

US Army Corps of Engineers Pittsburgh District Update/Overview

Col. Mike Crall

District Engineer

Pittsburgh District, US Army Corps of Engineers

Opening with an overview of Pittsburgh District operations, Col. Crall presented information on key projects within the district, the current status of facilities on the Mon River and future partnerships.

Comprising 26,000 square miles in five states (New York, West Virginia, Pennsylvania, Ohio and Maryland) with a total population of 5.5 million residents, the Corps' Pittsburgh District oversees the operation and maintenance (O&M) of 23 navigation locks and dams on ten significant river systems with 328 miles of navigable waterway. Its 628 employees also are responsible for the O&M of 16 multi-purpose reservoirs and 40 local flood risk management projects.

The Corps' primary business lines are navigation, flood damage reduction, recreation and the environment. Additional responsibilities include hydropower, regulatory functions, water supply and emergency management.

In FY 2007, federal appropriations for Pittsburgh District totaled \$176.5 million. Total appropriations increased to \$207.4 million FY 2008. The FY 2009



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President's Budget allocates \$158 million to the Pittsburgh District.

"Our lock-and-dam facilities are like Model A Fords," Crall said. "Many were initially constructed in the 1920s and even earlier. When a mechanical component requires replacement, it frequently has to be fabricated from scratch – there are no 'spare parts' and there's no economy of scale.

"Our ongoing challenge is balancing the costs of hours-of-operation with O&M costs – and although we're seeing an increase in business, our O&M budget has been flat-lined."

Crall presented a brief overview of major projects both completed (emergency bulkhead supply, back channel gate supply) and still underway (emergency bulkhead hoist supply, main channel gate supply, back channel gate replacements – all projected for completion 2008) on the Ohio River's Emsworth Dam.

He also outlined the findings-to-date of the Upper Ohio River Navigation Study, which included the Emsworth Locks & Dam (built 1919-1922), the Dashields Locks & Dam (1927-1929) and the Montgomery Locks & Dam (1932-1936). The target date for the study's completion is FY 2011. However, preliminary inspections and analysis indicate an urgent need for the timely evaluation of long-term system investment requirements that will allow these facilities to maintain safe and reliable service on the Upper Ohio

Turning to the Pittsburgh District's Lower Monongahela River projects, Crall described renovations made to the Braddock Dam, completed May 2004, that have significantly reduced risk and increased reliability of the structure, the first key facility on the Mon. Lock & Dam #3 at Elizabeth is slated for removal in 2013, with continued capability funding. Significant unanticipated O&M costs are being incurred at #3. Due to the dam's progressive failure, a \$4 million stabilization contract was awarded in FY 2006: the contract has not been operationalized and projections indicate as much as \$5 million now will be required to stabilize the structure. At Lock & Dam #4 at Charleroi, a \$97 million contract was awarded in 2004 for river wall construction which is 60% complete. Unanticipated maintenance costs are projected at the facility through 2016, which will continue to operate as a single-lock structure until 2016, assuming continued capability funding and continued solvency of the Inland Waterways Trust Fund (IWTF).



Pittsburgh District's new tow boat, "Evanick."

Crall noted that despite these and other required maintenance projects, Pittsburgh District O&M funding in the 2009 President's Budget is nearly \$5 million less than the current year's funding: approximately \$17 million was allocated for FY 2008 and \$12 million for FY 2009.

During FY 2008, the Pittsburgh District anticipates completing Dam #3 emergency stabilization; completing repairs to Lock #3 auxiliary chamber gates and valve machinery; de-watering and repairing gates and anchorages at Hildebrand Lock & Dam; and at Braddock Lock & Dam, repairing the main chamber's US gates and valves, which have failed.

With FY 2008 maintenance appropriations at \$15.9 million and the identified maintenance projects having a capability of \$17.2 million, approximately \$1 million of unfunded critical maintenance at Braddock is at issue.

Rehabilitation of the Braddock auxiliary chamber gate machinery and of the Point Marion Lock & Dam's LWE valve are slated for FY 2009. The 2009 President's Budget allocates \$12.4 million for Pittsburgh O&M: capability for the Braddock and Point Marion projects plus critical maintenance work, including dredging, at Maxwell, Gray's Landing and Opekiska in 2009 is \$23.8 million.

Crall presented a 29-item list of Pittsburgh District facility maintenance projects that will, in all likelihood, continue to be deferred due to funding shortfalls.

"The longer we put them off, the more serious – and more expensive – they'll be to address," he said. "Deferred maintenance is causing huge challenges."

Included on the currently deferred maintenance list are repairing and recoating the Morgantown Lock & Dam's service bridge and rewiring both the lock's and the dam's electrical systems; rewiring the locks' and dams' electrical systems at Hildebrand and Opekiska; and installing waterway signs at Maxwell and Opekiska.



