

**Commonwealth of Pennsylvania
Uniform Construction Code
Review and Advisory Council**

**PENNSYLVANIA UNIFORM CONSTRUCTION CODE
2012 CODE CHANGE RECOMMENDATION FORM**

Date Submitted:	December 29, 2011	
Proposer's Name	Stephen A. Catarinella	
Company Affiliation (if any):	Steve Catranel Construction Co, Inc.	
Address:	901 Elizabeth Street, Pittsburgh, PA 15221	
Telephone:	412-351-2101	
Email:	scatranelcc@aol.com	
ICC Code:	All 2012 I-Codes	
ICC Code Change Number :	All 2012 Code Changes	
Code Section(s):	All 2012 Code Changes	
This is a Recommendation:	<input type="checkbox"/> To Adopt the Change	<input checked="" type="checkbox"/> To Not Adopt the Change
For the Following Reasons: (Provide Details Below)	<input type="checkbox"/> Health Safety and Welfare	<input type="checkbox"/> Technical Feasibility
	<input type="checkbox"/> Economic and Financial Impacts	<input checked="" type="checkbox"/> Other (Specify Below)

Detailed reasons for your recommendation. Provide relevant data to support your position when possible.

No changes should be made to the 2009 Building Code which is the current minimum code in Pennsylvania. There have been no events in residential construction which have affected the health and safety of the home buying public that warrants over 1,000 changes to the current code. The burden on both builders and code officials of adopting a new code every three years plus the additional costs associated with these changes is excessive. With the current economy and depressed housing market, the American people do not need costs added to a new home which they have not requested.

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Bureau of Occupational & Industrial Safety
Department of Labor and Industry
651 Boas Street, Room 1613
Harrisburg, PA 17121

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Submission Method:	Public Hearing: E-Mail: <input checked="" type="checkbox"/>	Date Received: 12-29-11

Commonwealth of Pennsylvania
Uniform Construction Code
Review and Advisory Council

PENNSYLVANIA UNIFORM CONSTRUCTION CODE
2012 CODE CHANGE RECOMMENDATION FORM

Date Submitted:	12/29/11	
Proposer's Name	Larry Sheckler	
Company Affiliation (if any):	EG Stoltzfus Homes, LLC	
Address:	474 Mt. Sidney Road, Lancaster, PA 17602	
Telephone:	717-723-4314	
Email:	las@egstoltzfus.com	
ICC Code:	All of the 2012 IRC Code	
ICC Code Change Number :	All 2012 Code Changes	
Code Section(s):	I 2012 Code Changes	
This is a Recommendation:	<input type="checkbox"/> To Adopt the Change	<input checked="" type="checkbox"/> To Not Adopt the Change
For the Following Reasons: (Provide Details Below)	<input type="checkbox"/> Health Safety and Welfare	<input type="checkbox"/> Technical Feasibility
	<input type="checkbox"/> Economic and Financial Impacts	<input checked="" type="checkbox"/> Other (Specify Below)

Detailed reasons for your recommendation. Provide relevant data to support your position when possible.

Once again our legislature has a chance to vote for increased jobs and tax revenue from the creation of new jobs. This will not happen if the new code is adopted. The added cost to construct homes that are already safe enough and energy efficient under the existing code will likely remove the afford ability of new home construction from an already shrunken pool of perspective home owners. If this happens the already high construction unemployment number will increase. Now is not the time to impose yet more government interference in such a vital, yet struggling part of our economy.

