaining scope of the Rehabilitation Project for the Dams. If optimum funds were provided work would be awarded as follows: FY 2010 Back Channel Apron/Erosion Protection; and FY 2011 the Main Channel Dam service bridge rehabilitation.

There are additional repairs to the dam that would be operations and maintenance funded and is interrelated to repairs being completed with construction general funding and necessary for continued safe operation of the dam. These repairs are documented in the Major Rehabilitation Evaluation Report and the latest Periodic Inspection Report and include repairs to the piers, abutment, bulkhead storage pit, and service bridge deck. The concrete repairs would be designed and constructed concurrently with the construction general funded contracts. Additionally the maintenance cranes need replaced, gate brake units need replaced, and the bulkhead hoist needs reconditioned. Additional temporary repairs to the scour protection could also be necessary given the past history of stone protection displacement and recent high flow conditions. Completing the needed operation and maintenance funded repairs concurrently with the construction general funded contracts would achieve economy of scales savings and cost less instead of completing them under separate contracts. The cost to complete this additional work on the dams is estimated to be $5 million.

Navigation improvement opportunities are being evaluated under the Upper Ohio River, Emsworth, Dashields, and Montgomery Navigation Improvement Study. The study, scheduled to be complete in 2008, has been delayed to at least 2011 due to insufficient funding. When permanent improvements at Emsworth Locks will be initiated is uncertain. Miscellaneous repairs are needed now to keep the lock operating safely and reliably. Included are replacement of the hydraulic system cylinders and hydraulic piping repairs, tow haulage system replacement, upper guard wall fender system replacement and downstream mooring cell replacement. The cost to complete the work on the locks is estimated to be $5 million.

O&M projected 5 year (FY 2010 through FY 2014) average cost to operate and maintain Emsworth Locks and Dams at an acceptable level of risk is $4.0M per year. Maintenance items include maintenance, repair, and/or replacement of lock operating equipment; lock gates, anchorages, and sills; lock valves; lock walls; dam operating machinery; dam bulkhead and hoist; and hydraulic systems. These costs are above and beyond the routine day to day maintenance of all system components. This cost does not include any costs associated with the rehabilitation of the dams.

Upper Ohio River Navigation Study

PROJECT DESCRIPTION: The Upper Ohio River Navigation Study Project is located in southwestern Pennsylvania and consists of the Emsworth, Dashields and Montgomery Locks and Dams, all over 70 years old. These three facilities are the uppermost navigation structures on the Ohio River located 6.2, 13.3 and 31.7 river miles below the "Point" in Pittsburgh, Pennsylvania.

All three facilities have dual locks chambers with 110" x 600' main chambers and 56' x 360' auxiliary chambers which are the smallest capacity chambers of the Ohio River navigation system. The Emsworth pool (which extends 6.7 miles up the Allegheny River and 11.5 miles up the Monongahela River) is formed by main and back channel gated dams totaling 1,717 feet in length and comprised of 14 gates and one fixed weir section. The Dashields pool is formed by a 1585' fixed crest weir dam. The Montgomery pool is formed by a dam with 10 gates and one fixed weir section. Emsworth was constructed in 1922 with the new gated dam added in 1938 using old fixed crest dams as stilling basins and aprons. Dashields was constructed in 1929 and Montgomery constructed in 1936. Emsworth and Montgomery Dams are the oldest gated structures on the Ohio River, while Dashields Dam is the only fixed crest dam on the river. Each of the three facilities are showing significant signs of structural and operational degradation increasing risk of structural and/or operational failure which would halt navigation. The focus of the Upper Ohio River Navigation Study is to develop the best plan for maintaining safe, reliable, efficient and environmentally sustainable navigation on the upper 40 miles of the Ohio River.

TRANSPORTATION IMPORTANCE TO THE SYSTEM.

