



## Update on ASCE/SEI 7-10 and the 2012 IBC

By Robert Bachman, P.E., S.E., Vice Chair ASCE/SEI 7 Main Committee  
and James Harris, P.E., S.E., Ph.D., Past Chair ASCE/SEI 7 Main Committee

Most building departments in the United States utilize either the 2006 or 2009 editions of the International Building Code (IBC) as the source of their building code. For structural design criteria and loadings, these editions of the IBC in turn reference ASCE/SEI 7-05 *Minimum Design Loads for Building and Other Structures* for much of the criteria for loads rather than transcribing these provisions into the code. Therefore, ASCE/SEI 7 has become extremely important to the structural engineering profession in the U.S.

The IBC currently is updated every 3 years, with the next edition being the 2012 IBC. All are welcome to propose changes and to speak in code development hearings. Final decisions on IBC code provisions are made by the building department members of the International Code Council (ICC). The community of individuals and organizations involved in the code development process currently support the approach of referring to recognized standards, such as ASCE/SEI 7, rather than transcribing detailed structural provisions into the model code as had been done previously. Thus, the development of ASCE/SEI 7 and other national consensus structural standards are integrally linked with the code development schedule of the IBC since the documents must be published in advance of a specific point in the IBC approval cycle.

ASCE/SEI 7 is developed by a large and dedicated volunteer group of experts representing the structural engineering profession, regulatory bodies, researchers and material interests. Major changes in provisions have occurred over the past three decades. The pace of change has resulted in the request by many in the structural engineering profession to slow down the change process to allow the profession time to understand and implement the changes. To address this concern, the ASCE/SEI 7 committee decided to publish new editions of ASCE/SEI 7 every 6 years to coincide with alternate editions of the IBC. Therefore, after completing the 2005 edition of ASCE/SEI 7, it was expected that the next version of ASCE/SEI 7 would be published in 2011. However, an unexpected decision by the ICC advanced the 2012 IBC code hearing adoption schedule by 18 months. In a highly focused effort, the 2010 edition of ASCE/SEI 7 successfully made it through the consensus process and was published in April, just meeting the new ICC deadline. This edition was adopted by reference into the 2012 IBC during IBC final action hearings in May 2010.

ASCE's consensus process is an open process and, in that spirit, the ASCE/SEI 7 Standards Committee solicited proposed changes to ASCE/SEI 7-05 from anyone wishing to do so. Several hundred

proposed changes of this type were received. All were considered, with several resulting in changes to the standard. Changes were also initiated by the committee members and, in the seismic area, changes suggested in the 2009 NEHRP Recommended Provisions were also considered.

The new ASCE/SEI 7 has about 40% more pages but there are not 40% more requirements; the font is simply larger. Because of the compressed schedule for publication, the ASCE Publications Department elected to use the same larger font size and style that it uses for other ASCE standards. For all future editions of ASCE/SEI 7, it has been agreed that the font size and styling will revert back to that found in ASCE/SEI 7-05. The compressed schedule also resulted in a number of errata. Please check the SEI website ([www.seinstitute.org](http://www.seinstitute.org)) for the current list of errata to ASCE/SEI 7-10. This errata list gets updated periodically, so it's a good idea to check every few months and watch *SEI Update* for notices. While there, you should also get the most up-to-date errata for ASCE/SEI 7-05.

Four of the significant changes in ASCE/SEI 7-10 include:

- 1) In Chapter 1, the concept of Performance Based Design Engineering is introduced, and the terminology of Occupancy Category has been replaced by Risk Category.
- 2) Chapter 6, *Wind Loads*, has been replaced by new Chapters 26-31. It is hoped that the new organization of the wind load provisions, combined with new tables detailing the steps, will be more transparent and easier to follow.
- 3) The wind speed map and the importance factor for wind loads have been replaced with three wind load maps of different return periods to be applied to structures with different Risk Categories. The new wind loads are specified at the strength design level, rather than the allowable stress design level.
- 4) The Maximum Considered Earthquake terminology and maps titles have been replaced by Risk-Targeted Maximum Considered Earthquake. While these mapped ground motions were developed on the basis of the risk of collapse, the mapped values themselves have only changed slightly. There is no change for the average user of the standard in the determination or use of the mapped values.

Your involvement in the ASCE/SEI 7 development process is highly encouraged. Please be certain to take advantage of conferences, seminars and webinars that will provide you with more detailed discussions on the new requirements. If you find errata, have suggested changes or would like to be involved in its development process, please contact SEI at [sei@asce.org](mailto:sei@asce.org).

### Editorial Board

#### Chair

**Jon A. Schmidt, P.E., SECB**  
Burns & McDonnell  
Kansas City, MO  
[chair@structuremag.org](mailto:chair@structuremag.org)

#### Executive Editor

**Jeanne M. Vogelzang, JD, CAE**  
NCSEA  
Chicago, IL  
[execdir@ncsea.com](mailto:execdir@ncsea.com)

**Craig E. Barnes, P.E., SECB**  
CBI Consulting, Inc.  
Boston, MA

**Richard Hess, S.E., SECB**  
Hess Engineering Inc.  
Los Alamitos, CA

**Mark W. Holmberg, P.E.**  
Heath & Lineback Engineers, Inc.  
Marietta, GA

**Brian J. Leshko, P.E.**  
HDR Engineering, Inc.  
Pittsburgh, PA

**John A. Mercer, P.E.**  
Mercer Engineering, PC  
Minot, ND

**Brian W. Miller**  
Davis, CA

**Mike C. Mota, P.E.**  
CRSI  
Williamstown, NJ

**Evans Mountzouris, P.E.**  
The DiSalvo Ericson Group  
Ridgefield, CT

**Matthew Salvesson, Ph.D., P.E.**  
Dokken Engineering  
Folsom, CA

**Greg Schindler, P.E., S.E.**  
KPF Consulting Engineers  
Seattle, WA

**Stephen P. Schneider, Ph.D., P.E., S.E.**  
BergerABAM  
Vancouver, WA

**John "Buddy" Showalter, P.E.**  
American Wood Council  
Leesburg, VA