PUBLIC CODE CHANGE PROPOSAL FORM
FOR PUBLIC PROPOSALS IN THE INTERNATIONAL CODES

2007/2008 CODE DEVELOPMENT CYCLE
CLOSING DATE: All Proposals Must Be Received by August 20, 2007

The 2007/2008 Code Development Hearings are tentatively scheduled for February 18 – March 2, 2008, location TBD.

1) **Name:** Ronald Majette **Date:** August 19, 2007
Jurisdiction/Company: U.S. Department of Energy
Submitted on Behalf of: U.S. Department of Energy
Address: 1000 Independence Avenue, EE-2J, IJ-018

City: Washington D.C. **State:** DC **Zip Code:** 20585
Phone: 202-586-7935 **Ext.** **Fax:** 202-586-4617 **E-mail address:** Ronald.Majette@ee.doe.gov

2) **Copyright Release: In accordance with Council Policy #28 Code Development, all Code Change Proposals, Floor Modifications and Public Comments are required to include a copyright release. A copy of the copyright release form is included at the end of this form. Please follow the directions on the form. This form as well as an alternative release form can also be downloaded from the ICC website at www.iccsafe.org. If you have previously executed the copyright release, please check the box below:**

☐X **2007/2008 Cycle copyright release on file**

3) Indicate appropriate International Code(s) associated with this Public Proposal – Please use Acronym: ____IECC and IRC_____
If you have also submitted a separate coordination change to another I-Code, please indicate the code: _____
(See section below for list of names and acronyms for the International Codes).

4) **Be sure to format your proposal and include all information as indicated on Page 2 of this form.**

5) Proposals should be sent to the following offices via regular mail or email. An e-mail submittal is preferred, including an electronic version, in either Wordperfect or Word. The only formatting that is needed is **BOLDING**, ~~STRIKEOUT~~ AND UNDERLINING. Please do not provide additional formatting such as tabs, columns, etc., as this will be done by ICC. **REMOVE TRACKING CHANGES, AUTOMATIC NUMBERING, OR ANY OTHER ADVANCED FORMATTING TOOLS THAT ARE PROVIDED BY WORD, FROM FILES CONTAINING YOUR CODE CHANGE PROPOSAL THAT YOU SEND TO ICC.**

Please use a separate form for each proposal submitted. Note: All code changes received will receive an acknowledgment.

Please check here if separate graphic file provided. ☐

Graphic materials (Graphs, maps, drawings, charts, photographs, etc.) must be submitted as separate electronic files in .CDR,.IA,.TIF or .JPG format (300 DPI Minimum resolution; 600 DPI or more preferred) even though they may also be embedded in your Word or Wordperfect submittal.

Code
IBC - International Building Code
IEBC - International Existing Building Code
IFC - International Fire Code
IFGC - International Fuel Gas Code
IPC - International Plumbing Code
IPSDC - International Private Sewage Disposal Code
IPMC - International Property Maintenance Code
IWUIC - International Wildland-Urban Interface Code
IZC - International Zoning Code
ELECT - International Code Council Electrical Code– Administrative Provisions

Send to:
International Code Council
Chicago District Office
Attn: Diane Schoonover
4051 West Flossmoor Road
Country Club Hills, IL 60478-5795
Fax: 708/799-0320
codechanges@iccsafe.org

IECC - International Energy Conservation Code
ICC PC - ICC Performance Code
IMC - International Mechanical Code
IRC - International Residential Code

International Code Council
Birmingham District Office
Attn: Annette Sundberg
900 Montclair Road
Birmingham, AL 35213-1206
Fax: 205/592-7001
codechangesbhm@iccsafe.org

CODE CHANGE PROPOSAL

Please provide all of the following items in your code change proposal. Your proposal may be entered on the following form, or you may attach a separate file. However, please read the instructions provided for each part of the code change proposal. The sections identified in parentheses are the applicable sections from CP #28 Code Development. The full procedures can be downloaded from www.iccsafe.org.