Traffic through the Upper Ohio River projects totaled 22 million tons in 2004, with coal accounting for 17 million tons or 78 percent. Coal moves both upbound and downbound depending on the characteristics of the coal, and on the locations of mines and coal consuming facilities. Electric utilities move coal from mines in Monongahela Basin upstream of the Upper Ohio projects to generating plants downstream on the Ohio while steel and other electric generating companies move coal from mines downstream of the projects to West Virginia and Kentucky mines to coking and generating plants upstream in the Monongahela Basin. Construction companies use the project to move materials like stone, sand and gravel, and cement into the Pittsburgh area. The estimated transportation savings attributable to the Upper Ohio subsystem is $144 million annually.

RISK & RELIABILITY, ECONOMIC IMPACTS OF UNSCHEDULED OUTAGES. Analysis, modeling, and inspections have shown the projects to be extremely unreliable with high probabilities of failures that could result in unscheduled closures of up to a year in duration. If the failures occurred at a main lock chamber or one of the dams, the consequences would be catastrophic given their location in the Pittsburgh metropolitan area. In fact, the projects create the pool along which the "Point", or downtown area of the City of Pittsburgh, is located. It is the site of numerous office buildings, sports arenas, residential housing, and marinas. The effects would not be limited to barge transportation, but would extend to a multitude of uses of the river including municipal and industrial water supplies, tour boat operators that service the major league stadiums and other entertainment facilities in the pools, and possibly to buildings and other shoreside infrastructure that could be damaged by bank cave-ins. Fish and wildlife could be destroyed due to loss of habitat if a loss of pool was to occur.

Directly affected by disruptions to transportation are the US Steel Clairton Works, the largest coke plant in the country, and the Bailey/Enslow Fork Complex owned by Consol Energy, the largest underground coal mine in the country. Disruption in coal supply and transportation would also impact steel plants and coal-fired electric power plants. A recent survey of the effects of an unscheduled closure at Montgomery found the cost to one Pittsburgh area company of $1 million dollars a day of lost production. The costs to other industries were generally lower but with over 500 shippers and 500 receivers, the total was significant. At some point industry will either switch to other transportation modes or locate to other areas, including overseas, if they deem the system sufficiently unreliable and the costs of alternative transportation too high. This would jeopardize the 33,000 jobs related to the operation of an efficient and reliable system.

PROJECT FUNDING HISTORY. The study project is 100% federally funded. Approximately $11.1 million has been allocated from FY03 through FY 2009, leaving a balance of approximately $3.6 million to complete the study in FY11. The $11.1.M was utilized to perform inspections and reliability analysis on lock and dam components, conduct environmental scoping meetings, complete the Feasibility Scoping Meeting, acquire environmental engineering and economic baseline data, begin economic analysis of without project condition and with project alternative definition.

OPTIMUM FUNDING NEEDS. In order to meet the most efficient schedule for completion of the study in 2011, funding is required as follows: FY10 - $2.6M; FY11 - $1.0M. The challenge is to maintain an efficient funding schedule to complete the study for inclusion in WRDA 2011. No funding for this study was included in the President's FY09 or FY10 budgets. $4.015M was received to support the FY09 work plan. This funding along with the FY10-FY11 funding levels are required to meet the 2011 completion. Each year the study is delayed increases the risk of structural and/or operational failure at the facilities.

PROJECT MILESTONE SCHEDULE.

- Feasibility Scoping Meeting – September 2007
- Alternative Formulation Briefing – June 2010
- Civil Works Review Board – July 2011
- Chief of Engineer's Report - November 2011

PROJECT FACT SHEET
OHIO RIVER OPEN CHANNEL WORK
HUNTINGTON DISTRICT
OPERATIONS & MAINTENANCE
Ohio River

Project Description

The Huntington District's portion of Ohio River Open Channel Work is from mile 127 to 438 and supports 107 million tons of cargo annually. It encompasses the Nation's largest inland waterway port, which is also the 7th leading port in the United States. On average, 300,000 cubic yards are dredged annually along the 311 miles of the Ohio River in the Huntington District. The open channel work consists of completing hydrographic surveys, dredging contract preparation, dredge contract S&A, maintaining historical documentation, coordination with customers, other LRH elements, resource agencies, and the USCG, update and publish navigation charts, and perform environmental surveys, and monitoring which are all necessary to perform navigation channel maintenance in accordance with applicable laws, regulations and policies.

