

RESIDENTIAL ENERGY CODE UPDATE EXPECTED

by
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In the coming year, the Louisiana State Uniform Construction Code Council is expected to make changes to the Louisiana Uniform Construction Code, which includes residential energy efficiency requirements. Along with requirements of Louisiana State law, a portion of the American Recovery and Reinvestment Act of 2009 requires states to update building energy codes.

State and Federal Legislation Affects the Code

During the 1st Extraordinary Session of 2005, the Louisiana State Legislature passed Act 12, creating the Louisiana State Uniform Construction Code. The act adopted the 2006 International Residential Code (IRC) as the building code for one- and two-family homes. The bill also created the Louisiana State Uniform Construction Code Council “to review and adopt the state uniform construction code, provide training and education of code officials, and accept all requests for amendments of the code, except the Louisiana State Plumbing Code.”

Current law states that the Council “shall review, evaluate, and update the state uniform construction code prior to the second regular legislative session after the release of the latest edition of the appropriate code as provided for in R.S. 40:1730.28.” The 2009 version of the International Residential Code (2009 IRC) was published in March 2009, prior to the 2009 Regular Legislative Session, and the 2010 Regular Legislative Session convenes on March 29, giving the code council until that date to complete their evaluation and update the code.

The American Recovery and Reinvestment Act of 2009 (ARRA) also requires changes to building energy codes. Section 410 on page 33 of the ARRA states that:

“(2) The State, or the applicable units of local government that have authority to adopt building codes, will implement the following:

(A) A building energy code (or codes) for residential buildings that meets or exceeds the most recently published International Energy Conservation Code, or achieves equivalent or greater energy savings.”

Equivalence Discussed

On August 24, 2009 DNR staff received an email from the Building Codes Assistance Program (BCAP) alerting them to a report by Pacific Northwest National Laboratory (PNNL) which stated that, “the 2009 International Residential Code is not equivalent to the 2009 International Energy Conservation Code.” However, if the 2009 International Residential Code is adopted with certain amendments, it would be equivalent. The report, which was amended on September 23, 2009, can be found in PDF format at http://www.energycodes.gov/news/irc_iecc_arra.stm.

The report states that in order for the 2009 IRC to be considered equivalent to the 2009 IECC, several changes would have to be made. However, most of the changes suggested do not affect Louisiana. Of those affecting Louisiana, the most notable would require the allowable solar heat gain coefficient (SHGC) for both Louisiana climate zones to be reduced from 0.35 to 0.30.

Table 1. Maximum U-Factors and SHGCs for Fenestration (Windows, Doors, etc)

		IRC 2006	IRC 2009	IECC 2009
*Fenestration	South Louisiana	0.75	0.65	0.65
U-Factor	North Louisiana	0.65	0.50	0.50
**Glazed	South Louisiana	0.40	0.35	0.30
Fenestration SHGC	North Louisiana	0.40	0.35	0.30

*U-factor measures the amount of heat conducted through an element. A higher u-factor means that the element allows more heat to pass through it, leading to greater losses.

**SHGC measures the amount of radiant heat a fenestration product allows to enter the home. A higher SHGC means more radiant heat enters the home.

The report provided by PNNL provides modeled cost effects associated with these changes. These effects were found by simulating the energy consumption (heating and cooling only) of a model home. For climate zone 2 (South Louisiana), the report determines that the changes to the code would result in annual energy cost savings of \$8. For climate zone 3 (North Louisiana), the report determined the effects of the changes to 6 different cities, with effects ranging from an annual cost increase of \$5 for Atlanta, Georgia to an annual cost decrease of \$4 for Jackson, Mississippi. Taking the average effect for all cities modeled, the average energy cost savings per year in climate zone 3 is approximately \$1.

What It Means

The Code Council is required by law to update the building code and report to the Legislature by the March 29 start of the Regular Legislative Session. In order to meet this deadline, the IRC Subcommittee began evaluation of the 2009 IRC on September 10, 2009. The committee is expected to complete their review in time for the next Code Council meeting on February 9. The Council will then be able to take action on the code update prior to the Legislative Session

There is a delicate balance in home design and construction between initial costs and annual savings that should be considered not only by the homeowner, but also by the energy code development community. This is taken into consideration on all levels of code development. Building codes and standards are typically developed on a national, and occasionally international, level. However, the codes are implemented on a statewide or municipal level and each jurisdiction is unique. This puts the impetus on the code adopting authority to ensure that the changes being made are reasonable for the jurisdiction.

Changes will be made to the Louisiana State Uniform Construction Code in the very near future, including the adoption of a new energy code. The Code Council is expected to adopt the 2009 IRC in time for the 2010 Louisiana Regular Legislative Session. This will ensure that Louisiana stays on the cutting edge of residential energy code adoption and can be a model for other states.