US Army Corps of Engineers ®
St. Louis District

Press Release

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Mississippi River scours holes on upstream side of Melvin Price Locks and Dam

St. Louis, Mo – The Mississippi River has scoured several holes at the upstream side of the Melvin Price Locks and Dam near Alton, Ill. The holes, which illustrate the power of moving water, were discovered during a recent routine sonar examination by the U.S. Army Corps of Engineers, St. Louis District survey boat, MV Boyer.

The river's silt-laden water is almost opaque. River divers report that once under water they cannot see their hand in front of their helmet. But the scours at the river's bottom could not hide from new high tech sonar equipment employed by the Corps.

When the survey was conducted, the Mississippi River was running at "open river" at the Melvin Price Locks and Dam – a situation during which the river is at higher stages and all of the dam gates are lifted completely out of the water. This allowed surveyors the opportunity to move back and forth through the opened gates, obtaining detailed images of the river bottom both up and downstream of the massive concrete structure.

During a subsequent computer analysis of the sonar data, viewed as false-color, three-dimensional images that show precise depth gradients, a technician noticed the holes and immediately brought them to the attention of District leaders. Within hours, District Commander, Col. Lewis F. Setliff convened a meeting of District engineers and construction experts to closely examine the issue and to begin the process to correct the problems.

While dams such as the Melvin Price structure do not pose a threat to public safety because they hold back only the relatively shallower navigation pools between locks and dams, the Corps is planning a rapid repair response.

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District experts report that the scoured areas pose no immediate threat to the dam, but if left unattended they could possibly enlarge or deepen which could lead to more costly repairs in the future

The Melvin Price Locks and Dam structure was built with a layer of rock arrayed upstream from the edge of the concrete foundation to prevent scouring. But the rock will have to be replaced at the scour locations, and the fix will include a top layer of larger rock for added scour resistance.

The Corps of Engineers is proceeding on parallel paths to investigate the issue more thoroughly while making plans to repair the holes. Underwater sound imaging equipment and technicians will be brought in from the U.S. Army Corps of Engineers Engineering and Research Development Center (ERDC) in Vicksburg, Miss., to examine steel sheet pile, or plating, that has been exposed at a few locations underneath the heavy concrete part of the foundation.

Filling the holes will fix this problem in the near term, but the Corps is examining options for further enhancing the rock scour protection field upstream of the dam to prevent future recurrences. The Corps, which prides itself for being a learning organization, is also studying data to identify any potential systemic problems that may exist at similar lock and dam facilities throughout the nation.

Repair work should begin soon after design work is finished and a contract is in place. The projected volume of rock for the work is about 16,000 tons or about 16 barge loads. Detailed cost estimates are being prepared and should be ready by the middle of next week.

Expected impacts to navigation during the repairs should be minimal and periodic, primarily while repairing scours near the lock chambers. Information is being shared between the Corps, the U.S. Coast Guard and navigation industry representatives to minimize possible delays.

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Editor's Note: After hours, contact Alan Dooley at 618-719-9039 (cell) or 618-939-5985 (home). The scour holes are not visible from the air or from land. The Public Affairs Office will notify the media when repair work begins.