



TO: Director James Zehringer

FROM: Hung Thai, P.E., MBA, Chief Engineer 

DATE: July 20, 2015

SUBJECT: REQUEST FOR DECLARATION OF PUBLIC EXIGENCY
Buckeye Lake State Park
Buckeye Lake Dam

In March of 2015, ODNR received the *Review of Past Reports and Existing Conditions and Recommendations for Interim Risk Reduction Measures, Operation, and Maintenance* (USACE Report) from the US Army Corps of Engineers Huntington District, Great Lakes and Ohio River Division (USACE). This report was prepared for ODNR based upon the USACE's inspection of the dam and review of ODNR's historic reports and investigations performed at Buckeye Lake Dam. The comprehensive nature of this report resulted in the identification of numerous deficiencies with Buckeye Lake Dam that require immediate response and remediation by ODNR. These deficiencies may result in failure due to uncontrolled seepage within and under the embankment, and slope instabilities along the embankment during normal operating and/or flood conditions, and overtopping of the embankment during flood conditions. In this report, the USACE stated that a high probability of catastrophic failure exists at normal pool elevation.

Buckeye Lake Dam is a Class I high-hazard potential dam with probable loss of life in the event of a failure. The dam is 4.1 miles long and has a maximum height of 14.5 feet and was constructed between 1825 and 1832. The dam failed in 1832 during first filling. The embankment consists primarily of poorly compacted earthen fill. The upstream slope of the embankment consists of a masonry wall along the West Bank and steel sheet pile for the remainder of the dam. These walls serve only as shoreline erosion protection for the dam. The upstream slope masonry and sheet pile walls have been constructed over time and the age of these walls vary, but in some cases are greater than 50 years. Numerous encroachments along the crest and downstream slope of the dam exist including home foundations which prevent proper monitoring, maintenance and inspection of the dam.

Since the submittal and review of the USACE report in March, ODNR has been actively implementing remedial measures at Buckeye Lake Dam. Remedial efforts include:

- Reducing the target operating pool elevation at Buckeye Lake by three feet
- Daily inspection of the dam by professional staff
- Assignment of a full-time dam tender to the dam
- Limiting home and dock construction on the dam
- Development of a hydraulic and hydrologic study to better characterize inflows and outflows from the dam, particularly for potential flood conditions
- Selection of an ODNR consultant to begin design for additional remedial measures as identified in the USACE report.

Despite these efforts ODNR has identified that:

1. Significant public safety concerns for both the dam and residents around the dam still exist including high probability for excessive seepage, instabilities along the embankment, and overtopping, any of which could result in dam failure.
2. ODNR has limited capability to maintain the reduced operating pool elevation, resulting in uncertainties with regard to risk to public due to potential uncontrolled seepage and overtopping that may result due to significant rainfall events.
3. Based upon a recent economic impact study conducted by Silverlode Consulting, there is potential for significant economic hardship due to risk reduction activities related to dam rehabilitation, particularly the interim 3-foot lake level lowering urged by the USACE and implemented by ODNR, which have significantly impacted the suitability of Buckeye Lake as an area focal point for recreation.

Given this information and the extraordinary circumstances of this public safety issue the Division of Engineering respectfully requests authorization to proceed with this work pursuant to the emergency provisions of Section 1501.011 of the Revised Code. This will allow the Division of Engineering to proceed with design and construction of the necessary remedial measures outside of normal contracting procedures and greatly accelerate completion of this work. Declaration of exigency will greatly expedite the implementation of risk reduction measures that will reduce the threat to public safety and lessen the duration of the project and negative economic impact.

7/20/2015

Interoffice Memo

APPROVED:


James Zehringer, Director

7-20-15
Date

C: Steven Berezansky, Chief of Projects
Gary Obermiller, Deputy Director