



## Codes Update

The trend toward updating to modern codes that recognize NFRC procedures, like the 2000 IECC, continues. Since our last update, six states have adopted or upgraded their codes to the IECC and several more are in the process of reviewing and/or moving toward adoption. Here's the latest rundown of codes activity by state:

### Adopted

In April, **Indiana** published its state-developed version of the energy chapter of the International Residential Code, which includes simplified prescriptive fenestration criteria and requires NFRC product ratings or a table of limited defaults.

**Maine** amended the state's commercial, institutional and multifamily building energy standards to include the 2003 IECC as a compliance option. In addition, legislation was approved directing the Public Utilities Commission to adopt through major substantive rules a model building energy code for one- and two-family homes.

The **Maryland** Department of Housing and Community Development announced on April 5, 2004 that the State of Maryland has adopted the 2003 IBC and 2003 IRC with modifications. The final action was to be published in the March 19 edition of the *Maryland Register*. The new code is effective September 20, 2004.

**Montana** adopted the 2003 IBC and IRC, effective March 12, 2004. Certified local government building code jurisdictions have 90 days to adopt the codes. In addition, the Building Codes Bureau is currently proposing the 2003 IECC for adoption and will hold public meetings in late April.

**Nebraska** In April the Governor signed

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## The BOAT Captain



*Randy Childers is the president of the Building Officials Association of Texas (BOAT). He has served as president of the Association for the past two years, held a board position with BOAT for four years, and worked with the City of Waco for 16 years. Needless to say, he has seen the Texas codes community through many changes over the years.*

*BOAT, an affiliate organization of the Texas Municipal League (TML), represents about 98 percent of Texas's urban population. BOAT was organized to unite with other departments of Texas municipalities of the TML to bring together and achieve a more efficient and knowledgeable understanding of local government. They continue to meet the needs of its members through standards, public relations, and education. They encourage all inspectors to become certified in order to achieve a high level of code enforcement universally throughout the state.*

*Update talked with Randy to find out what was happening in the Texas codes arena and how NFRC benefits its members.*

**What's the biggest challenge that building officials in Texas face today?** The biggest challenge we face today is trying to keep up with all the technology, methods, and materials changes that the construction industry is facing. It took us several months to get a U-Factor value for solar board used for roof decking to see if it complied with the energy code. Also, we get regular requests from contractors and developers to send us their plans in a digital format. At this time, there are only a handful of cities that accept plans in a digital format.

Also, trying to defend ourselves from legislation that negatively affects our building inspection departments keeps us very busy. The Texas Accessibility Standards (TAS) review (Senate Bill 484) and the requirement to verify an Asbestos Survey (Senate Bill 509) have been conducted prior to issuing a

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## Dedicated to the Codes

Spring has sprung and summer is just around the corner. It's a good time for spring cleaning, planting new ideas, and thinking about codes, of course! Read Tony Rygg's article discussing NFRC's role in the code arena and an interview with Randy Childers, president of the Building Officials Association of Texas, plus a roundup of NFRC activities.

## Accomplishments at the Miami Meeting



By Ken Nittler, P.E., WESTLab, Chairman

NFRC's technical subcommittees worked hard in Miami resulting in 12 items for board approval. Some of the most important include:

- **Non-residential Ratings.** The technical basis for a new non-residential rating system was approved. Use of this document will be held until the supporting certification language is drafted by certification committees. One of the key features of this proposed approach is the use of separate component ratings for frames, spacers, and insulating glass units that are then combined using software into whole product ratings.
- **2004 Documents.** New versions of all NFRC rating procedures were approved at the meeting. For the most part, these new versions were limited to adding in addenda

and interpretations that have already been approved. In a few cases, clearly needed changes were made. It is expected that most products will receive the same rating as the current 2001 rating system. In an important step to improve the quality of our documents, publication of these documents will occur after careful editing and formatting that will not change the technical content. A document expert will do this review with oversight from the staff, committee and subcommittee chairs.

- **Energy Star Assumptions.** The Annual Energy Performance Subcommittee, which had been working on calculation assumptions for performance tradeoffs under the DOE Energy Star window program, opted to not move forward with any recommendations at this time. Instead, the subcommittee unanimously concluded that further research is warranted and created a task group to begin this effort. ■

### The BOAT Captain, *continued from page 1*

permit. These types of requirements slow down the permit issuance process.

**From your perspective, are builders and developers happy with the new code requirements? Any efforts to make changes?** By and large, I think they agree on the code requirements. But you always have those that believe any government is too much government. Code officials are no different. In mid-May in Overland Park, Kansas, the International Code Council will have its Final Action Code Hearings. The Final Action Code Hearings will determine the final disposition of code changes submitted in the 2003/2004 Code Development Cycle. So, there will always be an effort to make changes to the I-Codes.