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116

**Commonwealth of Pennsylvania
Uniform Construction Code
Review and Advisory Council**

**PENNSYLVANIA UNIFORM CONSTRUCTION CODE
2012 CODE CHANGE RECOMMENDATION FORM**

Date Submitted:	December 30, 2011	
Proposer's Name	Kevin Coutts	
Company Affiliation (if any):	Forest Homes of Lake Wallenpaupack	
Address:	148 Gumbletown Road	
Telephone:	570-226-8668	
Email:	kcoutts@ptd.net	
ICC Code:	2012	
ICC Code Change Number :		
Code Section(s):		
This is a Recommendation:	<input type="checkbox"/> To Adopt the Change	<input checked="" type="checkbox"/> To Not Adopt the Change
For the Following Reasons: (Provide Details Below)	<input type="checkbox"/> Health Safety and Welfare	<input type="checkbox"/> Technical Feasibility
	<input checked="" type="checkbox"/> Economic and Financial Impacts	<input type="checkbox"/> Other (Specify Below)

Detailed reasons for your recommendation. Provide relevant data to support your position when possible.

Given the state of the economy, plus the fact that the current code is more than adequate to protect the public, I recommend not adopting the new code at this time.

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Submission Method:	Public Hearing: E-Mail: <input checked="" type="checkbox"/>	Date Received: 12-30-11

117

Commonwealth of Pennsylvania
Uniform Construction Code
Review and Advisory Council

PENNSYLVANIA UNIFORM CONSTRUCTION CODE
2012 CODE CHANGE RECOMMENDATION FORM

Date Submitted:	December 29, 2011	
Proposer's Name	A. Clyde Kreider	
Company Affiliation (if any):	Clyde Kreider Consulting	
Address:	33 Harmony Lane	
Telephone:	570-253-1982	
Email:	harmony2@ptd.net	
ICC Code:	IRC	
ICC Code Change Number :	All	
Code Section(s):	All	
This is a Recommendation:	<input type="checkbox"/> To Adopt the Change	<input checked="" type="checkbox"/> To Not Adopt the Change
For the Following Reasons: (Provide Details Below)	<input type="checkbox"/> Health Safety and Welfare	<input type="checkbox"/> Technical Feasibility
	<input type="checkbox"/> Economic and Financial Impacts	<input checked="" type="checkbox"/> Other (Specify Below)

Detailed reasons for your recommendation. Provide relevant data to support your position when possible.

The Industry Officials should take a good look at the current economy and New Housing segment. We are currently OVERREGULATED. Continuing the current code is more than sufficient for the Health and Safety in New Construction. No need to buy a whole set of up-dated code books, time & cost of seminars, etc.

It's only a small part but we must stop somewhere!!

Clyde Kreider
 harmony2@ptd.net
 570-493-1153 cell

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Submission Method:	Public Hearing: <input type="checkbox"/> E-Mail: <input checked="" type="checkbox"/>	Date Received: 12-30-11

118

**Commonwealth of Pennsylvania
Uniform Construction Code
Review and Advisory Council**

**PENNSYLVANIA UNIFORM CONSTRUCTION CODE
2012 CODE CHANGE RECOMMENDATION FORM**

Date Submitted:	December 29, 2011	
Proposer's Name	Jack Mundy	
Company Affiliation (if any):	Estemerwalt Log Homes	
Address:	505 Adams Pond Rd, Honesdale, Pa. 18431	
Telephone:	570-729-0733, ext 106	
Email:	jmundy@estemerwalt.com	
ICC Code:	2012 Code revisions	
ICC Code Change Number :	All 2012 I Code	
Code Section(s):	All 2012 I Code changes	
This is a Recommendation:	<input type="checkbox"/> To Adopt the Change	<input checked="" type="checkbox"/> To Not Adopt the Change
For the Following Reasons: (Provide Details Below)	<input type="checkbox"/> Health Safety and Welfare	<input type="checkbox"/> Technical Feasibility
	<input checked="" type="checkbox"/> Economic and Financial Impacts	<input type="checkbox"/> Other (Specify Below)

Detailed reasons for your recommendation. Provide relevant data to support your position when possible.

On behalf of the 20 employees in our organization, our 10 local suppliers and their staffs and the countless contractors that work in Pennsylvania on our homes we demand that the 2012 I code changes be rejected in their entirety. Due to the changes in construction resulting from the past two code cycles the cost of a home has increased to the point that many middle-class prospective buyers can no longer afford to build. At this point, and for the foreseeable future we need to do everything possible to remove barriers to the construction of new homes.

