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Challenges in Managing an Aging Infrastructure: Lessons Learned from a Near-miss on the Lake Manatee Dam

One of the greatest challenges we face in managing our aging infrastructure is to accurately assess its current condition and the risks for non-action. This presentation discusses common pitfalls faced in managing our aging infrastructure, by using a case history of a recent near miss at the Lake Manatee Dam in Central Florida. This dam began its service in 1967 and was inspected periodically by dam safety engineers beginning in 1978. Although substantial and repeated evidence of a serious piping and internal erosion problem was documented in inspection reports, the problem was overlooked by most of the inspection teams. The final inspection team concluded in 2012 that “Overall, the dam is in very good condition.” During an independent inspection in 2013, a new team identified several serious conditions, and performed an integration all of the historical inspection data, with the conclusion that: 1) Lake Manatee Dam was in a severely distressed state; and, 2) without an immediate intervention there was a high risk of an uncontrolled release of the reservoir, most likely following a large rainfall event and prolonged opening of the service spillway.



Dr. Glen Andersen, P.E. is a Principal Engineer with Eustis Engineering, LLC. He received BSCE from BYU, and his MS and PhD in Geotechnical Eng. from MIT. He has been a research engineer for the Chevron Oil Field Research Company, and a professor of Civil Engineering at Tulane University, Texas A&M University and Michigan State University. After his 10 year academic career he began work as a consulting engineer and has held senior engineering positions in various firms across the country. Glens expertise are in the field of earthen dams, levees, flood control structures, structures on expansive soils, slope stabilization, and soft-ground construction. He has performed and/or supervised seepage and stability analyses on hundreds of cross sections for flood control structures located in Louisiana, Illinois, New Mexico, and Texas. He enjoys soil/structure interaction modeling and is an expert in forensic evaluations involving complex soil/structure interaction behavior.

Interested in this presentation? Contact the ERS committee: Mr. Joel Dellaria or Dr. Anne Lemnitzer at jbdellaria@haywardbaker.com or alemnitz@uci.edu