East Branch Dam Safety Initiative

STATUS REPORT
October 2014

US Army Corps of Engineers ®
Pittsburgh District

UPDATED

SUMMARY

The primary objective of our Dam Safety Program is to maintain public safety by ensuring the dams we own and operate are safe and risks to the public are minimized. East Branch Dam has confirmed dam safety issues related to internal erosion similar to the serious internal erosion episode in 1957 that required lowering the lake to make repairs. Based on the results of a risk-informed screening of the dam, in February 2008, the Corps began 24-hr staffing at the dam, lowered the lake level, and implemented an interim reservoir operations plan as reasonable and prudent measures. This allowed the District to provide immediate and substantial interim risk reduction while limiting negative impacts on authorized project purposes.

A Dam Safety Modification Study was completed and approved by Headquarters, U.S. Army Corps of Engineers in October 2010. The approved long-term-risk reduction plan for East Branch Dam consists of constructing a full length and depth concrete cutoff wall within the existing dam embankment and foundation. The total cost of the project, last reported to Congress in 2014, is $248 million.

The preconstruction, engineering and design phase of the project was initiated in October 2010. Approval to initiate construction was granted in August 2011.

Returning the lake back to pre-2008 levels is dependent on successful completion of the cutoff wall and completion of a post implementation evaluation.

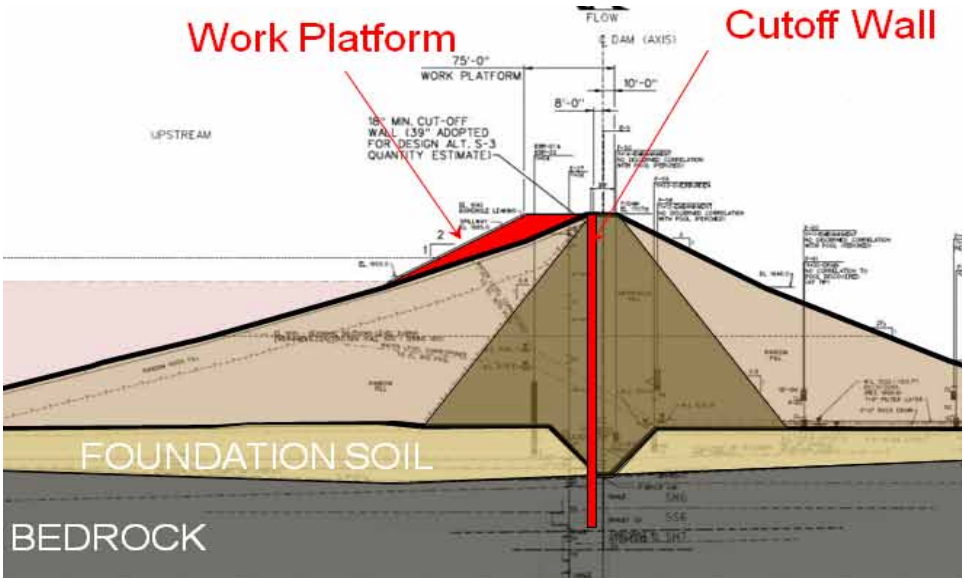
DAM SAFETY MODIFICATION PROJECT

UPDATED

Since approval to initiate construction was received in August 2011, three construction contracts have been completed. In December 2012, a site development contract for replacing the access road and preparing office and material laydown areas was completed. In July 2013, the resident engineer office building contract was completed. In December 2013, a contract for providing additional guiderail along the access road was completed.

In 2012, additional instrumentation to monitor the condition of the dam was installed as well as data loggers to automate the instrumentation readings. In September 2013, a contract to provide the near real-time processing and downloading of the instrumentation readings was awarded and is ongoing.

The cutoff wall construction contract was awarded on Aug. 26, 2014 to Layne Christensen of Ruther Glen, Va. for $132,504,348. The cutoff wall contract period of performance is four years and nine months. The current scheduled contract completion date is June 23, 2019.



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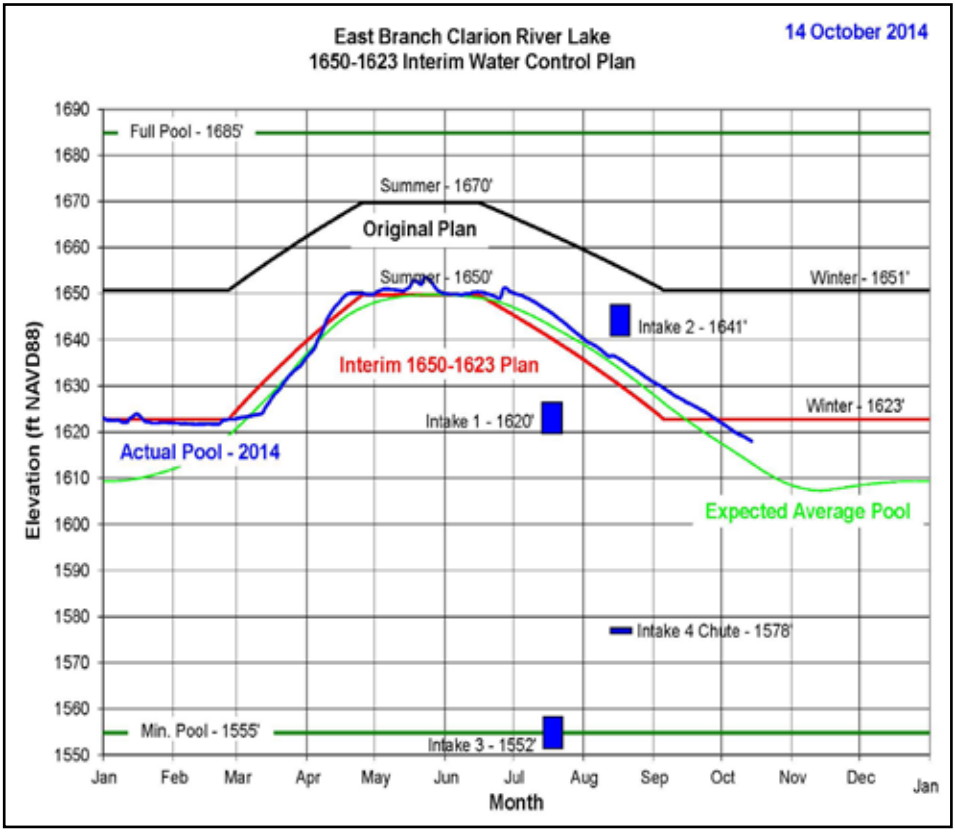
RESERVOIR OPERATION

The district is currently operating East Branch Dam and Reservoir under a lowered pool to reduce risk as part of the Dam Safety Initiative. The dam is continuing to provide additional water to maintain downstream water quality and temperature.

As of October 14, East Branch Lake is near 1618 feet. To obtain the latest lake level and outflow information, please visit: www.lrp.usace.army.mil/ Missions/ WaterManagement/ReservoirForecast.aspx

An annual review of how the Corps will operate the reservoir pool was conducted in March 2014. The district recommended to maintain its current interim water control plan and other ongoing interim risk reduction measures.



INTERIM RISK REDUCTION MEASURES

UPDATED

• The lake has been staffed 24 hours a day, seven days a week since March 2008.

• Maintenance of the existing sluice gates and machinery was completed in 2008 to improve reliability.

• Control Tower Number 4 intake extension was installed in 2008.

• On-site equipment and supplies were delivered in 2008.

• Monthly inspections of the downstream face of the embankment have been performed since May 2012.

• Continue to conduct annual surveys to look for deformations such as surface settlement at the dam crest.

• Installed eleven additional piezometers and two inclinometers in advance of construction which we are also reading as part of the Interim Risk Reduction Measures.

• Weir gage readings have been automated at two key locations.

• Spillway drain inspection every two years, most recently July 2014.

• The 2014 annual dam safety refresher training was completed in March.

• Cleanout and inspection of weir ponds every two years.

NEPA AND WATER QUALITY

•Completed an Environmental Assessments to analyze environmental, cultural, and economic impacts related to implementation of the East Branch Dam interim water control plan and the Dam Safety Study's risk reduction alternatives and signed Finding of No Significant Impact (FONSI) documents.

• Continue to monitor real-time water temperature at the dam outflow from March through November. (Water temperature information available on the Dam Outflow Information link at www.lrp.usace.army.mil/Missions/Recreation/ Lakes/ EastBranchClarionRiverLake.aspx)

• Continue to monitor real-time lake water temperature profile at a location near the dam intake tower.

• Conduct water quality analyses at the dam outflow twice monthly.

• Conduct East Branch Clarion River Lake aquatic ecology survey from May through October.

• 2013 Installed an automated water quality monitor at the outflow.

• Conduct East Branch Clarion River Lake aquatic ecology survey from May through October.

One of East Branch Dam's authorized purposes is to provide additional water flows to maintain downstream water quality to offset industrial and sanitary discharges. The Corps does this by opening the control tower's water intakes at different levels and temperature elevations. This water mixes in the outflow to achieve the required volume and temperature. To ensure this requirement was met during lower water levels, the Corps fabricated an extension that allows intake water from an additional lower elevation where cool water is available.

TO DO LIST

UPDATED

2008

- ✓ Received Willowstick Seepage Flow Path Mapping Final Report
- ✓ Control Tower Maintenance Work
- ✓ Number 4 Intake Extension Installation

2009

- ✓ Installation of Lighting and Storage Bins
- ✓ Finding of No Significant Impact signed for Interim Water Control
- ✓ Completed Extension of the Federal Boat Launch Ramp

2010

- ✓ Inundation Mapping Completed
- ✓ Finding of No Significant Impact for the Long-Term Risk Reduction Measure signed
- ✓ Dam Safety Modification Study Approved
- ✓ Initiated Project Design Phase

2011

- ✓ Received Assistant Secretary of the Army for Civil Works concurrence for construction
- ✓ Awarded geotechnical investigations contract for cutoff wall design
- ✓ Awarded site development construction contract

2012

- ✓ Awarded contract for Independent External Peer Review of design phase
- ✓ Geotechnical investigations for cutoff wall design completed
- ✓ Awarded office building contract
- ✓ Awarded contract to install instrumentation to monitor the embankment during construction
- ✓ Conducted Table-Top Dam Safety Exercise with local Emergency Responders

2013

- ✓ Awarded contract to automate instrumentation
- ✓ Advertised cutoff wall contract
- ✓ Completed contract for additional guide rail along access road

2014

- ✓ Award cutoff wall contract

2015

- ○ Complete instrumentation automation contract
- ○ Conduct Table Top Exercise with Emergency Responders

Automation of the instrumentation to monitor the dam initiated in March 2014. Solar panels will be the primary instrumentation power source.

For more information, please contact the following:

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The East Branch Dam Safety Initiative Team has created a Rumor Control Website to ensure that proper information is being disseminated.

Visit: http://www.lrp.usace.army.mil/Missions/Planning,ProgramsProjectManagement/HotProjects/EastBranchDamRepair/EBRumorControl.aspx

Also visit: http://www.lrp.usace.army.mil/Missions/Planning,ProgramsProjectManagement/HotProjects/EastBranchDamRepair.aspx