Code Sections/Tables/Figures Proposed for Revision (3.3.2): IECC Table 402.1.1 and Table 402.1.3. IRC Table N1102.1 and Table N1102.1.2.

Note: If the proposal is for a new section, indicate (new).

Name/Company/Representing (3.3.1): Ronald Majette / U.S. Department of Energy

Note: You must indicate your name and the full name of who you are representing. Do not use acronyms.

Proposal: NOTE: PLEASE READ ITEM 5) of the first page of this form for formatting instructions.

IECC:

Revise as follows:

Table 402.1.1 Insulation and Fenestration Requirements by Component[a]

Climate Zone	Fenestration U-Factor	Skylight[b] U-Factor	Glazed Fenestration SHGC	Ceiling R-Value	Wood Frame Wall R-Value	Mass Wall R-Value[h]	Floor R-Value	Basement[c] Wall R-Value	Slab[d] R-Value & Depth	Crawl Space[c] Wall R-Value
1	1.20	0.75	0.40	30	13	3/4	13	0	0	0
2	0.75	0.75	0.40	30	13	4/6	13	0	0	0
3	~~0.65~~0.55	0.65	0.40[e]	30	13	5/8	19	0	0	5/13
4 except Marine	0.40	0.60	NR	38	13	5/10	19	10 / 13	10, 2 ft	10 / 13
5 and Marine 4	0.35	0.60	NR	38	19 or 13+5[g]	13/17	30[f]	10 / 13	10, 2 ft	10 / 13
6	0.35	0.60	NR	49	19 or 13+5[g]	15/19	30[f]	10 / 13	10, 4 ft	10 / 13
7 and 8	0.35	0.60	NR	49	21	19/21	30[f]	10 / 13	10, 4 ft	10 / 13

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Remainder of table unchanged.

Table 402.1.3. Equivalent U-Factors[a]

Climate Zone	Fenestration U-Factor	Skylight U-Factor	Ceiling U-Factor	Frame Wall U-Factor	Mass Wall U-Factor[b]	Floor U-Factor	Basement Wall U-Factor	Crawl Space Wall U-Factor	
1	1.20	0.75	0.035	0.082	0.197	0.064	0.360	0.477	
2	0.75	0.75	0.035	0.082	0.165	0.064	0.360	0.477	
3	~~0.65~~0.55	0.65	0.035	0.082	0.141	0.047	0.360	0.136	
4 except Marine	0.40	0.60	0.030	0.082	0.141	0.047	0.059	0.065	
5 and Marine 4	0.35	0.60	0.030	0.060	0.082	0.037	0.059	0.065	
6	0.35	0.60	0.026	0.060	0.060	0.033	0.059	0.065	
7 and 8	0.35	0.60	0.026	0.057	0.057	0.033	0.059	0.065	

(a) Nonfenestration U-factors shall be obtained from measurement, calculation or an approved source.
(b) When more than half the insulation is on the interior, the mass wall U-factors shall be 0.17 in zone 1, 0.14 in zone 2, 0.12 in zone 3, 0.10 in zone 4, and the same as the wood frame wall in zones 5 through 8.

IRC:

Revise as follows:

Table N1102.1 Insulation and Fenestration Requirements by Component[a]

Climate Zone	Fenestration U-Factor	Skylight[b] U-Factor	Glazed Fenestration SHGC	Ceiling R-Value	Wood Frame Wall R-Value	Mass Wall R-Value	Floor R-Value	Basement[c] Wall R-Value	Slab[d] R-Value & Depth	Crawl Space[c] Wall R-Value
1	1.20	0.75	0.40	30	13	3	13	0	0	0
2	0.75	0.75	0.40	30	13	4	13	0	0	0
3	~~0.65~~0.55	0.65	0.40[e]	30	13	5	19	0	0	5/13
4 except Marine	0.40	0.60	NR	38	13	5	19	10 / 13	10, 2 ft	10 / 13
5 and Marine 4	0.35	0.60	NR	38	19 or 13+5[g]	13	30[f]	10 / 13	10, 2 ft	10 / 13
6	0.35	0.60	NR	49	19 or 13+5[g]	15	30[f]	10 / 13	10, 4 ft	10 / 13
7 and 8	0.35	0.60	NR	49	21	19	30[f]	10 / 13	10, 4 ft	10 / 13

Remainder of table unchanged.

