



Big Creek Diversion Dam Sluice Gate Replacement

U.S. ARMY CORPS OF ENGINEERS

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Location

Saylorville Lake, Iowa

State(s)

IA

Congressional District(s)

IA-3

Status

Project in Operation

Description

The Big Creek Remedial Works provides protection for parts of Polk City Iowa and adjacent Big Creek Valley which are below the full flood pool level. This flood protection system consists of: (1) A barrier dam near the mouth of Big Creek to exclude reservoir waters from Polk City (2) A pumping station, ponding and gravity outlet to remove interior drainage from the protected area between the Big Creek Diversion Dam and the Barrier Dam (3) An upstream diversion dam across Big Creek diverting Big Creek through a channel to a terminal dam that allows Big Creek to empty into Saylorville reservoir. During the 1998 periodic inspection, the slanting slide gate was opened and upon closing a section of the mechanism broke 40 feet below the water surface and prevented the gate from closing. An Army National Guard bulldozer was brought in to act as a "dead man" to provide constant pressure of the stem, air intake tube and concrete supports in order to close the gate. The gate has not been opened since. A June 1999 dive report indicates the gate to be closed, but the water leakage is occurring where the structural tube/air vent enters the concrete down tube. Required release downstream into Big Creek is 3 cfs for water quality purposes. May 2014: \$9.294M contract awarded to Jensen Construction Company Des Moines Iowa to remove current slide gate structure and construct a new control tower. New control tower will feature one service gate, hoisting unit and emergency gate. This service gate will regulate a minimum outflow of 3 cfs downstream into Big Creek. Access to the control tower will be available via a service bridge from the diversion dam. Construction is currently in progress.

Summarized Project Costs

Federal Cost	\$ 11,940,000
Non-Federal Cost	\$ -0-
Total Cost	\$ 11,940,000
Federal Allocations through FY 2012	\$ -0-
Federal Allocation for FY 2013	\$ 11,940,000



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Balance to Complete

\$ -0-

Additional Project Information

The current gate design is flawed. In 2012, a new control tower design was completed and a district quality control review (DQCR) was also completed. Winter 2012/2013, efforts were made to decrease the outflow by lowering sandbags to block to air vent and placing aggregate onto the gate itself. Efforts resulted in reducing the outflow from 13 cfs to approximately 5 cfs. The on-going drought and little to no in-flows to Big Creek Lake also has contributed to Big Creek Lake's historic lows. Summer 2013: USACE provided \$6.5M for construction of this project. Value Engineering Study underway; Agency Technical Review planned for Fall; BCOE review planned for November and contract award April 2014 FY14: President's budget \$6M for this project FY15 Cofferdam work is underway. Construction of the new control tower is expected to begin Spring 2016. FY16 Cofferdam work continues. De-watering of coffer dam expected in the fall. Removal of old structure and construction of new control tower expected spring/summer 2017. Project completion expected Spring 2018.

Major Work Item (This Fiscal Year)

FY17: Removal on existing gate structure, begin construction of new control tower.

Major Work Item (Next Fiscal Year)

FY18: Completion of new control structure and contract closeout.

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