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Submission Method:	Public Hearing: <input type="checkbox"/> E-Mail: <input checked="" type="checkbox"/>	Date Received: 12-30-11

119

**Commonwealth of Pennsylvania
Uniform Construction Code
Review and Advisory Council**

**PENNSYLVANIA UNIFORM CONSTRUCTION CODE
2012 CODE CHANGE RECOMMENDATION FORM**

Date Submitted:	12/30/2011	
Proposer's Name	George (Gig) Settle, PE, CEM, CMVP, Level II Thermographer	
Company Affiliation (if any):	PA UCC RAC Member	
Address:	142 Franklintown Rd, Dillsburg, PA 17019	
Telephone:	717-903-3481	
Email:	GigSettle@me.com	
ICC Code:	2012 IECC	
ICC Code Change Number :	EC147-09/10	
Code Section(s):	C402.4.1.2.3. Building (Pressure)Test	
This is a Recommendation:	<input type="checkbox"/> To Adopt the Change	<input checked="" type="checkbox"/> To Not Adopt the Change
For the Following Reasons: (Provide Details Below)	<input type="checkbox"/> Health Safety and Welfare	<input type="checkbox"/> Technical Feasibility
	<input type="checkbox"/> Economic and Financial Impacts	<input checked="" type="checkbox"/> Other (Specify Below)

Detailed reasons for your recommendation. Provide relevant data to support your position when possible.

It is recommended that this Article be eliminated from the PA UCC because:

- This is one of the few building performance requirements in the ICC, and the party responsible is not clear.
- Cause(s) and solution(s) to remedy excess envelope leakage will be extraordinarily difficult to determine and will frequently be uncertain.
- Remedies to correct will be costly.
- ASHRAE 90.1-2010 does not include envelope pressure testing requirements.
- As a practical matter, if the building does not meet the leakage requirement, what is the penalty? Will it consistently be enforced?

Discussion

The ICC Codes generally specifies what is and is not acceptable construction practices; compliance with the Code can be determined prior to or during construction and Code +

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120

violations can be remedied before during construction. Of the few performance requirements that exist in the Code, it is clear which party is responsible. An example of this type of performance requirement is the minimum leakage requirement for high pressure duct systems (IECC 2012 C403.2.7.1.3).

Article C402.4.1.2.3. is the only ICC Code Requirement that requires that a performance be met after the structure is built and where there are potentially multiple parties responsible. Examples of the causes of excess envelope leakage and the party responsible are:

- Architect, because he designed a leaky envelope.
- The General Contractor, because he did not build it tight enough.
- Subcontractors, because they penetrated the envelope and did not seal that penetration.
- Design Professional because they did not specify that envelope penetrations are to be or how they are to be sealed.

Determining the cause(s) of excess envelope leakage after it has been constructed will be very difficult and in many most cases include a high uncertainty that the cause(s) has/have been identified. Infrared imaging may be helpful in determining large air leakages, but remember, infrared identifies surface temperature, not volumes of air. Remedies to rectify excess envelope leakage will usually be costly.

As a practical matter, what is the penalty if the building envelop fails the pressure test? No occupancy permit? Really? The teachers are moving into the school, the building fails it's envelope pressure test, there is no other place to put the kids. Are you really not going to issue an occupancy permit because the building does not meet a Code mandated leakage test? This is not a health and safety issue; of course an occupancy permit will be issued.

Don't add codes that will not be enforced, it degrades the Code's power.