Table N1102.1.2. Equivalent U-Factors[a]

Climate Zone	Fenestration U-Factor	Skylight U-Factor	Ceiling U-Factor	Frame Wall U-Factor	Mass Wall U-Factor	Floor U-Factor	Basement Wall U-Factor	Crawl Space Wall U-Factor
1	1.20	0.75	0.035	0.082	0.197	0.064	0.360	0.477
2	0.75	0.75	0.035	0.082	0.165	0.064	0.360	0.477
3	~~0.65~~0.55	0.65	0.035	0.082	0.141	0.047	0.360	0.136
4 except Marine	0.40	0.60	0.030	0.082	0.141	0.047	0.059	0.065
5 and Marine 4	0.35	0.60	0.030	0.060	0.082	0.037	0.059	0.065
6	0.35	0.60	0.026	0.060	0.060	0.033	0.059	0.065
7 and 8	0.35	0.60	0.026	0.057	0.057	0.033	0.059	0.065

(a) Nonfenestration U-factors shall be obtained from measurement, calculation or an approved source.

Supporting Information (3.3.4 & 3.4):

The purpose of this proposal is to improve residential fenestration U-factor requirements in climate zone 3.

The codes' current zone-3 fenestration U-factor requirement of 0.65 is unreasonably high given the state of today's residential window market. A U-factor of 0.65 is out of step with the SHGC requirement of 0.4 for all glazings in this zone. The National Fenestration Ratings

Council Certified Products Directory reveals that over 99% of wood and vinyl fenestration products with an SHGC of 0.40 or lower and a U-factor of 0.65 or lower also have a U-factor of 0.55 or lower. For aluminum-framed products, 67% of the products meeting the 0.40 SHGC and U-0.65 requirement also have a U-factor of 0.55 or below. Consequently, a large majority of homes that comply with the 0.4 SHGC requirement will already have glazing U-factors at or below 0.55.

Thus, the proposed change from U-0.65 to U-0.55 will have minimal impact on most buildings that comply via the prescriptive path (because the 0.4 SHGC requirement already tends to result in U-0.55 or better), but will eliminate an unreasonable efficiency credit in the total UA or simulated performance alternative compliance paths. Changing the zone-3 glazing U-factor requirement to 0.55 will help prevent trade-offs of other code requirements to substandard levels.

The residential fenestration zone 3 U-factor requirement of 0.65 in the 2006 IECC and IRC is less stringent than the corresponding requirements in the 2003 IECC and IRC in many cases. For example, in old 2003 IECC/IRC climate zone 6 (Dallas, etc.) the 2003 IECC/IRC requires U-0.60 for lower window areas below 15% with more stringent requirements (U-0.52 or even lower) for higher window areas. In old climate zone 7 (for example, Atlanta) the 2003 IECC/IRC requires U-0.55 for window areas of 12% to 15%. DOE is aware of some states that are reluctant to adopt the newer codes because of its apparent reduction in zone-3 efficiency in some cases relative to the 2003 edition.

This improvement in U-factor will save $25 a year in Atlanta for a house with 300 ft^2 of windows area with $1.20/therm natural gas and 10 cents/kWh electricity according to the RESFEN 5.0 simulation software. A U-factor requirement of 0.55 is still well short of the Energy Star window requirement of U-0.40 in almost all of Zone 3.

Referenced Standards (3.4 & 3.6):

Cost Impact (3.3.4.6):
The code change proposal will increase the cost of construction.