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## Session 8: Final Comments by Moderator

K. Arulanandan

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Final Comments by Moderator K. Arulanandan.

Dr. Byrne appears to have misunderstood the point made in the moderator's report. It is not the adequacy of the pressure meter test, subject to obtaining results without disturbance that was questioned, but comments were made concerning the manner in which the results were interpreted to compare with Seed's chart.

Recently, the use of relative density,  $D_r$ , alone to predict liquefaction potential has received valid criticism from reputable engineers. Peck (1979) showed that many other factors including soil fabric, overconsolidation, seismic history and cementation influence the liquefaction potential of sand. In spite of this, Vaid et.al. have attempted to measure liquefaction resistance in terms of dilation angle,  $v$ , through a direct relationship between  $v$  and  $D_r$ . Although the relationship between  $v$  and  $D_r$  appears reasonable, the correlation with liquefaction resistance does not consider the effect of the additional factors mentioned by Peck.

In spite of much criticism against the use of Holtz and Gibbs charts to predict  $D_r$ , the authors make an additional error by trying to quantify their results in terms of corrected blow count,  $N_c$ . Blow count is not only a function of  $D_r$  but of many other factors as summarized by Seed (1976).

The authors make a third error in attempting to justify their prediction of liquefaction resistance by comparison with a correlation of  $\tau/\sigma_v$  vs.  $N_c$  established by Seed et.al. (1975). This comparison is invalid since the authors' correlation is based on  $D_r$  alone, and Seed's chart is based on results of  $N$  values obtained in the field.

#### REFERENCES

- Peck, R. B. (1979) "Liquefaction Potential. Science versus Practice," Journal of the Geotechnical Engineering Division, ASCE, Vol. 105, No. 0173, March.
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- Seed, H. B., K. Mori and C. K. Chan (1975) "Influence of Seismic History on the Liquefaction Characteristics of Sands," Report No. EERC 75-25, Earthquake Engineering Research Center, University of California, Berkeley, California.