Commonwealth of Pennsylvania
Uniform Construction Code
Review and Advisory Council

PENNSYLVANIA UNIFORM CONSTRUCTION CODE
2012 CODE CHANGE RECOMMENDATION FORM

Date Submitted:	12/30/2011 Revised and Resubmitted with Addendum 1/2/2012	
Proposer's Name	George (Gig) Settle, PE, CEM, CMVP, Level II Thermographer	
Company Affiliation (if any):	PA UCC RAC Member	
Address:	142 Franklintown Rd, Dillsburg, PA 17019	
Telephone:	717-903-3481	
Email:	GigSettle@me.com	
ICC Code:	2012 IECC	
ICC Code Change Number :	EC13-09/10	
Code Section(s):	R402.4.1.2 Building Envelope (Pressure)Test	
This is a Recommendation:	<input type="checkbox"/> To Adopt the Change	<input checked="" type="checkbox"/> To Not Adopt the Change
For the Following Reasons: (Provide Details Below)	<input type="checkbox"/> Health Safety and Welfare	<input type="checkbox"/> Technical Feasibility
	<input type="checkbox"/> Economic and Financial Impacts	<input checked="" type="checkbox"/> Other (Specify Below)

Detailed reasons for your recommendation. Provide relevant data to support your position when possible.

It is recommended that this Article be eliminated from the PA UCC and the Code reverts to 2009 IECC verbiage because:

- Implementation of test adds cost to purchase price of home.
- The allowable leakage rate has change from 7 ACHs to 3ACHs, and few new homes built in the Commonwealth would pass under the new leakage rate requirement.
- 2012 IECC R402.4.1.2 requires PA dwellings to have envelopes that leak < 3 ACHs, yet 2012 IRC R303.4 requires separate outdoor air ventilation systems for dwellings that test < 5 ACHs.
- This is one of the few building performance requirements in the ICC, and the party responsible is not clear.
- Cause(s) and solution(s) to remedy excess envelope leakage will be difficult to determine and will frequently be uncertain.

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Submission Method:	Public Hearing: <input checked="" type="checkbox"/> E-Mail: <input checked="" type="checkbox"/>	Date Received: 12-30-11 Revised 1-2-12

121

- Remedies to correct will be costly.
- American Society of Heating Refrigeration and Air Conditioning Engineers (ASHRAE) Standard 90.1-2007, Energy-Efficient Design of Low-Rise Residential Buildings, and Standard 119-1988 (RA2004) Air Leakage Performance for Detached Single-Family Residential Buildings do not require envelope pressure testing.
- If the building does not meet the requirement, what is the penalty? As a practical matter, will it consistently be enforced? Is this really a minimum requirement a person needs to have to reside in their home?

Discussion

The probable cost to implement the pressure test is \$350-\$700 for a single family home. This is one more cost to add to the price of a new home in an already struggling industry.

The allowable leakage rate has been decreased from 7 AHCs to 3 ACHs since the publication of the 2009 IECC. The PHRC claims that none of the twelve homes they tested in their Research Report 106, July 2008 would pass the new maximum envelope leakage requirements.

This article requires housing envelopes to leak less than 3 ACH when tested, yet 2012 IRC R303.4 requires whole house ventilation system for houses that pressure test less than 5ACH under the same test conditions! Referenced articles in IRC R303.4 does not require that the ventilation system include energy recovery devices; therefore the owner is required to bear the expense of a tighter envelope, then bear the expense of a ventilation system to counteract the effectiveness of the tighter envelope. How does the owner benefit here? How is this effective use of available dollars?

The ICC Codes generally specifies what is and is not acceptable construction practices; compliance with the Code can be determined prior to or during construction and Code violations can be remedied before during construction. Of the few performance requirements that exist in the Code, it is clear which party is responsible. An example of this type of performance requirement is the minimum leakage requirement duct systems located outside of the building envelope (IECC 2012 R403.2.2).

Article C402.4.1.2 is the only ICC Code Requirement that requires that a performance be met after the structure is built and where there are potentially multiple parties responsible. Examples of the causes of excess envelope leakage and the party responsible are:

- Architect, because he designed a leaky envelope.
- The General Contractor, because he did not build it tight enough.

