



The Institution of Engineers, Malaysia

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Pre-GETD Annual General Meeting (AGM)

Talk on Reinforced Soil Structures: Performance under Extreme Loading Conditions

(Organised by the Geotechnical Engineering Technical Division, IEM)

BEM Approved CPD/PDP Hours: 2.0 CPD Ref. No: IEM16/HQ/138/T

Day/Date : **Saturday, 18th June 2016**
Time : **9:00 am – 10:30 am (Registration and light refreshment will commence from 8:30 am)**
Venue : **Tan Sri Ir. Prof. Chin Fung Kee Auditorium, 3rd Floor, Wisma IEM, PJ**
Presenter : **Mr. Michael Dobie**

SYNOPSIS

Reinforced soil structures have gained increasing popularity over the last few decades, in situations where grade levels require a large vertical separation. Overall structure heights have also increased, with structures in excess of 60m high being constructed, and at such heights the reinforced soil technique may well provide the only viable solution. However such large thicknesses of fill create very high stresses, in excess of 1000 kPa, which may be considered as extreme loading. Another form of extreme loading is generated when this form of structure is subjected to strong ground motion due to earthquake shaking. Under these conditions reinforced soil structures generally perform very well due to their ductility, although there have been some dramatic and widely publicised failures. A third form of extreme loading may be created by high water pressure, especially when that water pressure was not anticipated, and therefore in excess of the design assumptions. This presentation examines all three sources of extreme loading: large height, earthquake shaking and water pressure, by describing five actual cases where either one or a combination of these conditions occurred. In some of these cases, the extreme loading resulted in either failure or inadequate performance in service. One of the main aims of this examination is to establish if conventional design and analysis methods, which are readily available to designers, would have predicted the observed performance. The general conclusion is that they would have, provided that suitable and adequate material properties are available.

ABOUT THE PRESENTER



Mr. Michael Dobie is a Geotechnical Engineer with more than 40 years of experience, including 28 years working in SE Asia (Singapore, Malaysia and Indonesia). He graduated from Bristol University with a BSc in Civil Engineering, then a few years later from Imperial College, London with an MSc in Soil Mechanics. His experience includes working for consulting engineers (WS Atkins & Partners and Acer Freeman Fox) and for geotechnical specialists (Delft Soil Mechanics Laboratory and Dames & Moore). One assignment consisted of setting up and running the Central Soils Laboratory (CSL) in Bangi, Malaysia for the North-South Expressway project. Since early 1991 Mike has been employed by Tensar International Limited as Regional Manager for Asia Pacific. He has had extensive input into the development of design methods and software, including the design of reinforced soil structures under seismic loading conditions. Mike's office is in Jakarta, Indonesia. Locally he is a Member of HATTI (Indonesian Geotechnical Society), and Vice President of the Indonesian Chapter of the International Geosynthetic Society (INA-IGS). He is a Chartered engineer, a Fellow of ICE and also a Fellow of CIHT. He is currently the Indonesia Country Representative of ICE.

Ir. Yee Thien Seng
Chairman, Geotechnical Engineering Technical Division, IEM

ANNOUNCEMENTS TO NOTE

1. Preferential admission to talk shall be accorded to IEM members (**pre-registration and online registration are NOT required**). **Telephone and/or fax reservation will NOT be entertained.**
2. **Non members** may also attend the talk but will need to pay a registration fee of **RM 50** and an administrative fee of **RM 15**. GST is inclusive.
3. For members of affiliated organisations, there will be no registration fee payable. However, they are requested to produce their membership card as proof of membership. For the list of affiliated organisations, please refer to IEM website at www.myiem.org.my under International / MoU.
4. Limited seats are available on a "first come first served" basis (maximum 100 participants).
5. IEM members are required to produce membership cards for confirmation of attendance (CPD purpose).
6. Latecomers will not be allowed to enter if the lecture hall is full nor be entitled to CPD.
7. **IEM members who fail to produce their membership cards will be charged a fee of RM 25. GST is inclusive.**

ADMINISTRATIVE FEE

1. Kindly be informed that an administrative fee of RM 15 is payable for talks organized by IEM.
2. The fee would be used to cover overhead costs, building maintenance expenses as well as to contribute to Wisma IEM Building Fund.
3. All contributions will be deeply appreciated by IEM.
4. Student Members are however exempted.

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