



DEPARTMENT OF THE ARMY  
OFFICE OF THE CHIEF OF ENGINEERS  
WASHINGTON, D.C. 20314-1000

REPLY TO  
ATTENTION OF:

29 DEC 2000

CECW-PM (10-1-7a)

SUBJECT: Ohio River Mainstem Systems Study – Interim Report on J.T. Myers and Greenup Locks and Dams, Indiana, Kentucky, and Ohio

THE SECRETARY OF THE ARMY

1. I submit for transmission to Congress my report on navigation improvements at J.T. Myers and Greenup Locks and Dams on the Ohio River. It is accompanied by the report of the district and division engineers. This interim report was prepared under the broader Ohio River Mainstem Systems Study (ORMSS) which is investigating the navigation needs of the Ohio River system. An interim report was prepared on the J.T. Myers and Greenup Locks and Dams because early ORMSS efforts determined that they are the highest priority structures needing improvement. The ORMSS is being conducted in response to a resolution by the Committee on Public Works of the United States Senate, dated 16 May 1955, which directed a review of the comprehensive plan for the Ohio River Basin, and a resolution by the Committee on Public Works and Transportation of the House of Representatives, dated 11 March 1982, which directed a review of specific navigation improvements on the upper Ohio River.

2. Section 101(b)(14) of the Water Resources Development Act (WRDA) of 2000 authorized construction of a navigation project for the J.T. Myers Lock and Dam, at a total cost of \$181,700,000, subject to completion of a favorable report of the Chief of Engineers no later than 31 December 2000, and subject to the conditions recommended in that final report. Section 101(b)(15) of WRDA 2000 authorized construction of a navigation project for the Greenup Locks and Dam, at a total cost of \$175,500,000, subject to subject to the same conditions. This report constitutes the final report of the Chief of Engineers in response to that legislation.

3. The district and division engineers recommend that the existing projects at J.T. Myers and Greenup Locks and Dams be modified for the purposes of navigation efficiency and reliability. The plan consists of the following improvements at both J.T. Myers and Greenup Locks and Dams:

a. The existing 110-foot by 600-foot auxiliary lock chambers at both projects will be extended downstream to create 110-foot by 1200-foot chambers.

b. Four floating approach walls will be constructed at each extended auxiliary lock chamber. The longer approach walls will enable pilots to properly align their tows for entry into the extended auxiliary lock chamber.

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c. The existing fill/empty system of the 600-foot locks will be augmented in order to maintain the existing fill/empty time for the lock extension. The supplemental fill/empty system improvements consist of an intake structure, culverts, and valves.

d. Miter gate quick changeout system (MGQCS) improvements will shorten lock closure periods for major maintenance or accident events involving the miter gates. The MGQCS involves use of an existing Government-owned floating crane for replacement of an existing miter gate with an identical spare gate. The MGQCS improvements include refurbishing the existing lower miter gate from the 600-foot lock for use as the spare gate, construction of an on-shore gate storage and maintenance structure, and modifications to all other existing miter gates to facilitate lifting and installation.

4. At J.T. Myers, construction of the 600-foot lock extension will adversely affect 5 acres of bottomland hardwoods, 10 acres of aquatic habitat, and 50 to 100 acres of terrestrial habitat. Mitigation involves aquatic (shallow water and hard substrate) and terrestrial habitat improvement projects to be constructed within the J.T. Myers and Smithland pools. Aquatic mitigation will consist of submerged rock dike and stone protection. For terrestrial mitigation, bottomland hardwood seedlings will be planted on 10 acres of Federal and 10 acres of private property. The excavation disposal area will be replanted with grasses and indigenous hardwood species. At Greenup, construction of the 600-foot lock extension will adversely affect 139 acres of terrestrial habitat and 18 acres of aquatic habitat. Mitigation for terrestrial habitat losses involves restoration of 139 acres on-site and in-kind. Aquatic habitat losses will be compensated by constructing tailwater habitat structures downstream of the project and within the Meldahl and Greenup pools with the construction of artificial reef structures.

5. The proposed improvements will greatly reduce commercial navigation traffic delays attributable to closure of the existing 1200-foot main lock chambers. This proposed plan of improvement is the national economic development plan. The plan would reduce transportation costs to the Nation, provide safe and dependable navigation, and preserve the environmental resources of the area.

6. At J.T. Myers Locks and Dam, the first cost of the recommended plan, based on October 1999 price levels, is currently estimated at \$181,700,000. Total average annual economic costs, based on an interest rate of 6-5/8 percent and a 50-year period of analysis, are \$17,100,000, including \$4,300,000 for all necessary Federal operation and maintenance activities. The incremental average annual economic benefits and costs, when compared against the without condition, are estimated at \$18,900,000 and \$10,300,000, respectively. The benefit-cost ratio is 1.8.

7. At Greenup Locks and Dam, the first cost of the recommended plan, based on October 1999 price levels, is currently estimated at \$175,500,000. Total average annual economic costs, based on an interest rate of 6-5/8 percent and a 50-year period of analysis, are \$19,400,000, including

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\$4,800,000 for all necessary Federal operation and maintenance activities. The incremental average annual economic benefits and costs, when compared against the without condition, are estimated at \$26,500,000 and \$10,500,000, respectively. The benefit-cost ratio is 2.5.

8. The Ohio River is an inland waterway specified in section 206 of the Inland Waterways Revenue Act of 1978, as amended. In accordance with the cost sharing, financing, and other applicable requirements of Section 102 of the Water Resources Development Act of 1986, one-half all future design and construction costs would be borne by the Federal Government and one-half would be funded from the Inland Waterways Users Trust Fund (IWTF). For the proposed work at J.T. Myers Locks and Dam, the Federal and IWTF shares of the total project first cost are \$90,850,000. For the proposed work at Greenup Locks and Dam, the Federal and IWTF shares of the total project first cost are \$87,750,000.

9. Washington level review indicates that the proposed plan conforms to applicable Federal laws and regulatory requirements, is a complete and functionally adequate project, and is in compliance with U.S. Army Corps of Engineers and other relevant Federal regulations. The report has been coordinated with appropriate Federal, State, local, and public interests. There are no objections to the proposed plan at this time.

10. Accordingly, I recommend the implementation of further navigation improvements for J.T. Myers and Greenup Locks and Dams generally in accordance with the reporting officers' recommended plan, with such modifications as may be advisable in the discretion of the Chief of Engineers



ROBERT B. FLOWERS  
Lieutenant General, U.S. Army  
Chief of Engineers