Determining the cause(s) of excess envelope leakage after it has been constructed will be difficult and in many most cases include a high uncertainty that the cause(s) has/have been identified. Infrared imaging may be helpful in determining large air leakages, but remember, infrared identifies surface temperature, not volumes of air. Remedies to rectify excess envelope leakage will usually be costly.

As a practical matter, what is the penalty if the building envelop fails the pressure test? No occupancy permit? Really? Mom, Dad and three kids have moved out of the apartment and are living with the in-laws over the weekend while the contractor finishes up the home. Is the Code official really not going to issue an occupancy permit because the building does not meet a Code mandated leakage test? This is not a health and safety issue; of course an occupancy permit will be issued.

Don't add codes that will not be enforced, it degrades the Code's power.

Commonwealth of Pennsylvania
Uniform Construction Code
Review and Advisory Council

PENNSYLVANIA UNIFORM CONSTRUCTION CODE
2012 CODE CHANGE RECOMMENDATION FORM

Date Submitted:	12/30/2011		
Proposer's Name	Richard W. Bird II		
Company Affiliation (if any):	Muncy Homes, Inc.		
Address:	1567 Route 447 Highway		
Telephone:	(570)-546-5444		
Email:	rbird@muncyhomesinc.com		
ICC Code:	2012 IRC I CODES (ALL) (VERBAL CONFIRMATION)		
ICC Code Change Number :			
Code Section(s):	General		
This is a Recommendation:	<input type="checkbox"/> To Adopt the Change	<input checked="" type="checkbox"/> To Not Adopt the Change	
For the Following Reasons: (Provide Details Below)	<input type="checkbox"/> Health Safety and Welfare	<input type="checkbox"/> Technical Feasibility	
	<input type="checkbox"/> Economic and Financial Impacts	<input checked="" type="checkbox"/> Other (Specify Below)	

Detailed reasons for your recommendation. Provide relevant data to support your position when possible.

In general, code changes every three years are completely unnecessary. If you really want to make a code effective, allow those who are working with it enough time to get good at it - three years is not enough time!! Every-other code cycle the NDS and ASCE-7 standards change - I would recommend possibly looking at code adoption every other cycle when these standards change. As a modular manufacturer, we have a series of "systems" drawings and manuals that allow us to build various types of units - in our case this is about 8000 pages of documents. We update them every three years and are monitored closely for compliance by our Third Party Agencies. Since we have to have our documentation done "before" the new code goes into effect, typically we are somewhat ahead of the curve as compared to Local agencies. This is very evident to us when we speak with Local AHJ's as they too are "swimming" among the code changes, trying to understand and enforce them. Just as they get a good grip on the changes, the next code cycle kicks in and they have to start over - every 3-years is just too soon!!

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**PENNSYLVANIA UNIFORM CONSTRUCTION CODE
2012 CODE CHANGE RECOMMENDATION FORM**

Date Submitted:	12/30/2011	
Proposer's Name	Richard W. Bird II	
Company Affiliation (if any):	Muncy Homes, Inc.	
Address:	1567 Route 447 Highway	
Telephone:	(570)-546-5444	
Email:	rbird@muncyhomesinc.com	
ICC Code:	2012 IRC & 2012 IECC	
ICC Code Change Number :	RE-4 AND: AULOF 2012 IECC (VERBAL CONFIRMATION)	
Code Section(s):	2012 IECC and Chapter 11 of the 2012 IECC	
This is a Recommendation:	<input type="checkbox"/> To Adopt the Change	<input checked="" type="checkbox"/> To Not Adopt the Change
For the Following Reasons:	<input type="checkbox"/> Health Safety and Welfare	<input checked="" type="checkbox"/> Technical Feasibility
(Provide Details Below)	<input type="checkbox"/> Economic and Financial Impacts	<input type="checkbox"/> Other (Specify Below)

Detailed reasons for your recommendation. Provide relevant data to support your position when possible.

