

Final Report: NESC Proposal – Near Surface Soil Characterization (UNR Grant: 1320-117-13EY)

Two workshops were conducted in Las Vegas and Reno. Details of the workshop are provided below:

Workshop Title: Near Surface Soil Characterization and IBC 2003

Location/Schedule (Time: 9am – 3pm at both locations):

Las Vegas: Texas Station Hotel, 2101 Texas Star Ln., N. Las Vegas on September 13, 2004

Reno: Harry Reid Engineering Lab Center Rm 109, UNR Campus on September 29, 2004

Support: Nevada Earthquake Safety Council and Nevada T² Center

Workshop Description:

Building code guidelines depend on acceleration level and shear wave velocity in the top 30 m (V30). This concept is relatively new and many local engineers are not familiar with this concept. There are many conceptual and procedural questions. For example, questions such as (1) How do you estimate an “average” shear wave velocity over a 30 m depth?; (2) What is the rationale of using 30 m depth for cases with depth to bedrock in excess of 100 m ?; (3) How does one handle the case of Soil Type F, that requires a site-specific study; (4) When are more sophisticated analytical tools such as SHAKE to compute the surface response spectra have to be considered; (5) What are the merits of such analyses?, etc. are frequently asked by the engineering community. The proposed short course will address those issues.

Objectives:

Upon completion of this workshop, participants will become familiar with:

Principles of response spectra,
IBC 2003 requirements and their limitations,
Correct Implementation of IBC procedures,
Use and relevancy of more sophisticated approaches (e.g. SHAKE), and
Relevant references and resources.

The workshop was advertised at the website: www.t2.unr.edu and the registration form was also made available at the website.

Continuing Education Units:

If you are interested in receiving Continuing Education Units, there is an additional charge of \$10.00. Please mark the appropriate box on the registration form. The CEU's awarded will be 0.5 for this five hour course.

Instructor:

Dr. Siddharthan Ph.D., P.E. is a Professor of Civil Engineering at University of Nevada, Reno. He has taught, conducted research, and provided consulting services in geotechnical earthquake engineering field more than 20 years. He is active in many ASCE Technical Committees and has authored more than 100 journal and conference publications covering a number of topics in civil engineering. He has provided consulting services to local and national firms in areas that include site-specific seismic response evaluations, seismic tailings dam design, and liquefaction.

Outcome:

The Las Vegas and Reno workshops were attended by 41 and 34 participants, respectively. The participants included many interest groups that included the following: civil engineers, engineering geologists, city and county engineers who review plans, NDOT engineers, and UNR/UNLV grad students.

Continental breakfast, lunch, and handouts were provided.