



DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, PITTSBURGH DISTRICT
1000 LIBERTY AVENUE
PITTSBURGH PA 15222-4186

CELRP-EC

17 June 2020

MEMORANDUM FOR RECORD

SUBJECT: LRD Dam Safety Officer (DSO) conditional acceptance of removal of Interim Risk Reduction Measures (IRRM) at East Branch Dam based on Post Implementation Evaluation (PIE) [REDACTED].

1. This memorandum has been prepared in advance of the anticipated reclassification of East Branch Dam [REDACTED] consistent with the PIE memorandum, currently under review. This MFR summarizes the revisions made to the East Branch Interim Risk Reduction Measures Plan (IRRMP) and removal in lieu of a transitional (and eventually permanent) surveillance and monitoring plan. The revisions were presented to the Lakes and Rivers Division (LRD), Dam Safety Program Manager on 22 and 27 April 2020. This memorandum serves as the record of LRD acceptance to remove two of the Interim Risk Reduction Measures (IRRM) that are currently in place.
2. A Post Implementation Evaluation (PIE) assessed whether the constructed cutoff wall was successful in reducing the associated risk of the dam to a tolerable level. The preliminary PIE risk assessment was completed on 20 May 2019 and determined that the annual probability of failure from three identified risk-driving PFMs were all below tolerable risk guidelines and somewhat lower than anticipated by the Dam Safety Modification Study (DSMS). The results of the PIE were pending cutoff wall completion (including panel remediation). In August 2019, the cutoff wall was determined to have deficiencies in two of the cutoff wall panels (did not meet contract requirements) which were subsequently remediated successfully. The cutoff wall was accepted by the government on 20 March 2020. The results of the PIE are not expected to change. The PIE will be presented at the July 2020 Dam Senior Oversight Group (DSOG) meeting to obtain concurrence that the cutoff wall construction has resulted in reduction of risk to tolerable levels.
3. Based on the outcome of the PIE, two IRRM are proposed to be discontinued in light of the risk reduction realized by the construction of the cutoff wall. These IRRM are the Interim Pool Operating Plan and 24-hour staffing and surveillance.

4. It is recommended that the interim operating plan be abandoned and the reservoir be returned to normal operations, unless the DSOG does not agree with the PIE risk assessment or provides a different course of action. The judgment made during the preliminary PIE that risks associated with East Branch Dam are tolerable with the cutoff wall in place are based on observed favorable instrumentation responses, a review of grouting and cutoff wall construction records, and normal reservoir loading (return to normal reservoir operations).
5. Through late summer and early fall, the reservoir will be returned to interim winter pool (El 1622.8) following the current interim operating plan. The reservoir will remain at or below this level so the cutoff wall contractor can complete the removal of the temporary work platform, which ties into the upstream embankment face at El 1630. The removal of the temporary work platform is expected to be completed in October 2020. The District will resume normal (pre-2008) reservoir operations (Summer Pool – El 1670, Winter Pool – El 1651) after the work platform is removed and will begin reservoir filling as soon as practical to enable a return to normal summer pool El 1670 in 2021. Figure-1 illustrates the interim and normal operating plans. The District will update and submit the water control manual to document the resumption of the normal operating plan. The District will also prepare a Filling Plan for the dam.
6. The District will also eliminate 24-hour surveillance of the dam. The end of 24-hour surveillance is expected to occur at a period when the reservoir is below interim summer pool Elevation 1650. The reservoir is currently dropping toward interim winter pool 1622.8 and will be held at or below this level until removal of the work platform is completed, after which the normal reservoir operating plan will be resumed.
7. Monitoring of the dam will be accomplished by review of the instrumentation data collected through the ADAS, visual observations made by project operations personnel during normal working hours, the East Branch Resident Engineer's Office technical staff, and visual inspections made by the Pittsburgh District Geotechnical Engineering and Dam and Levee Safety Sections. The ADAS will continue to send automated alerts to District geotechnical engineers on a 24-hr basis if and when instrumentation indicates levels outside of established thresholds.
8. When the interim operating plan is abandoned and the reservoir has reached Elevation 1650 (interim summer pool), personnel from the Pittsburgh District Geotechnical Engineering and Dam and Levee Safety Sections will conduct a visual inspection of the Dam and a complete review of the instrumentation data for every five (5.0) foot rise of the reservoir. In-between these visual inspections, the East Branch Resident Engineer's Office technical staff will conduct daily visual inspections of the dam and the Geotechnical Engineering Section will continue instrumentation monitoring through the ADAS. East Branch Operations will continue manual instrumentation monitoring and daily visual inspections during normal working hours. In the event that conditions warrant (e.g., emergence of severe adverse dam

safety conditions), the District will revert to 24-hour monitoring until the condition is resolved or otherwise mitigated.