Description of Work included in Optimum Plan:

In addition to normal operations and recurring maintenance, the following major items are included in the long term development plan to maintain full project dimensions.

1. **Beneficial Use of Dredged Material.** The utilization of dredged material to restore bank erosion to islands in the Belleville Project Pool. Historically dredged open channel sites located on the Ohio River at Old Lock and Dam 17, and Bull Creek Bar both located between river miles 164 and 167 do not have current in water disposal areas, allowing the use of hydraulic dredging due to fresh water mussel beds. An alternative planned is transporting the material by barge to one of various islands located in this reach. The islands are owned by the U.S. Fish and Wildlife Service, who has expressed interests in utilizing the dredged material to repair erosion. The method used will be clamshell, and the estimated cost is $0.2 million per site. This work, based on optimum funding, is scheduled to begin in FY10. The cost savings for this work results from the channel maintenance dredging without the acquisition, construction, and maintenance of an upland disposal site in the upper end of the district.
2. **Open Channel Dredging.** Dredging Contracts have reflected a sharp rise in costs due to the recent increase in both Fuel and labor. Labor alone accounts for approximately 50% of the contracts for dredging, and recent increases in the Davis Bacon Wages and fuel are reflected by an average of 7% inflation per year. Also, environmental aspects of dredging have increased costs. Over the last couple of years, the dredging has been reduced to offset these

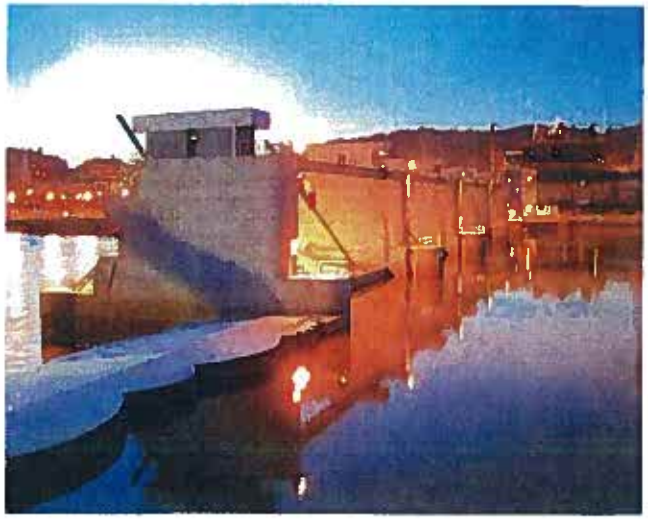
costs. In order to meet the LRH optimum dredging plan includes the funds needed to restore the navigation channel to the full width and depth. Over half of the annual funds allocated are utilized each year to maintain a minimum channel depth in the lower approaches to the locks on the Ohio River. These areas are critical because without full advance maintenance dredging, traffic would not have sufficient channel width to avoid shoals. The risk associated with the reduced dredging is the need for emergency dredging required to restore navigation. Emergency dredging is always more costly than routine, scheduled maintenance dredging. Another foreseen increase in cost over the next six years is the implementation of Silent Inspector. The equipment will be required to be owned and maintained by the contractor and additional labor funds will be required to be sent to Mobile District for administration. LRH dredging costs will reflect this increase and optimum funding will be needed in order to effectively maintain the navigation channel without sacrificing the integrity of the waterway.

Braddock Locks and Dam

Monongahela River

Project Description

Facility is located 11.2 miles above the mouth of the Monongahela at Pittsburgh, in Braddock, PA. It was built from 1902-1906, underwent a reconstruction that ended in 1953, and more recently had its fixed crest dam replaced with a gated dam. It is comprised of a 721 foot gated dam, a 110ft x 720ft land side lock, and a 56ft x 360ft river side lock which provide for a 8.7 foot vertical lift.



Replacement of the fixed crest dam at Braddock was part of the Lower Monongahela River Navigation Project (Lower Mon Project). The Lower Mon Project includes work features at and between Locks and Dams 2, 3 and 4 on the Monongahela River.