**Are building officials checking for NFRC certification during plan review?** Yes, that information is on the ResCheck forms we receive with the plans.

**Are building officials checking for NFRC labels during construction?** Yes, inspectors are inspecting for that in the field. The labels are easily located the vast majority of the time. When they are not, somebody on the job site has removed them. If a label is missing, we contact whomever is in charge

of the project so we can verify that what is installed in the field is the same as what is on the plans. This is another step that is time consuming for building inspection departments.

**Are they seeing label certificates on non-residential projects?** Yes, on the ComCheck form. We also request the Performance Rating sheets (cut sheets) for the glass. Several manufacturers have told us that commercial windows do not have the labels on them.

**What can NFRC do to make the jobs of Texas building officials a little easier?** By simplifying the labels, NFRC has been a big help to inspectors and plans examiners. Also, we receive fewer calls from contractors who used to ask questions about the labels. They just want to build houses.

**How do you think Texas building officials benefit the most from NFRC window labels?** It greatly speeds up window inspections. All the official has to do is look for the label and check it against code requirements. The information is on site and easy to read and understand. The whole process only takes a few minutes. Without labels, the process of finding the right values using defaults or unsubstantiated data would take much longer.

### Mike McKenna joins NFRC

Mike McKenna recently joined NFRC as the new database project manager. He most recently worked for BearingPoint – a business consulting, systems integration, and management services firm – where he supported the State of Maryland's Financial and Purchasing System for five years. At NFRC, he will oversee and manage the database project. A native of Mamaroneck, N.Y., he graduated from Wheeling Jesuit College in Wheeling, W.V. with a BA in Psychology. He currently resides in Annapolis, Md. with his wife, Mary, and their two children. Feel free to contact him at [mmckenna@nfrf.org](mailto:mmckenna@nfrf.org) or at 301-589-1776 x 209.

### Sign Up for Salt Lake

An additional Subcommittee and Task Group Meeting has been added to the schedule. It will be held June 22-23 at the Hilton – Salt Lake City Airport in Salt Lake City, Utah. Be sure to fill out and send in your registration form, located at [www.nfrc.org](http://www.nfrc.org), by June 7. To make it a little easier, NFRC now accepts credit card payments. Hotel reservations must be made by May 22 to ensure the NFRC rate and availability. Contact Cheryl Rynn at (301) 589-1776 or [crynn@nfrf.org](mailto:crynn@nfrf.org) for more information.

### NFRC in the News!

It's been hard to miss NFRC in the news lately. Since January, NFRC has been mentioned in the media almost nine and a half million times. That's approximately twice as much as this time last year. And the news is good. NFRC is seen as a trusted source of information and the place to go for energy ratings information.

### Online Product Directory

Public access to the online NFRC *Certified Product Directory* database was restored in March. Access was suspended for several months because of problems associated with the switch last year to a new software platform and the implementation of the 2001 rating system. Restored access includes basic search capabilities by product, operator, manufacturer, and CPD number, while work continues on improved advanced search capabilities. NFRC apologizes for any problems that this caused.



Tony Rygg

## NFRC's Role In The Code Arena

Since its inception, the National Fenestration Rating Council has been closely linked with state and national code enforcement. The link began in the early 1990s, when

California, Oregon, and Washington became the first states to reference NFRC standards in their codes. They even went one step further by requiring the use of labels on windows, doors, and skylights to assist building inspectors with determining whether or not a product met the code requirement.

Since then, NFRC's role in the code arena has grown both broader and deeper.

In the early days, window performance requirements (specifically U-factor) were not meant to induce all manufacturers to begin utilizing the NFRC certification and labeling program (except in those cases where a high window-to-wall ratio existed). Very few codes contained specific prescriptive criteria for windows. In fact, determining window performance was often buried in the overall performance of the wall assembly. Even if window requirements were distinguished, the requirements never promoted rated and labeled products for code compliance. In California, for example, older, less efficient versions of the energy code allowed the building industry to take full advantage of default labels and generic performance values to meet the code requirements.

### Requirements Tighten

But as time went on, the requirements for windows, doors, and skylights began to tighten in codes like California's Title 24 – with prescriptive U-factor requirements starting to creep down from 0.75 to as low as 0.40 in some California climate regions. Manufacturers found that they could not meet these requirements with generic performance data, and the number of products certified and labeled under the administration of NFRC 100 increased. At the same time, cost effective trade-offs for better windows also disappeared (as other requirements also became more stringent), necessitating the use of NFRC-rated windows to achieve compliance even when the house was qualified under an annual energy-use approach.