I believe both the 2012 IECC and Chapter 11 of the 2012 IECC should be deleted. It is extremely difficult to design a house now and make it pass the ResCheck utilizing the 2009 IECC code in effect. A revised version of the ResCheck is not even available yet to see what the 2012 IECC impact will be from a "total UA performance" approach, but we do know it will be considerably more restrictive.

If this section is deleted and we stay with the 2009 IECC, it will also eliminate the "requirement" (no longer an option) for blower door testing, not to mention the resultant 3 ACH requirement that even the PHRC has found on newer homes they tested in 2008 that NONE of them would pass the newly proposed 3 ACH requirement!

As well the already stringent 2009 IECC duct tightness test has been tightened up from 8 cfm at 25 Pascals to 4 cfm at 25 Pascals. We do not install any ducts outside the conditioned space, so this doesn't effect us as a modular home manufacturer, but I hear this will be difficult to meet on-site.

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123

Commonwealth of Pennsylvania
Uniform Construction Code
Review and Advisory Council

PENNSYLVANIA UNIFORM CONSTRUCTION CODE
2012 CODE CHANGE RECOMMENDATION FORM

Date Submitted:	12/30/2011	
Proposer's Name	Richard W. Bird II	
Company Affiliation (if any):	Muncy Homes, Inc.	
Address:	1567 Route 447 Highway	
Telephone:	(570)-546-5444	
Email:	rbird@muncyhomesinc.com	
ICC Code:	2012 IRC	
ICC Code Change Number :	M156 Pts 1,2,3 AND RM-17 (VERBAL CONFIRMATION)	
Code Section(s):	M1507.3.2	
This is a Recommendation:	<input type="checkbox"/> To Adopt the Change	<input checked="" type="checkbox"/> To Not Adopt the Change
For the Following Reasons:	<input checked="" type="checkbox"/> Health Safety and Welfare	<input type="checkbox"/> Technical Feasibility
(Provide Details Below)	<input type="checkbox"/> Economic and Financial Impacts	<input type="checkbox"/> Other (Specify Below)

Detailed reasons for your recommendation. Provide relevant data to support your position when possible.

According to section R304.4, if the blower-door-test reveals an air infiltration rate of less than 5 air changes per hour, you must install a Whole-house Mechanical Ventilation System. Section N1102.4 states the blower-door-test must reveal an air infiltration rate 3 air changes per hour or less in Climate Zones 3 thru 8. Since PA is in Climate Zones 4 thru 6, we MUST install a Whole-house Mechanical Ventilation System. Section M1507.3.2 requires a "manual override" on the Whole-house Mechanical Ventilation System. This must be removed from the code because we cannot have a homeowner turning it off because they don't like the air moving, assume it's expensive to run, etc. If they turn it off, the house is now so tight it WILL mold and become "sick". Not only does this present a hazard to the occupants, it also presents a liability to the home-builder - there would be nothing preventing the home-owner from saying they never turned the system off, but now they have mold issues, etc.

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124

**Commonwealth of Pennsylvania
Uniform Construction Code
Review and Advisory Council**

**PENNSYLVANIA UNIFORM CONSTRUCTION CODE
2012 CODE CHANGE RECOMMENDATION FORM**

Date Submitted:	12/30/2011		
Proposer's Name	Richard W. Bird II		
Company Affiliation (if any):	Muncy Homes, Inc.		
Address:	1567 Route 447 Highway		
Telephone:	(570)-546-5444		
Email:	rbird@muncyhomesinc.com		
ICC Code:	2012 IRC		
ICC Code Change Number :	RP-1 (VERBAL CONFIRMATION)		
Code Section(s):	P2503.5.1		
This is a Recommendation:	<input type="checkbox"/> To Adopt the Change	<input checked="" type="checkbox"/> To Not Adopt the Change	
For the Following Reasons: (Provide Details Below)	<input type="checkbox"/> Health Safety and Welfare	<input type="checkbox"/> Technical Feasibility	
	<input type="checkbox"/> Economic and Financial Impacts	<input checked="" type="checkbox"/> Other (Specify Below)	

Detailed reasons for your recommendation. Provide relevant data to support your position when possible.

