



Understanding National Standards Provisions for Seismic Design

By James Malley, S.E.
Vice President, NCSEA

As a member of the committee that writes and updates the AISC seismic design standard for structural steel in AISC document 341, I am able to participate in the discussions and dialogues that are held whenever a new provision is proposed, or an existing provision is modified. This is a unique opportunity to understand both of the fundamental philosophies for, and the detailed reasons behind, the AISC 341 provisions. I know that every meeting held by our committee will be a great learning experience for me, as I try to take in all of the expertise that is shared by my fellow committee members. Unfortunately, most practicing engineers do not have this opportunity and therefore have to rely on other means to complete their project designs, such as their own interpretation of the provisions, review of the accompanying commentary, and discussion with colleagues. The seemingly never-ending series of changes and additional complexity, built into every edition, makes proper application of our seismic design standards one of the significant challenges of our profession.

If you have ever felt that this challenge was frustrating, and maybe even a bit overwhelming, then attending the 2010 NCSEA Winter Institute on March 12th and 13th in San Diego may be just the ticket for you. Titled *Seismic Design: Explaining the 'Y' Factor from One Generation to the Next*, this seminar will focus on presenting the fundamental basis for, and reasons behind, our national standards provisions for seismic design. This Winter Institute will include seven lectures given by leading seismic researchers and practicing engineers on such topics as the basic seismic design provisions, requirements for the four primary structural materials, nonstructural component design, soil-foundation-structure interaction (SFSI), and the next generation of performance-based design criteria. The presenters will describe recent changes and will focus on areas of the code that have been the more frustrating or less understood. Their emphasis will be on how to systematically implement good fundamental seismic design concepts, to result in buildings and structures that will meet our seismic design objectives.

In addition to the lectures, there will be a Friday afternoon tour of the world-renowned structural testing laboratory and shake table at the University of California at San Diego. These facilities include a strong wall for full scale component tests, a lab specifically designed for testing base isolators, and the outdoor shaking table that can test full scale

buildings. We are currently planning a tour that includes observing multiple tests in action, as well as a shaking table test.

If this isn't enticing enough, I haven't even mentioned the venue, the Marriott Coronado Island Resort and Spa, on world famous Coronado Island across the bay from San Diego. The resort boasts a full spa, tennis courts and three pools on site, and easy access to the beach and downtown San Diego. Combining the hotel with the expected warm, but not hot, weather year round in San Diego should make for an enjoyable stay during the event.

Check out pages 34 and 35 of this issue and the NCSEA website (www.NCSEA.com) for more details on the Winter Institute schedule, to register, and to reserve your room at the Marriott Coronado Island Resort. Then plan to join us in San Diego this March 12th and 13th. I am sure that you will learn a lot, catch up with colleagues, meet new engineers, and maybe even work on your tan before heading home!■

NCSEA Winter Institute Presenters:

- Professor Chia-Ming Uang, UCSD
ASCE 7 and Steel Design Concepts
- Professor Benson Shing, UCSD
Masonry Design Methods and Issues
- Professor Jose Restrepo, UCSD
Concrete Performance Factors and Design
- Mr. Phil Line, URS Corporation
Wood Design Provisions, Past and Present
- Professor Tara Hutchinson, UCSD
Nonstructural Components and Systems
- Dr. Farzad Naeim, John A. Martin & Associates
Modeling SFSI, Easy, Difficult, or Impossible?
- Mr. Ronald Hamburger, SGH
Next-Generation Performance-Based Design

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