The status of NFRC in the model codes – and therefore in other states – ran a similar path. In 1995, the Model Energy Code adopted NFRC's standard for determining





fenestration U-factors. Under the model code requirements, if a window, door, or skylight is not labeled, then a generic limited default value applies. For example, the table of defaults in the model code offers no credit for low-e, argon, and/or many other window improvements. The International Energy Conservation Code (IECC) replaced the MEC in 1998 as the current national model energy standard, keeping the same NFRC testing, rating, and labeling procedures. The IECC or the MEC have been adopted by over half the country. The IECC also incorporates a series of prescriptive tables that require window U-factors less than 0.40 in many areas of the country, which emphasizes the need for NFRC ratings.

### NFRC Expands into the Climates with Significant Cooling – Maximum SHGC Requirements

As enforcement of U-factor requirements expanded in the north and east, the use of NFRC's labels followed suit. However, NFRC labeling and certification did not grow as fast in the southern region of the country because strengthening U-factor performance is not perceived as being as important in warm weather states. The biggest issue in these states is, of course, air-conditioning, not heating.

As with U-factor, California again led the way by including SHGC requirements in its energy code. In the mid-90's, California's Title 24 began to specify limited solar heat gain coefficients (SHGC) for glazed products in climates with significant cooling requirements.

The major national breakthrough occurred, however, in 1998, when the first edition of the IECC was published. For the first time, the model code established a limit on the amount of solar heat gain through windows, patio doors, and skylights. With the energy codes now recognizing the negative impact of solar heat gain in climates with significant cooling, the code set a maximum fenestration solar heat gain coefficient of 0.40 in areas where heating degree days were less than 3500. And, as was the case with U-factor, the code relied on NFRC standards (this time, NFRC 200) to ensure a uniform application of the ratings. The code also relied on NFRC labels to assure a means of enforcing the energy codes in cooling climates.

### NFRC Expands into Code Requirements for Window Replacements and Remodeling and Commercial Windows

The 1998 IECC also brought other major national changes. For the first time, the code established prescriptive requirements, both U-factor and SHGC, and residential replacement windows. California has now

## Spring Meeting Update

### *NFRC Updates Program Documents, Extends Deadline for New Skylight Simulations*

The National Fenestration Rating Council (NFRC) approved 2004 versions of its technical documents for rating U-Factor, solar heat gain coefficient, visible transmittance, and air leakage at its Spring Meeting in Miami Beach, Fla. in March.

The updates come as part of NFRC's regular three-year document revision cycle.

"The cycle allows us to review the documents on a regular basis and to make changes that enhance their accuracy and technical integrity," said Tony Rygg, NFRC Chairman.

"The last cycle involved substantial changes, including the shift to single-size product testing. This time, the changes are mostly editorial in nature and participants won't notice much, if any, difference in the way they test and rate products."

At the meeting, NFRC also:

- reminded members and program participants about the April 1, 2004 deadline, when all products seeking certification must be rated in accordance with 2001 standards and all products must use the new one-size label.
- began a new Round Robin for accrediting NFRC Test Laboratories.
- authorized the Labeling Subcommittee to develop concepts for a new fenestration attachment label for consideration by the Board of Directors'.

### Deadline Extended for Skylight Simulations

Based on recent information NFRC has received from some skylight manufacturers, it appears there has been some confusion as to when skylight manufacturers must re-certify their products using 2001 NFRC procedures that rate skylights at 20 degrees. In response, NFRC has determined that skylight manufactures may continue to utilize their existing certification authorizations for 1997 ratings until they expire. As a condition for continuing to use of 1997 ratings, all skylight products labeled with 1997 ratings must have "**RES97 rated at 90 degrees**" on the label as soon as possible but no later than October 1, 2004. A copy of a prototype label with the required language is attached.

All new ratings or re-certifications completed after April 1, 2004 must be done using 2001 NFRC procedures that rate skylights at 20 degrees.

NFRC encourages skylight manufacturers to move to the 2001 ratings as soon as possible. Please contact Nikki Jackson at 301-589-1776 x204 if you have any questions about this issue.

## Progress Energy Offers New Incentives

Progress Energy Florida enhanced its residential new construction program this spring with the addition of high-performance windows. New home builders and multi-family developers who participate in Progress Energy's Home Advantage Program can now qualify for cash incentives of \$350 when they install high-performance windows in new homes built in the Progress Energy service territory.

