

East Branch Dam Safety Initiative



Lead Engineer Joe Premozic taking readings at a recently installed inclinometer.



STATUS REPORT September 2011

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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 www.lrp.usace.army.mil/rec/lakes/EBRumors.htm

Also visit www.lrp.usace.army.mil/rec/lakes/ebdam_safety.htm



US Army Corps
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Pittsburgh District

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 potential 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 project purposes.

Since 2008, the District has conducted additional explorations and intensive analysis of all relevant information about the dam. This work confirms that possible seepage paths exist through and under the dam, generally consistent with known conditions and supports the need to pursue long-term repairs. These additional explorations were completed to provide the data necessary to develop long-term repair alternatives. 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 concrete cutoff wall within the existing embankment and foundation. Another phase of field exploration will begin in October 2011 to provide information to design the cutoff wall.

TO DO LIST

UPDATED

2008

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

2009

- Preliminary Risk Reduction Measures Identified
- Installation of Lighting and Storage Bins
- Finding of No Significant Impact signed for Interim Water Control Plans Environmental Assessment
- Completed Extension of the Federal Boat Launch Ramp
- Conducted Table-Top Dam Safety Exercise with Emergency Responders

2010

- Inundation Mapping Complete
- Draft Dam Safety Modification Study for Agency Technical Review
- Finding of No Significant Impact for the Long-Term Risk Reduction Measure signed
- Independent External Peer Review of Dam Safety Modification Study
- Dam Safety Modification study submitted for Agency Approval
- Dam Safety Modification Study Approved
- Initiate Project Design Phase

2011

- Site development contract plans for access road improvements and site preparation
- Risk reduction plan refinements
- Initiate risk reduction plan design
- Receive Assistant Secretary of the Army for Civil Works concurrence for construction

- Awarded geotechnical investigations contract for cutoff wall design

- Award site development construction contract

2012

- Award construction office building contract
- Award contract to install instrumentation to monitor the embankment during construction

2013

- Award cutoff wall contract

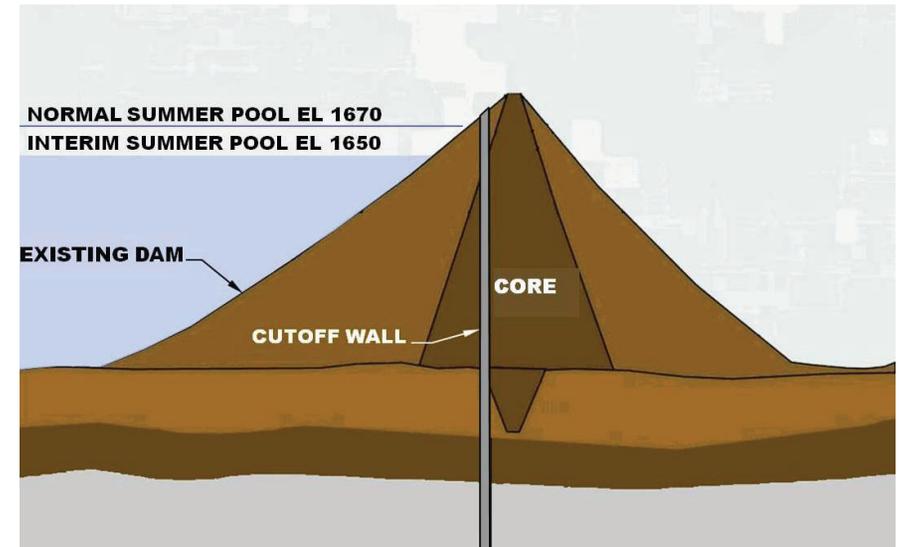
UPDATED

DAM SAFETY MODIFICATION PROJECT

The approved Dam Modification Study defines the scope, cost and schedule of the proposed long-term risk reduction plan. The study recommends constructing a full-length, full-depth concrete cutoff wall through the dam to reduce risk and restore the dam to normal operation. The estimated cost of this plan was \$280 million. The study was reviewed by a Corps technical team and by an Independent External Peer Review team, which was comprised of three technical subject matter experts. The Study was approved by Headquarters in October 2010 subject to refining the risk reduction plan.



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.

