

PROJECT FACT SHEET
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 2005, Locks 3 passed over 1,200 recreation vessels, 6,000 commercial tows, and 13.9 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 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 FY 2007 Budget Request of \$1000k

This work package includes \$685k for repairs to the dam foundation at Locks and Dam 3; \$289k for dredging, and \$26k for inleasing for railroad right-of-way maintenance.

The dam at L/D 3 (Elizabeth) was originally scheduled to be removed in 2004/2005 in conjunction with the authorized Lower Monongahela River Construction Project; however, the removal has been postponed for about another 10 years due to constrained CG funding. Thus O&M funds are required to continue safe operation and maintenance of L/D 3 through its extended life. Currently a serious problem exists with the rock-filled crib foundation of the dam apron; the entire reach of the downstream face of the dam has numerous voids where rock fill and timber cribbing are missing, and the possibility of failure is high if repairs are not initiated. Plans and specifications are being prepared to advertise for foundation repairs by contract in FY06. Additional funding is needed in FY07 to complete all the contract options for this foundation repair work. The collapse and/or displacement of the apron will result in the loss of pool for several weeks or months depending on the severity of the failure of the dam.

Dredging is required on an annual basis to maintain the minimum depth of 9 feet required for commercial navigation. Dredging funds are required, especially during the summer low water season, to dredge lock approaches and stretches of the River in order to maintain channel depth to preclude vessel groundings, shutting down navigation, or restricting the draft of vessels on the Monongahela River.

The inleasing for railroad right-of-way maintenance is required for employee/ public access to our navigation facilities along the River. Failure to make these payments to the railroad companies will compromise our existing agreements to maintain these railroad crossings and could impact our ability to legally access the navigation facilities until a corrective action is undertaken.

Scope of work to achieve acceptable level of risk: The projected 5 year (FY 2008 through FY 2012) average cost to operate and maintain Locks and Dams 3 at an acceptable level of risk is \$2.5M 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; and hydraulic systems. These costs are above and beyond the routine day to day maintenance of all system components.