



Australian Geomechanics Society

Sydney Chapter

“Design and Construction of Asphalt Concrete Core Embankment Dams”

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and
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Wednesday 12 March, 2008

Auditorium, Ground Floor, 8 Thomas Street, Chatswood

(see map below for venue location)

Light refreshments at 5.30 pm for 6 pm meeting

SYNOPSIS

The application of asphaltic materials in hydraulic structures can be traced back 5000 years. In the previous 50 years, asphalt concrete (AC) has been used as the water sealing section of earth fill dams in some countries such as Norway, Germany, Iran, China and the USA. AC is often used when short construction times are necessary because of atmospheric restrictions, there is a lack of locally available impermeable soil, or because of the costs associated with transporting such materials. These conditions are usually encountered near mountain tops or in regions with long rainfall seasons.

Asphalt concrete core (ACC) has low permeability, good flexibility, high compaction capacity, and excellent weathering resistance. Different layers of asphalt can adhere after compaction with high-quality and high crack resistance. As AC is a visco-elasto plastic material, ACC dams are an appropriate choice in regions with high earthquake risk.

The presentation focuses on design and construction methods of ACC and transition zones of earth fill dams. Specific attention will be given to the construction of Meijaran dam in the Middle East. Meijaran dam is approximately 54m high with a 1m wide core, and is the first of its kind in Iran. Brief technical specifications of ACC including construction techniques, laboratory tests and field measurements will be reviewed. Finite element analysis of Meijaran dam with special attention on core parameters will also be discussed.

ABOUT THE SPEAKER

Behzad has worked as a consulting and site geotechnical and dam engineer and has completed doctorate studies in geotechnical engineering. Behzad is Lecturer of Civil and Geotechnical Engineering at the University of Technology Sydney, and Geotechnical Engineer at Coffey Geotechnics Pty Ltd, Sydney Office. His research and practical interests include Embankment Dam Design and Construction, Ground Improvement Techniques, Numerical Modelling in Geomechanics, and Unsaturated Soil Mechanics.

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*Attendance may be credited (1 point)
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