The 2012 IRC was modified to eliminate the option of testing PVC, DWV pipe with air - it must be tested with water. Though not physically impossible, it does present great difficulty in our modular housing plant. We have been testing with air (5 psi for 15-minutes) for 35-years and have NEVER had an accident. We have a procedure in place that is working, overseen by our Quality Control personnel, and can see no good reason for change. Please delete this modification to the code.

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	E-Mail: <input checked="" type="checkbox"/>		

125

Commonwealth of Pennsylvania
Uniform Construction Code
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PENNSYLVANIA UNIFORM CONSTRUCTION CODE
2012 CODE CHANGE RECOMMENDATION FORM

Date Submitted:	12/29/2011	
Proposer's Name	S. Casey Bowers	
Company Affiliation (if any):	PennSafe Building Inspections Service LLC	
Address:	25 East Scribner Avenue - DuBois, PA. 15801	
Telephone:	814-591-6415	
Email:	scb.pennsafe@gmail.com	
ICC Code:	All	
ICC Code Change Number :	All	
Code Section(s):	All	
This is a Recommendation:	<input type="checkbox"/> To Adopt the Change	<input checked="" type="checkbox"/> To Not Adopt the Change
For the Following Reasons: (Provide Details Below)	<input type="checkbox"/> Health Safety and Welfare	<input type="checkbox"/> Technical Feasibility
	<input checked="" type="checkbox"/> Economic and Financial Impacts	<input type="checkbox"/> Other (Specify Below)

Detailed reasons for your recommendation. Provide relevant data to support your position when possible.

The 2012 changes to the code appear to be "change for the sake of change" and not based on any real need. They will not make buildings safer. Government regulation of private activities are tolerated by people like myself who value freedom only so long such regulation remains necessary, relevant, and, most of all, passes the "smell test". The 2012 changes fail on all three fronts. To ask everyone including code officials, municipalities, design professionals and contractors to revise their processes for unnecessary revisions imposes financial burdens that many cannot afford. As such, I join the Code Official Alliance of Pennsylvania (COAP) in opposing these changes.

Sincerely,

S. Casey Bowers, BCO
 PennSafe Building Inspection Services LLC

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Submission Method:	Public Hearing: E-Mail: <input checked="" type="checkbox"/>	Date Received: 12-30-11

126

Commonwealth of Pennsylvania
Uniform Construction Code
Review and Advisory Council

PENNSYLVANIA UNIFORM CONSTRUCTION CODE
2012 CODE CHANGE RECOMMENDATION FORM

Date Submitted:	November 7, 2011
Proposer's Name:	Donald J. Vigneau
Company Affiliation (if any):	Northeast Energy Efficiency Partnerships Inc.
Address:	91 Hartwell Ave, Lexington MA 02421
Telephone:	781-860-9177, Ext. 136
Email:	dvigneau@neep.org
ICC Code:	2012 International Energy Conservation Code
ICC Code Change Number :	EC 107-09/10.
Code Section(s):	R402.2.2
This is a Recommendation:	<input checked="" type="checkbox"/> To Adopt the Change <input type="checkbox"/> To Not Adopt the Change
For the Following Reasons: (Provide Details Below)	<input checked="" type="checkbox"/> Health Safety and Welfare <input checked="" type="checkbox"/> Technical Feasibility <input checked="" type="checkbox"/> Economic and Financial Impacts <input checked="" type="checkbox"/> Other (Specify Below)

Detailed reasons for your recommendation. Provide relevant data to support your position when possible.

Reason.

