



Getting Up to Speed on Seismic Design Requirements

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As we enter 2008, the practice of structural engineering in virtually every jurisdiction across the country will now be based on the 2006 International Building Code (IBC). Even my home state of California, which lagged for a number of years, finally joined the rest of the country in adopting the IBC as of January 1, 2008. This is the culmination of a multi-year effort that should help to make all of our lives easier, as we will be using virtually the same set of design provisions no matter where the project may be located. Hopefully, this consistent set of design requirements will help to improve all of our practices.

Another fundamental change to the “Brave New World” of design codes is that the structural design provisions are largely “standards based”. What this means is that the bulk of the structural design requirements for loads and material capacities are not directly presented in the IBC but, instead, are referenced to industry-developed standards documents, such as ASCE 7, ACI 318, AISC 360, etc. Only exceptions to the industry standards are presented in the IBC. As a result, the practicing engineer must now have a working knowledge of all the applicable standards, and how they are integrated, to complete the design process.

No doubt those of you that have dealt with the new codes and standards have noted an increased level of detail and complexity, compared to our codes of the past. This has occurred in response to our improved understanding of structural behavior and response, gained through advances in both analysis capability and experimental research. Although the requirements may seem more complicated, if you are like me, your practice is a lot more sophisticated than it was in the “good old days”. As a profession, we need to embrace these advances and use them to design better-performing and more economical structures.

Another fallout of the new codes is that seismic design has become a more significant consideration for a majority of the country. For engineers not practicing on the West Coast, getting up to speed on the seismic design requirements may seem like a daunting task.

While this may cause a level of trepidation in those who have practiced in what were formerly “non-seismic regions”, this need not be the case. The upcoming 2008 NCSEA Winter Institute, on February 29th and March 1st in Austin, Texas, has been specifically developed to help allay those fears and bring you the latest information on how to effectively design buildings in areas of low-to-moderate seismic demand. A group of renowned practicing engineers, and researchers instrumental in developing the standards for both the seismic design loads and the material responses, have been assembled to present this information in a way that will make an immediate impact on your practice. These speakers include the following:

- Mr. Lawrence Griffis: Seismic vs. Wind – Which Controls? (ASCE 7-05).
- Dr. Sharon Wood: Seismic Provisions in ACI 318-08.
- Dr. Richard Klingner: Update on 2008 MSJC Code and Autoclaved Aerated Concrete.
- Mr. John Henry: Seismic Design of Wood Structures (NDS and 2005 Special Design Provisions for Wind and Seismic).
- Dr. Michael Engelhardt: Seismic Design of Steel Structures and the 2005 AISC Seismic Provisions.

The emphasis of these presentations will be on the use of the applicable standards for structures in regions of low and moderate seismic demand, with the hope of de-mystifying some of the requirements and provisions. By receiving information on all of the major material standards, in addition to the design requirements of ASCE 7-05, in a single seminar, every engineer in attendance should come away with a solid understanding of the seismic design requirements that will benefit them greatly on future projects.

In addition to the expected hospitable weather in late February, Austin, Texas was selected for its proximity to the highly-rated structural engineering department and research facilities at the University of Texas. Not only will there be the lectures described above, but the Winter Institute will also include a tour of the Ferguson Structural Engineering Laboratory and the Network for Earthquake Engineering Simulation equipment site, to give attendees additional insight into the development of the new knowledge and information that form the basis of the design codes and standards.

So, if you're feeling a little overwhelmed by all the new requirements related to seismic design, or even if you just want to be sure you are up-to-date on what is required, the 2008 Winter Institute should be just the ticket for you. We hope to see you in Austin! ■