Transportation Importance to the System

Braddock L/D is the first of nine navigation facilities on the Monongahela River. From 2000 to 2007, Braddock Locks averaged 2,122 recreation vessels, 4,406 commercial tows, and 19.4 million tons of cargo. Cargo consists of coal, petroleum, chemicals, crude materials, manufactured goods, farm products, manufactured machinery, and other commodities. Coal is the principal commodity at Braddock Locks. Electric utilities move coal from mines in Pennsylvania and Ohio to power plants serving the mid-Atlantic, southeastern and midwestern regions of the United States. Steel companies move coal from West Virginia and Kentucky mines to coking facilities on the Monongahela River. Construction and supply companies use this facility to move raw materials into the region. Average annual transportation cost savings associated with this facility from 2000 to 2005 is over $124 million.

Risk of economic impacts of unscheduled lock outages

Failure to provide adequate funding to maintain this facility will have significant detrimental effects to the local and regional economy. Failure of the dam or any critical lock component in the main or auxiliary chambers, or both, will result in increased transportation costs and delays to the shipment of critical raw materials for power production, manufacturing, and other commercial activities.

Description of Work included in Optimum Plan

The projected 5 year (FY 2010 through FY 2014) average cost to operate and maintain Braddock Locks and Dam at an acceptable level of risk is $3.6M per year. Maintenance items include maintenance, repair, and/or replacement of lock operating equipment; lock gates, anchorages, and sills; lock valves; lock walls; dam operating equipment, and hydraulic systems. These costs are above and beyond the routine day to day maintenance of all system components.

Locks and Dam 3
Monongahela River

Project Description

Facility is located 23.8 miles above the mouth of the Monongahela at Pittsburgh, near Elizabeth, PA. It was built from 1905-1907 and rehabilitated in 1967. It is comprised of a 670 foot fixed crest dam a 720ft x 56ft land side lock; and a 360ft x 56ft river side lock which provide for a 8.2 foot vertical lift. Removal of Locks and Dam 3 is part of the Lower Monongahela River Navigation Project (Lower Mon Project). Constrained funding has forced an inefficient and protracted construction schedule on the Lower Mon Project, which includes work features at and between Locks and Dams 2, 3 and 4 on the Monongahela River. This constrained funding has caused the construction completion date for the Lower Mon project to slip from 2004 to 2019. This extends the demands on the continued use of Locks and Dam 3. Locks and Dam 3 has already outlived its design life, and will require significant additional O&M funding to keep it operating safely through its extended life.

Transportation Importance to the System

L/D 3 is the second of nine navigation facilities on the Monongahela River. From 2000 to 2007, Locks 3 averaged 1,121 recreation vessels, 7,544 commercial tows, and 14.3 million tons of cargo. Cargo consists of coal, petroleum, chemicals, crude materials, manufactured goods, farm products, manufactured machinery, and other commodities. Coal is the principal commodity at Locks 3. Electric utilities move coal from mines in Pennsylvania and Ohio to power plants serving the mid-Atlantic, southeastern and midwestern regions of the United States. Steel companies move coal from West Virginia and Kentucky mines to coking facilities on the Monongahela River. Construction and supply companies use this facility to move raw materials into the region. Average annual transportation cost savings associated with this facility from 2000 to 2005 is over $95 million.

