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PDS 2f: Embankments and dams

SPD 2f: Remblais et barrages

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Paper Presentation and Poster Discussion Session (PDS) for “2f: Embankments and Dams” was held at 16:00-19:00 on September 13 (Tuesday) with T. Tanaka as the session chair and Y. Miyata as the session secretary. In the technical session about same topics (Session Chair: *Tadatsugu Tanaka, Japan*, Session Secretary: *Shin-ichi Nishimura, Japan*), Prof. A. Whittle (USA), who was the general reporter, summarized 28 submitted papers by dividing these papers into 4 categories. Session schedule was prepared on the basis of his general report. Following papers were presented.

a) Construction material behavior

Considerations on the shear strength behavior of rockfills - *Sayao, A.S.F.J., Maia, P.C.A., Nunes, A.L.L.S.*

Effect of water composition on rockfill compressibility - *Romero, E., Alonso, E.E., Hueso, O.*

Elastic and creep settlements of rock fills - *Athanasiu, C., Simonsen, A.S., Soreide, O.K., Tistel, J.*

Embankments made of degradable materials - *Guerpillon, Y., Virollet, M.*

Numerical simulation of use of lightweight fill in construction of embankment on soft peaty clays - *Kulathilaka, S.A.S., Muhunthan, A.*

b) Soft foundation problems

Progressive consolidation behavior of highly structured soil under embankment loading - *Asaoka, A., Noda, T., Yamada, E., Tashiro, M.*

Geotechnical properties of low density unsaturated carbonated clayey silts and impact on the foundation of canal embankments - *Alonso, E.E., Romero, E., Arnedo, D., Olivella, S.*

Monitored construction of a high embankment on soft soil, reinforced by stone columns - *Logar, J., Majes, B., Turk, M.R., Lonikar, A.*

c) Stability problem of earth structure

Failure of peat dikes in the Netherlands - *Bezuijen, A., Kruse, G.A.M., Van, M.A.*

Failure probability of river dikes strengthened with structural elements - *Bakker, H.L.*

Experimental studies for the increase of slope stability of historical embankments due to the effects of capillarity and vegetation - *Katzenbach, R., Werner, A.*

Seismic analysis and design of rockfill dams in the Lower Thjorsa River - *Arnorsson, A.G., Erlingsson, S.*

d) Construction and performance

Effective evaluation method for quality control in the rock zone of rockfill dam - *Yanaka, Y., Kakue, T., Ohtsuki, T., Yano, K.*

Piled embankments: Overview of methods and significant case studies - *Alexiew, D.*

Seismic stability evaluation and criteria of rockfill dam basing on residual deformation - *Okamoto, T.*

Back analyses of Maroon embankment dam - *Mahin Roosta, R., Tabibnejad, A.R.*

Evaluation of earthfill parameters from Gavoshan dam with back analysis during construction - *Pakbaz, M., Zolfagharian, M.*

Stability and safety assessment of the Arch Dam Fom Gleita in Mauritania - *Scheid, Y., Schewe, L., Guisset, M.*

In the technical session, chairman brought discussion topics about 1) time dependent soil behavior, 2) the effect of soft soil ground, 3) back analysis and 4) static and dynamic analysis. General reporter also threw four questions to the floor about 1) understanding of material behaviors, 2) validity of design assumption in the ground improvement, 3) the most appropriate methods to evaluate stability and 4) advances in sensor and communication technology for the monitoring. In this PDS session, those topics were discussed again.

At August 2005, the hurricane “Katrina” attacked New Orleans, Louisiana State. The hurricane caused great damage to the city. A. Whittle introduced the situation of the city briefly in his general report. Many people focused failure of dike and again realized that geotechnical problem is closely related with safety of the citizen life. The citizens are looking forward for geotechnical engineering to solve this problem. Accumulated knowledge through discussion in this session will be effective to solve this kind of problem such as dike improvement and repair program.

Finally, the authors greatly appreciate for all of presenter, attending person for this session, and supporting staff.