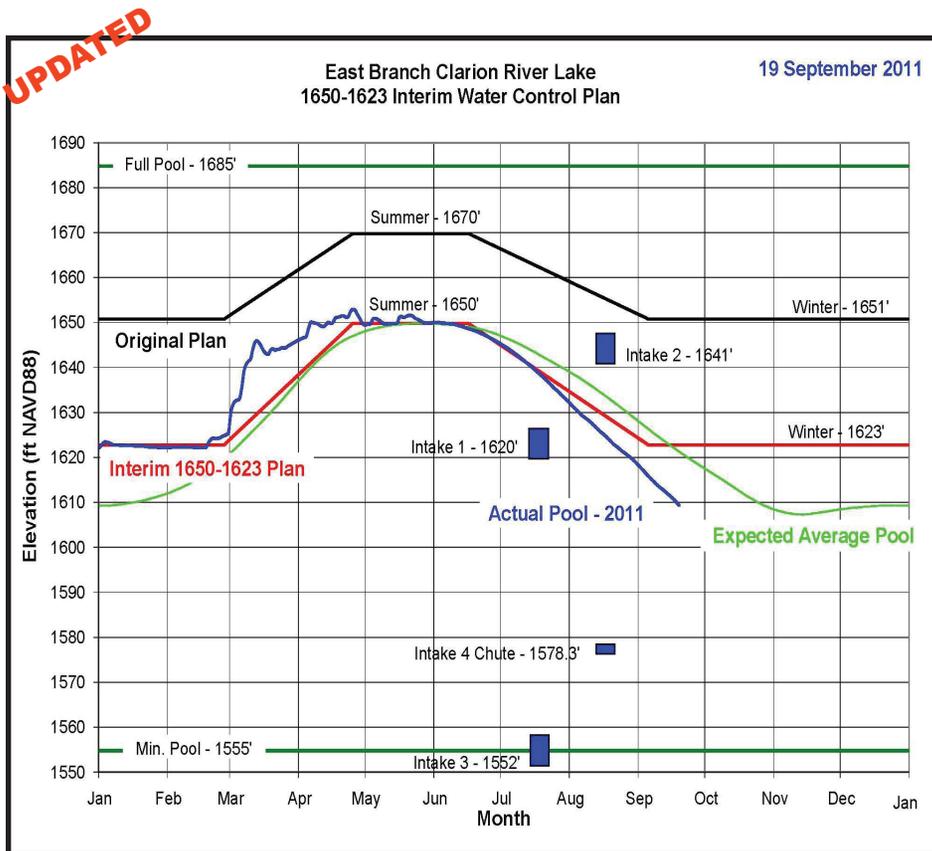


The preconstruction engineering and design phase of the project was initiated in October 2010. The site development design for improving the access road and preparing office and material lay-down areas for contractors and the government was completed in June 2011. The Assistant Secretary of the Army for Civil Works concurred with initiation of construction on Aug. 5, 2011. The site development contract bid opening was held on Sept. 12. The apparent low bid was \$2,902,280. The design for the cutoff wall contract has been initiated. Completion of the cutoff wall in 2017 is funding dependent. Geotechnical data was compiled to facilitate completing refinement of the risk reduction plan. On-site geotechnical investigations are ongoing.

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. Currently, the district is attempting to fill the lake to the winter pool elevation of 1623, which is 28 feet lower than normal target winter pool. The success of meeting lake levels is dependent on the amount of precipitation within the Clarion River Basin. The dam is continuing to provide additional water to maintain downstream water quality and temperature. As of Sept. 19, East Branch Lake is near 1610 feet. To obtain the latest lake level and outflow information, please visit: wmw.lrp.usace.army.mil/current/forecast.html

An annual review of how the Corps will operate the reservoir pool for the 2011 recreation season was conducted in March 2011. The district recommended to maintain its current interim water control plan.



INTERIM RISK REDUCTION MEASURES

- Cross-training of Corps personnel from other lake projects was completed in March 2008.
- 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.
- Lighting has been installed in 2009 to enhance monitoring and surveillance.
- Additional piezometers and the two inclinometers were installed in 2010.
- The 2011 annual dam safety refresher training was completed in April.
- Equipment was installed on the two weirs in 2011 to provide automated gage readings.

NEPA AND WATER QUALITY

- Completed an Environmental Assessment and signed a Finding of No Significant Impact (FONSI) document, in compliance with the National Environmental Policy Act (NEPA), to assess 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.
- Completed an environmental assessment and signed a FONSI addressing the Dam Safety Study's risk reduction alternatives and proposed long-term risk reduction plan.
- Continues 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/rec/lakes/eastbran.htm.)
- Continues to monitor real-time lake water temperature profile at a location near the dam intake tower.
- Conducts water quality analyses at the dam outflow twice monthly.
- Conducts East Branch Clarion River Lake aquatic ecology survey from May through October.