



The Institution of Engineers, Malaysia

Bangunan Ingenieur, Lots 60/62, Jalan 52/4, Peti Surat 223, 46720 Petaling Jaya, Selangor Darul Ehsan
Tel: 03-79684001/2 Fax: 03-79577678 E-mail: sec@iem.org.my IEM Homepage: <http://www.myiem.org.my>

Evening Talk on Landfill Engineering: Waste/Barrier Interaction

Organised by the Geotechnical Engineering Technical Division, IEM
BEM Approved CPD/PDP Hours: 2 Ref No: IEM15/HQ/214/T

Date/Day : Thursday, 2nd July 2015

Time : 5.30 pm – 7.30 pm

Venue : Tan Sri Ir. Prof. Chin Fung Kee Auditorium, 3rd Floor, Wisma IEM, PJ

Speaker : Prof. Neil Dixon, BSc PhD FGS

SYNOPSIS

Design of landfills must consider stability both within and between elements of the lining system including geosynthetic materials, within the waste and involving the sub-grade. However, the design must also consider the integrity of the lining system. Stresses, and hence deformations, in both mineral and geosynthetic lining materials must be controlled to ensure preferential flow paths for leachate and gas are not formed during the life of the landfill facility. An assessment of integrity requires knowledge of the interaction between components of the lining system and the waste body as it compresses and degrades. Quantification is required of the relative shear displacements within the lining system and the tensile strains in the geosynthetic components. Various researchers have demonstrated through numerical analysis the complex behaviour of interface-waste interaction and the mechanism of stress transfer in a landfill lining system. However, these have traditionally treated the lining system as a single interface using deterministic analyses. This talk will present field measurements that illustrate aspects of waste/barrier interaction. It will consider the use of numerical modelling techniques to assess integrity of lining components, including uncertainties in the significant input parameters through the use of probabilistic analysis. The need to instrument lining systems in order to validate numerical analyses will be highlighted.

PROFILE OF SPEAKER



Dr. Neil Dixon is Professor of Geotechnical Engineering, Loughborough University. He has been a university academic for over 25 years and has 30 years of experience in geotechnical engineering research and practice. He has worked on funded projects and published over 150 refereed publications in the areas of slope failure mechanisms, pore-water pressure regimes in slopes, in situ measurement of soil/waste properties, slope stability assessment, instrumentation development, slope process modelling, landfill barrier design guidance and impacts of climate change studies. Professor Dixon leads the research to develop acoustic emission landslide monitoring using the Slope ALARMS sensors; he also leads the EPSRC funded UK Climate Impact Forecasting For Slopes (CLIFFS) Network and is part of the Future Resilient Transport Networks (FUTURENET) and Infrastructure Slopes: Sustainable Management and Resilience Assessment (iSMART) UK research consortia. Professor Dixon has played a leading role in the development of UK practice in waste containment system design through co-authoring the Environment Agency (England and Wales) reports on landfill stability. This is used as the basis for the current stability risk assessment permitting procedure. He was an elected Council Member of the International Geosynthetics Society for eight years and is a past Chairman of the International Geosynthetics Society, UK Chapter.

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.

CPD/PDP HOURS CONFIRMATION

Name:

Membership No/Grade:

Signature: