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Emsworth dam to get big upgrade

\$34 million for lift gates on the Ohio

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By Don Hopey, Pittsburgh Post-Gazette

The Army Corps of Engineers has awarded a \$34.4 million contract for major reconstructive work on the main channel dam on the Ohio River at Emsworth, the latest part of a 10-year, \$165 million project that began in 2004 under the federal Dam Safety Program.

Joseph B. Fay Co. of Tarentum won the contract to repair and replace seven of eight vertical lift gates, which regulate water flow over the 89-year-old dam and the height of the Pittsburgh pool behind and upriver from it, and the machinery that operates those gates.

Work on those parts of the dam project will begin this summer and be completed in 2011. Because the work will not involve the locks, river navigation and barge traffic will not be affected.

The Emsworth Dam facility consists of two dam structures, one on each side of Neville Island, and two parallel lock chambers on the main channel along the north bank of the Ohio 6.2 miles downstream from Pittsburgh's Point.

The dam's locks, the oldest on the Ohio River, are in need of extensive maintenance work until permanent improvements can be agreed upon and funded.

Mike Rattay, manager for the Emsworth Dams Major Rehabilitation Project, said the corps is conducting a separate navigation study on the work needed on those and other deteriorated locks on the Ohio, at the Dashields Dam 13.3 miles downriver from Pittsburgh and the Montgomery Dam 31 miles below Pittsburgh in Beaver County.

Mr. Rattay said the corps is awaiting receipt of bonding from the Fay Co. and will then approve the start of construction on the main channel dam.

"We expect to issue the notice to proceed by the end of August and the company will then have three years to complete its part of the project," he said.

Replacement of the gates and machinery on the back channel dam cost \$19 million and was finished earlier this year.

Another \$20 million will be spent in 2009 and 2010 to replace the scour, or riverbed material, just downriver from the dam. The scour material supports the dam's foundation and keeps it from eroding and weakening the structure.

"If the scour causes the foundation of the dam to fail, the gates could stick and that could endanger the Pittsburgh pool above the dam," Mr. Rattay said. "Our studies show the risks are too high to chance that."

The scour protection, along with the vertical lift gates, gate operating machinery and emergency bulkheads, were all identified as having a "high risk of failure" by the corps. Prior to temporary emergency repairs in 2005, there were 10-foot-deep holes in the scour below the dam and 65 percent of the scour was classified as "in a failed state."

There is currently a 76 percent likelihood of failure of one of the dam gates and they are deemed unreliable based on multiple failures in recent years.

The Emsworth Dam is a navigational dam, not a flood control structure, and controls the water level for the Pittsburgh pool, which stretches upriver to Lock & Dam No. 2 on the Allegheny River at Sharpsburg, 6.9 miles above the Point, and Lock & Dam No. 2 on the Monongahela River at Braddock, 11 miles upstream from the Point.

Pittsburgh is the biggest inland port in the nation in terms of tonnage. It ships and receives more than 40 million tons of cargo a year, about 70 percent of that coal for power plants, steel mills and coking facilities.

Don Hopey can be reached at dhopey@post-gazette.com or 412-263-1983.

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