9. Once the reservoir has reached Elevation 1650, the Geotechnical Engineering and Dam and Levee Safety Sections will be on-call to respond to significant precipitation/snowmelt events where the reservoir is forecasted to rise five (5.0) feet or more.

10. Pittsburgh District point of contacts for the transition surveillance and monitoring plan are Joe Premozic (Dam Safety Program Manager) at 412-395-7186 or Greg Braun (Project Engineer) at 412-395-7596. They may also be reached by email at joseph.w.premozic@usace.army.mil or gregory.d.braun@usace.army.mil.

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Jeanine M. Hoey, P.E., P.M.P.
Chief, Engineering and Construction Division
Pittsburgh District, Dam Safety Officer

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Joseph M. Savage, P.E., S.E.S.
Regional Business Director
Lakes and Rivers Division, Dam Safety Officer

Enclosures:

Figure-12: East Branch Reservoir Original and Interim Operating Plan

**East Branch Clarion River Lake
1650-1623 Interim Water Control Plan**

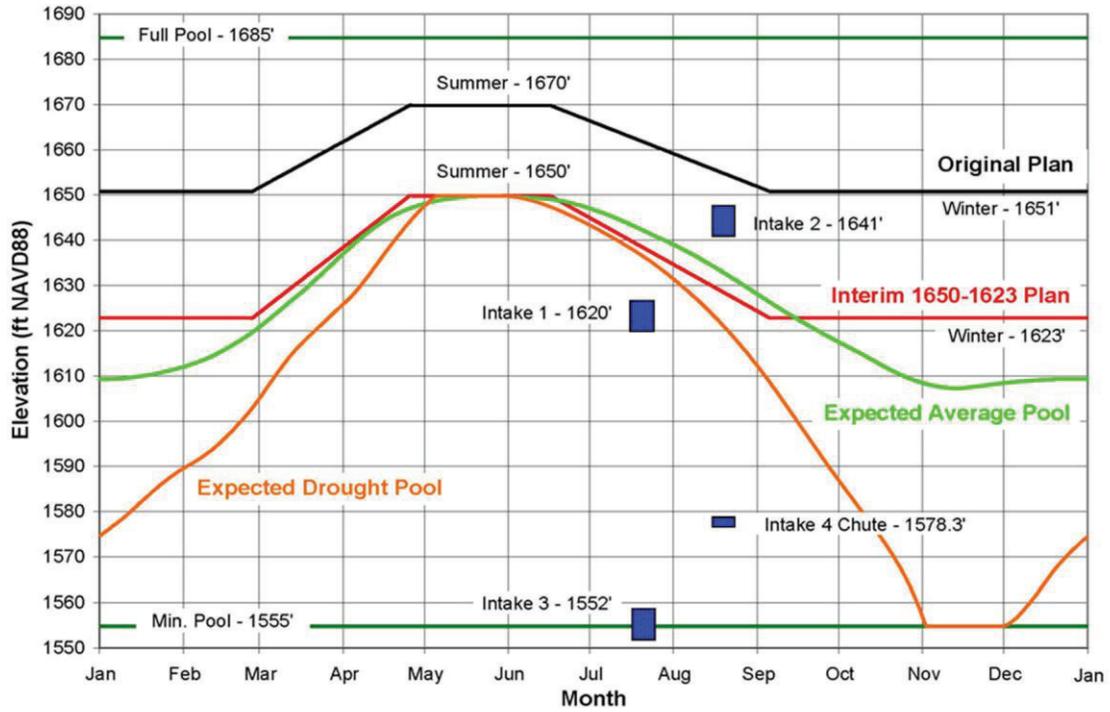


Figure-1: East Branch Reservoir Original and Interim Operating Plan