

Editorial | How You Can Help ICC Adoption of ASCE 7-16

By Ronald O. Hamburger, S.E., SECB



Please assist us in supporting the I-Code adoption of ASCE 7-16 and opposing the attempt to block the update to the 2016 edition of *ASCE 7 Minimum Design Loads & Associated Criteria for Buildings and Other Structures* for the *International Building Code (IBC)*, *International Residential Code (IRC)*, and *International Existing Building Code (IEBC)*.

Background

At the April International Code Council (ICC) Structural Committee Hearings in Louisville, KY, a coalition led by the American Roofing Manufacturers Association (ARMA) and the National Association of Home Builders (NAHB), opposed the adoption to the 2016 edition of ASCE 7. The coalition put forward a successful assembly motion that will result in an automatic public comment at the ICC Final Action Hearings in October. This public comment will move to modify proposal ADM-94 that, among other actions, administratively adopts ASCE 7-16 in place of ASCE 7-10. The public comment will move to retain ASCE 7-10 instead of ASCE 7-16, and, if successful, will create a significant problem for structural engineers and building officials as well as the ICC.

Why Help is Needed

The updated 2016 Edition of ASCE 7-16 includes new seismic, snow and wind hazard maps, and site coefficients which have been coordinated with the 2018 IBC. If the 2016 Edition is not approved, the 2018 IBC will have an uncoordinated and confusing mixture of requirements: some based on ASCE 7-10 and some on ASCE 7-16. This will create significant enforcement problems for building officials and general confusion for anyone attempting to follow and use the code.

How to Help

The next step in the code adoption process will occur at the Public Comment Hearings, in Kansas City in October, when ICC Governmental Members will vote yea or nay on this and other public comments. We urge ICC Governmental Members to vote against the public comment to the ADM-94 challenging adoption of ASCE 7-16. We also urge engineers who know building officials and other ICC Governmental Members to contact them and urge them to vote against this public comment opposing the adoption of the ASCE 7-16, and support adoption of the 2016 Edition of ASCE 7.

Technical Issues

ARMA launched this challenge over concerns that ASCE 7-16 wind pressure coefficients for low-slope roofs “substantially” increase wind pressure design requirements for buildings 60 feet or less in height. Indeed, ASCE 7-16 does modify and increase the wind pressure

coefficients at eaves, edges, and ridge lines, as well as increase the width of these zones for low-slope roofs. However, in most regions, this is balanced by a reduction in mapped wind speeds, resulting in no net design increase for roofs and substantial reductions in main wind force resisting systems. Net pressure increases are primarily limited to coastal hurricane zones within 600 feet of the shoreline (Exposure D). Both research and empirical evidence indicate that increase is warranted.

Beyond the wind coefficient issues, NAHB also opposed the update to ASCE 7-16 over concern that seismic design requirements in some portions of the country increase with the new standard. ASCE 7-16 may increase seismic design requirements for some sites and some buildings because of the adoption of new maps, and because of a change in site class coefficients. A review of 34 cities in areas of high seismicity indicates that, in most cases, the changes are typically less than +/-20%. In fact, in two-thirds of these cities the changes are less than +/-10%, and on average the new standard will result in a slight decrease in ground motion relative to the ASCE 7-10 maps.

As with the wind maps, significant reductions occur in Southern California. An increase does occur in the region surrounding Las Vegas, Nevada, and the basis for the increase was developed and supported by the Nevada Bureau of Mines and Geology. The new site class coefficients have a small effect on short period buildings of most interest to home builders but can result in significant increase in base shear coefficients for tall buildings with long periods located on Class D or E sites. ASCE 7-16 requires site-specific spectra for such buildings, which has been common practice for many years.

While concern over increased construction costs is understandable, it is also important to recognize the significant improvements in ASCE 7-16 including the following:

- New wind speed maps that result in reduced wind speeds for much of the country and clarify the special wind study zones;
- New regional snow data generated by state Structural Engineers Associations in Colorado, Oregon, New Hampshire, Washington and other mountainous states, that is now directly referenced and eliminates many, older site-specific Case Study zones;
- Entirely new chapter with tsunami design provisions.

Take Action Now

Contact building officials and other ICC Governmental Members and urge them to vote against this public comment opposing the adoption of the ASCE 7-16 and support adoption of the 2016 Edition of ASCE 7. ■



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