The Donald M. Burmister Lecture
Department of Civil Engineering and Engineering Mechanics
Columbia University

Seismic Design and Analysis of Embankment Dams:
The State of Practice

Dr. William F. Marcuson, III
The President of ASCE
&
U.S. Army Engineer Waterway Experiment Station (retired)

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555 Lerner Hall

This Lecture traces the development of the state of practice in seismic design and analysis of embankment dams, starting in the mid 1960's and continuing through 2000. The key issue, evaluation of earthquake-induced liquefaction of saturated loose cohesionless material, will be discussed, with emphasis on key components of the problem. Remediation methods for fixing existing embankment dams judged to be unsafe, should the "design" earthquake occur, are summarized. Gaps in our knowledge are identified and he will sketch a vision regarding future developments in permanent deformation analyses, site characterization, remediation and ground motions.

About The Speaker

Dr. William F. Marcuson III is President of the American Society of Civil Engineers (ASCE) and is one of the nation’s leading civil engineers. He holds degrees in civil engineering from The Citadel, Michigan State University and North Carolina State University. He has received five national awards from ASCE, including the Norman Medal, civil engineering’s oldest honor. In 1995 he was honored by the National Society of Professional Engineers as their Federal Engineer of the Year. His career included research and administrative positions at the U. S. Army Engineer Waterways Experiment Station, where he served as Director of the Geotechnical Laboratory for nearly 20 years, prior to his retirement in 2000. He is the only engineer to be named the Corps of Engineer's Engineer of the Year twice (1981 and 1995), and he was honored by the Corps as their Civilian of the Year in 1997. He was elected to the National Academy of Engineering in 1996 for his contributions to the design and analysis of embankment dams.

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