Tow boat "Evanick" pushing Corps repair barges to Hildebrand lock, June 2006.

Crall cited Corps statistics reflecting declining commercial lockages on the Upper Mon mid-1980's through 2007. Morgantown experienced its peak commercial lockages in 1987 with 2,066; 1,009 lockages were reported at Hildebrand that same year. Opekiska experienced its peak lockage year in 1983 with 861 recorded. By 2007, Morgantown's commercial lockages had fallen to 348; Hildebrand's to 69; and Opekiska's to 69, as well.

"Facilities experiencing low use by commercial traffic experience reduced staffing and fewer hours of operation," Crall noted.

Recreation use lockages at Morgantown peaked in 1999 with 635 reported, according to Crall, but had declined to 420 by 2007. Recreational lockages peaked at both Hildebrand and Opekiska in 1983 with 370 and 717, respectively. Hildebrand reported 301 recreational lockages and Opekiska, 572 in 2007. Crall said recreational boaters indicate extended hours of operation would increase their use of all Upper Mon lock facilities.

2008 Upper Mon Lock & Dam Hours of Operation

Open 24/7 Year-Round

- ◆ Braddock L&D, L&D #3, L&D #4, Maxwell L&D, Gray's Landing L&D and Point Marion L&D

Morgantown L&D

- ◆ **April 6-May 23**
Monday thru Thursday, Saturday & Sunday 7 a.m.-3 p.m.
Friday 7 a.m.-6:15 p.m.
- ◆ **May 24-November 1**
Monday thru Thursday 7 a.m.-3 p.m.
Friday 7 a.m.-6:15 p.m.
Saturday, Sunday & Holidays 10:30 a.m.-6:15 p.m.

Hildebrand & Opekiska L&D

- ◆ **April 6-May 23**
Monday 8 a.m.-Noon
Friday 10:30a.m.-6:15 p.m.
Saturday & Sunday 7 a.m.-3 p.m.
- ◆ **May 24 - November 1**
Monday 8 a.m.-Noon
Friday, Saturday, Sunday & Holidays 10:30 a.m.-6:15 p.m.

According to Crall, recent permit application activity with the Corps indicates increased commercial activity on the Upper Mon may be anticipated within the coming years. This activity includes:

- expansion of the Hatfield Power Plant fleet area to handle approximately 40 more fleet barges
- expansion of the Ft. Martin Power Plant to handle approximately 25 more fleet barges

- construction of a new co-generation power plant
- expansion of a rail-to-river transfer terminal
- construction of a new barge fabrication facility at Brownsville Marine with the capacity to launch one new barge per week at rehabilitated marine ways
- expansion of a river-and-rail terminal and marine-and-rail terminal
- expansion of stone company terminal
- increased power plant fly ash loading
- expansion/rehabilitation of Newman’s Landing metal recycling facility.

“We’ve also heard about several areas of riverfront real estate that will be acquired for additional barge fleetings,” Crall added, “and reactivation of both an existing and a former river terminal on the Upper Mon’s Opekiska Pool.”

The Pittsburgh District has convened two river user groups – recreational and commercial – to leverage its reduced resources to best meet the needs of both these affected customer groups. Corps navigation specialists and industry professionals from the Pittsburgh District Waterways Association comprise the Corps of Engineers and Waterways Association Action Group (CEWAAG). CEWAAG reviews staffing and hours-of-operation at district locks and dams to evaluate the manner in which they interface with towing industry needs.

CERRUS (the Corps of Engineers and Rivers Recreational Users Summit) reviews the operation of the Corps’ Integrated Inland Navigation System within the Pittsburgh District

and the manner in which that operation interfaces with the needs of recreational users. Corps navigation operations specialists and river recreation representatives comprise CERRUS.



Crall briefly discussed partnership opportunities recently proposed in applications to the Upper Ohio River and Tributaries Navigation System (including the Upper Mon) New Technology Authority. These partnerships will allow the Corps to work with local interest groups, governmental and non-governmental organizations to enhance the value of the Mon River to the region. They can

help deliver integrated regional solutions that minimize risk and enhance the reliability of river utilization for both recreational and commercial users.

Proposals to date have included automating the operation of the Upper Mon’s locks; removal of debris that collects behind dams; creation of river information systems installed in wheelhouses to increase river utilization safety and reliability; and the installation of hydroelectric power generating facilities at the dams.

“We’ve received hydroelectric applications for every lock and dam on the Upper Mon,” he noted. “For the Corps, the attraction of the hydroelectric partnerships is that a portion of the funds they generate could be used to buy down the district’s O&M costs – and debris screens are a required feature of the hydroelectric facilities’ installation.”

MORE INFORMATION:

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