Risk of Economic Impacts of Unscheduled Lock Outages

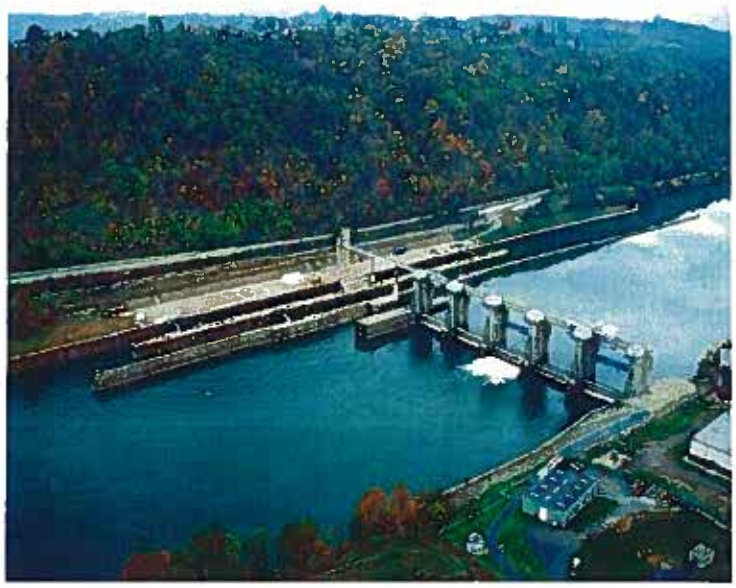
Failure to provide adequate funding to maintain this facility will have significant detrimental effects on the local and regional economy. Failure of the dam or any critical lock component in the main or auxiliary chambers, or both, will result in increased transportation costs and delays to the shipment of critical raw materials for power production, manufacturing, and other commercial activities. Failure of the dam will likely stop navigation until an emergency repair can be achieved. Transportation impacts, dependent on the length of closure or delays, range from $65,000 to $400,000 per day. The repair costs to respond to emergency (non-scheduled) breakdowns or failures and the delay costs to shippers increase exponentially over the costs of scheduled maintenance and delays.

Description of Work included in Optimum Plan

The projected 5 year (FY 2010 through FY 2014) average cost to operate and maintain Locks and Dams 3 at an acceptable level of risk is $3.2M per year. Maintenance items include maintenance, repair, and/or replacement of lock operating equipment; lock gates, anchorages, and sills; lock valves; lock walls; and hydraulic systems. These costs are above and beyond the routine day to day maintenance of all system components.

Charleroi Lock and Dam
Monongahela River

Project Description



Facility is located 41.5 miles above the mouth of the Monongahela at Pittsburgh, near Charleroi, PA. It was built from 1931-1932 and rehabilitated in 1967. It is comprised of a 420 foot gated dam, and a 720ft x 56ft land side lock which provide for a 16.6 foot vertical lift.

The existing riverside lock chamber was removed from service in 2005. Removal of the existing locks at Charleroi and replacement with new larger locks (twin 84 ft x 720 ft) is part of the Lower Monongahela River Navigation Project (Lower Mon Project). The Lower Mon Project includes work features at and between Locks and Dams 2, 3 and 4 on the Monongahela River. Inefficient funding forced an inefficient and protracted construction schedule. This extends the demands on the continued use of existing Charleroi Locks until 2016.

Transportation Importance to the System

Charleroi L/D is the third of nine navigation facilities on the Monongahela River. From 2000 to 2007, Charleroi Locks averaged 811 recreation vessels, 5,831 commercial tows, and 11.9 million tons of cargo. Cargo consists of coal, petroleum, chemicals, crude materials, manufactured goods, farm products, manufactured machinery, and other commodities. Coal is the principal commodity at Charleroi Locks. Electric utilities move coal from mines in Pennsylvania and Ohio to power plants serving the mid-Atlantic, southeastern and midwestern regions of the United States. Steel companies move coal from West Virginia and Kentucky mines to coking facilities on the Monongahela River. Construction and supply companies use this facility to move raw materials into the region. Average annual transportation cost savings associated with this facility from 2000 to 2005 is over $84.7 million.

Risk of economic impacts of unscheduled lock outages

Failure to provide adequate funding to maintain this facility will have significant detrimental effects to the local and regional economy. Failure of the dam or any critical lock component in the main or auxiliary chambers, or both, will result in increased transportation costs and delays to the shipment of critical raw materials for power production, manufacturing, and other commercial activities. Failure of the dam will likely stop navigation until an emergency repair can be achieved.

Description of Work included in Optimum Plan

The projected 5 year (FY 2010 through FY 2014) average cost to operate and maintain Locks 4 at an acceptable level of risk is $3.8M per year. Maintenance items include maintenance, repair, and/or replacement of lock operating equipment; lock gates, anchorages, and sills; lock valves; lock walls; and hydraulic systems. These costs are above and beyond the routine day to day maintenance of all system components.