High-performance windows qualifying for the incentive must meet the following requirements:

- Certified by NFRC
- Solar Heat Gain Coefficient (SHGC) of  $\leq .50$
- U-Value of  $\leq .75$
- High performance windows must be at least 85 percent of the total glass area of the home

Incentives are offered to homebuilders and multi-family developers as well as manufactured housing manufacturers and retailers. Prior to qualifying for the window incentive, a builder must at least meet the minimum requirements of Progress Energy's Home Advantage Program. Those minimum requirements include the installation of a high efficient electric heat pump and a duct system sealed with mastic and fabglass.

More than 300 builders throughout the Progress Energy service territory participate in the highly successful program. In 2004, an estimated 15,000 homes will be built by Home Advantage builders. For more information on the program, contact Joe Pietrzak at 800-846-9852. ■

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**Do you feel the label is designed to effectively convey useful information to your building officials?** Yes. We like the new and improved label. Each of the elements (U-factor, SHGC, etc.) is clearly stated on the label and easily compared to code.

**What does the future hold?** The outlook is good for our industry. The economy seems to be holding its own, especially in Central Texas. ■

followed a similar path for its 2005 standards.

The 1998 IECC also developed a simplified prescriptive compliance option for many commercial buildings. By addressing NFRC rating requirements in its initial chapter on administration and enforcement, the IECC's NFRC rating requirements apply to commercial as well as residential windows.

As a result of all of these changes, the code comprehensively covers the entire window market for the first time. The net effect of these requirements, along with those solidly in place for new home construction, is to necessitate NFRC-rated products for most applications.

In 1999, NFRC approved a new standard to deal with site-built fenestration systems. The IECC and Title 24 were quick to adopt this new standard and to reference the use of NFRC Label Certificates for high-rise residential and non-residential construction. NFRC is presently working hard to improve its rating system for commercial windows.

### What the Future Holds

The adoption of IECC 2000 and 2003 in states such as Texas and Georgia have led to an enormous increase in the number of manufacturers certifying and labeling products in accordance with NFRC requirements. Without NFRC labels, building code departments have no meaningful way to determine if products meet the requirements of the code.

Despite NFRC's terrific progress, there is still a challenging road ahead. Even today, there are manufacturers attempting to "self-certify" and place non-NFRC labels on their products. This practice places the entire burden of enforcement on the building code agency, even though they have no way to know if the manufacturer truly performed the required tests in accordance with NFRC standards. A desire to self-certify ignores the painful history of the window industry, which led to the development of NFRC and independent, accredited laboratories in the first place. Self-certification takes us back to the '70s and '80s when manufacturer claims and stated performance values were NOT credible, and NFRC strongly opposes the practice.

The National Fenestration Rating Council has worked (and will continue to work) closely with the building code organizations to educate them on the need to look for NFRC labels. We encourage our members and program participants to join in this educational process and assist the code officials in doing their job. ■

LB 888 to upgrade the State Energy Code for all buildings (not just publicly-funded ones under the previous law) to IECC 2003.

In **Pennsylvania**, the 2003 IECC as a code compliance option took effect April 9, 2004 for both residential and commercial codes. Municipalities will have 90 days from the effective date to notify the Department of Labor & Industry of their decision to opt in or out of enforcement.

**Washington, D.C.** adopted the 2000 IECC without amendment. The codes became effective January 9, 2004.

## In Process

**Arkansas's** State Energy Office plans to meet with the Joint Legislative Energy Committee in April as a required next step in the Legislative Procedures Act. If the review of intent is passed, they will proceed with plans to update the Arkansas energy code with references to the IECC 2003.

**Delaware's** Energy Office has proposed legislation to upgrade its energy code. The proposed residential energy code will be the IECC 2000 and the proposed commercial code will be the ASHRAE 90.1 – 1999.

**Illinois** is moving forward in the process of adopting the 2000 IECC (with 2001 supplement) as the state mandatory code for commercial buildings. The bill has been approved by the House of Representatives and has moved to the Senate for consideration.

**New York** began the process of updating to the 2003 ICC Codes. Meetings to review the IECC and other state-developed alternatives will continue through May.

**Rhode Island's** Building Code Commission Subcommittees completed a review of the 2003 IECC. A public hearing was held March 25 to hear the recommendations of the subcommittees.

**Washington State** is considering adoption of the IECC statewide, and is currently reviewing IECC in comparison to the current state developed and implemented statewide codes. ■

## How To Reach Us

*NFRC Update* is published five times a year by the National Fenestration Rating Council, Inc., a non-profit organization that administers a rating and labeling system that provides accurate and reliable energy performance information about windows, doors, and skylights. Any editorial comments, suggestions, or media inquiries should be addressed to Kristine Martin, 8484 Georgia Avenue, Suite 320, Silver Spring, MD, 20910, 301-589-1776. E-mail address: [info@nfdc.org](mailto:info@nfdc.org).



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