## Now Available!



"These documents are essential for any structural engineering firm that is doing wind design, anywhere in the country."

> - Larry Griffis, ATC President and Chair of the ASCE 7 Task Committee on Wind Loads

## Two New Wind-Design Resources Now Available From the Applied Technology Council.

Are you looking for a practical explanation of the *International Building Code* and ASCE Standard No. 7 wind design provisions? Ability to rapidly determine wind forces on structures? Consistent solutions using visual charts and icons instead of relying on confusing footnotes? Simple and reliable tips to determine what the code and standards are trying to convey? Then you need these invaluable resources prepared by the Structural Engineers Association of Washington (SEAW), in association with the Applied Technolgoy Council (ATC): (1) the two-volume SEAW/ATC-60 *Commentary on Wind Code Provisions*; and (2) *SEAW's Handbook of a Rapid-Solutions Methodology*<sup>TM</sup> for Wind Design.



Schematic showing wind speed-up effects (from SEAW/ ATC-60 Commentary on Wind Code Provisions)





The SEAW/ATC-60 Commentary on Wind Code Provisions is written for the benefit of designers, building code officials, instructors and anyone who designs and/or analyzes structures for wind. It covers the 2000 and 2003 editions of the International Building Code (IBC),

and the 1998 and 2002 editions of ASCE Standard No. 7, *Minimum Design Loads for Buildings and Other Structures* (ASCE 7-98 or ASCE 7-02, respectively). The *Commentary* is organized into two volumes. Volume 1 contains the main body of the commentary, which includes a technical and historic overview of wind codes and discussions on a broad range of topics:

- basic wind speed;
- importance factors;
- exposure and topographic effects;
- gust response;
- design for wind pressures on main wind-force-resisting systems;
- wind pressures on components and cladding of structures;
- glass and glazing;
- prescriptive provisions;
- miscellaneous and non-building structures;
- unusual wind loading configurations;
- high winds, hurricanes, and tornadoes;
- serviceability;
- wind tunnel tests applied to design practice; and
- wind design of equipment and non-building systems.

Volume 2 consists of appendices containing over a dozen example problems with solutions.



An unusually shaped building for which the applicability of any of the ASCE 7 Analytical Methods is questionable (from SEAW/ATC-60 Commentary on Wind Code Provisions).



SEAW's Handbook of a Rapid-Solutions Methodology<sup>™</sup> for Wind Design contains methods, charts, and over a dozen solved problems that will make wind pressure solutions a breeze. The methodology is repeatable so that if any arbitrary group of

engineers were to use the Rapid-Solutions Methodology<sup>TM</sup> (RSM) described in the Handbook, they would all come up with the same reliable results. The Handbook contents include:

- Chapter 1: METHOD: Simplifications to ASCE 7 Analytical Method 2 for Common Structures
- **Chapter 2:** RULES: *Rapid-Solutions Methodology* Rules for Calculating Wind Pressures
- Chapter 3: CHARTS: RSM Charts and Figures
- Chapter 4: BACKGROUND: Derivation of the Rapid-Solutions Methodology Charts
- Appendices: Problem Solutions by the Rapid-Solutions Methodology

Users are able to intuitively determine which coefficients apply. Visual clues alert them to the correct set of coefficients. With the following simple threecoefficient formula that will work for ordinary everyday design, the designer will get consistent and truly rapid answers for design wind pressures, p:

$$p = q_s \bullet K_z \bullet C_{rs}$$

where  $q_s$  is the wind velocity pressure,  $K_s$  is the velocity pressure exposure coefficient at height, z, and  $C_{m}$  is the RSM net pressure coefficient.

And when unusual conditions apply, such as with the new wind speed-up provisions or for an essential structure, additional coefficients can be applied to the base condition to obtain a more accurate answer.

 $K_z$  $C_{rsm}$ a 13-6 S1 0.00256 LEEWARD WINDWARD

The following stylized icons from the SEAW Hand*book* help to rapidly guide the user to applicable design and analysis charts.



More and more, effective use of wind design codes and standards is necessary. Upon seeing new buildngs destroyed by Hurrican Charley, Michael Brown, Director of the Federal Emergency Management Agency, said on August 18, 2004:

"Charley's 145 mph wind could have destroyed even more homes if not for the stronger building codes enacted after Hurricane Andrew 12 years ago over the objection of some contractors, who said they were too costly." Brown went on to say "Governor (Jeb) Bush said it best - 'If anyone in Florida starts minimizing the building code, that idea should have been obliterated by Charley."

This lesson has been learned over and over again from other severe hurricanes, such as Hurricane Katrina, which struck New Orleans and other Gulf coast cities in August 2005.



Endorsements. Endorsed by the International Code Council (ICC), both the SEAW/ ATC-60 Commentary on Wind Code Provisions and SEAW's Handbook of a *Rapid-Solutions Methodology*<sup>TM</sup> for Wind Design give a practical and comprehensive



explanation of wind load effects on buildings and structures. The documents include enhancements, such as tables, charts, and pictures, so that you can follow the meaning and intent of code provisions as well as solve everyday applications of these provisions to your project. Together the SEAW/ATC-60 Wind Commen*tary* and the *SEAW Wind Handbook* provide all the tools necessary to grasp and apply wind loads when designing real structures that must comply with the International Building Code and ASCE 7.

Respected members of the profession have also endorsed the documents:

These documents are essential for any structural engineering firm that is doing wind design, anywhere in the country."

> - Larry Griffis, ATC President and Chair of the ASCE 7 Task Committee on Wind Loads

"On projects where the IBC simplified wind load design is not permitted, our office uses the simple and easy-to-learn RSM Method. Our primary reference for wind questions and design issues, not available in any other source, is the very well organized and readable SEAW/ATC-60 Wind Commentary."

> - Scott Douglas, P.E., S.E., DCI Engineers, Bellevue, Washington

"The only thing missing are the balloons on the *cover* [*i.e.*, *like WONDER bread*]. *It is* [*mv*] method of choice for wind load determination!"

- John Barry, SE, Tucson, Arizona

Ordering Instructions. Orders can be submitted through the ATC web site and online store at (www.ATCouncil.org), or by phone (650/595-1542) or fax (650/593-2320). Price: \$95.00 per copy for the 2-volume SEAW/ATC-60 Wind Commentary, and \$60 per copy for the SEAW Wind Handbook (plus shipping and sales tax).



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