Maxwell Locks and Dam
Monongahela River

Project Description

Facility is located 61.2 miles above the mouth of the Monongahela at Pittsburgh, in Maxwell, PA. It was built from 1960-1965. It is comprised of a 460 foot gated dam, a 84ft x 720ft land side lock, and a 84ft x 720ft river side lock which provide for a 19.5 foot vertical lift.

Transportation Importance to the System

Maxwell L/D is the fourth of nine navigation facilities on the Monongahela River. From 2000 to 2007, Maxwell Locks averaged 1,693 recreation vessels, 3,970 commercial tows, and 13.0 million tons of cargo. Cargo consists of coal, petroleum, chemicals, crude materials, manufactured goods, farm products, manufactured machinery, and other commodities. Coal is the principal commodity at Maxwell Locks. Electric utilities move coal from mines in Pennsylvania and Ohio to power plants serving the mid-Atlantic, southeastern and midwestern regions of the United States. Steel companies move coal from West Virginia and Kentucky mines to coking facilities on the Monongahela River. Construction and supply companies use this facility to move raw materials into the region. Average annual transportation cost savings associated with this facility from 2000 to 2005 is over $79.4 million.

Risk of economic impacts of unscheduled lock outages

Failure to provide adequate funding to maintain this facility will have significant detrimental effects to the local and regional economy. Failure of the dam or any critical lock component in the main or auxiliary chambers, or both, will result in increased transportation costs and delays to the shipment of critical raw materials for power production, manufacturing, and other commercial activities.

Description of Work included in Optimum Plan

The projected 5 year (FY 2010 through FY 2014) average cost to operate and maintain Maxwell Locks and Dam at an acceptable level of risk is $3.9M per year. Maintenance items include maintenance, repair, and/or replacement of lock operating equipment; lock gates, anchorages, and sills; lock valves; lock walls; dam operating equipment, and hydraulic systems. These costs are above and beyond the routine day to day maintenance of all system components.

Grays Landing Lock and Dam
Monongahela River

Project Description

Facility is located 82 miles upriver from the mouth of the Monongahela River at Pittsburgh, near Grays Landing, PA. It was built from 1988-1993. It is comprised of a 576 foot fixed crest dam and a 720ft x 84ft lock which provide for a 15 foot vertical lift.

Transportation Importance to the System

Grays Landing L/D is the fifth of nine navigation facilities on the Monongahela River. From 2000 to 2007, Grays Landing Locks averaged 1,046 recreation vessels, 1,704 commercial tows, and 5.2 million tons of cargo. Cargo consists of coal, petroleum, chemicals, crude materials, manufactured goods, manufactured machinery, and other commodities. Coal is the principal commodity at Grays Landing. Electric utilities move coal from mines in Pennsylvania and Ohio to power plants serving the mid-Atlantic, southeastern and midwestern regions of the United States. Steel companies move coal from West Virginia and Kentucky mines to coking facilities on the Monongahela River. Construction and supply companies use this facility to move raw materials throughout the region. Average annual transportation cost savings associated with this facility from 2000 to 2005 is over $33.1 million.

Risk of economic impacts of unscheduled lock outages

Failure to provide adequate funding to maintain this facility will have detrimental effects to the local and regional economy. Failure of the dam or any critical lock component will result in increased transportation costs and delays to the shipment of critical raw materials for power production, manufacturing, and other commercial activities. Failure of dam will likely stop navigation and impact municipal and commercial water supplies until an emergency repair can be achieved.

Scope of work to achieve acceptable level of risk

The projected 5 year (FY 2010 through FY 2014) average cost to operate and maintain Grays Landing at an acceptable level of risk is $2.2M per year. Maintenance items include maintenance, repair, and/or replacement of lock operating equipment; lock gates, anchorages, and sills, lock valves; lock walls; and hydraulic systems. These costs are above and beyond the routine day to day maintenance of all system components.

No work description for Point Marion