The specific criteria outlined in Section 107(B)(3) of the Pennsylvania Construction Code Act apply to this proposal as follows:

- 1. The impact that the provision may have upon the health, safety, and welfare of the public.**
 - **Ducts will leak less in HVAC distribution systems.** As in the 2009 *IECC*, duct testing is required unless ducts and air handler are located entirely inside conditioned space. The improved duct tightness standard in the 2012 *IECC* will result in more efficient delivery of heated or cooled air to the entire house, reducing the amount of energy lost to unconditioned spaces and the outdoors when heating or cooling must be oversized, and helping to avoid the need for occupants to adjust room temperatures to address discomfort.
- 2. The economic and financial impact of the provision.**

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Submission Method:	Public Hearing: E-Mail: <input checked="" type="checkbox"/>	Date Received: 12-30-11

127

- Testing is not new in the 2012 IECC, only the level of performance of the duct systems. Since all ducts must continue to be sealed to assure the performance of any duct system design, use of the correct materials does not represent a financial impact. As proper workmanship continues to be specified in adequate contract documents, any financial impact is a result of lack of attention to workmanship.

3. The technical feasibility of the provision.

- Each provision of the 2012 IECC has undergone several rounds of review, and ultimately every proposal has been approved, disapproved, or modified by a representative body of the nation's building officials and governmental officials. Many of these officials are Pennsylvania citizens. The ICC's consensus-driven process ensures that each section of the code is technically feasible, understandable, and enforceable.

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Commonwealth of Pennsylvania
Uniform Construction Code
Review and Advisory Council

PENNSYLVANIA UNIFORM CONSTRUCTION CODE
2012 CODE CHANGE RECOMMENDATION FORM

Date Submitted:	November 7, 2011
Proposer's Name:	Donald J. Vigneau
Company Affiliation (if any):	Northeast Energy Efficiency Partnerships Inc.
Address:	91 Hartwell Ave, Lexington MA 02421
Telephone:	781-860-9177, Ext. 136
Email:	dvigneau@neep.org
ICC Code:	2012 International Energy Conservation Code
ICC Code Change Number :	EC 81-09/10, Part I.
Code Section(s):	Section R402.4
This is a Recommendation:	<input checked="" type="checkbox"/> To Adopt the Change <input type="checkbox"/> To Not Adopt the Change
For the Following Reasons: (Provide Details Below)	<input checked="" type="checkbox"/> Health Safety and Welfare <input checked="" type="checkbox"/> Technical Feasibility <input checked="" type="checkbox"/> Economic and Financial Impacts <input checked="" type="checkbox"/> Other (Specify Below)

Detailed reasons for your recommendation. Provide relevant data to support your position when possible.

Reason.

The specific criteria outlined in Section 107(B)(3) of the Pennsylvania Construction Code Act apply to this proposal as follows:

1. The impact that the provision may have upon the health, safety, and welfare of the public.

- **Homes will use less energy as the thermal envelope is tightened and verified by air leakage testing.** Under the 2012 *IECC*, all new Pennsylvania homes will be more tightly sealed, with tested air leakage meeting a reasonable performance standard at the minimum ASHRAE 62 standard below which mandatory ventilation would be required. Air leakage testing is objective and more reliable than a visual inspection, will reduce the burden on code officials to inspect for air leakage, and the energy savings will be substantial in many cases.
- **Ducts will leak less in HVAC distribution systems.** As in the 2009 *IECC*, duct testing is required unless ducts and air handler are located inside conditioned space. The improved duct tightness standard in the 2012 *IECC* will result in more efficient delivery of heated or cooled air to the entire house, reducing the amount of energy used to heat and cool and helping to avoid the need for occupants to adjust the thermostat to address discomfort.

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Submission Method:	Public Hearing: E-Mail: <input checked="" type="checkbox"/>	Date Received:	12-30-11

2. The economic and financial impact of the provision.

- Air testing is now performed in the region at an average cost of about \$375 plus travel time per test. This testing first sets the base performance of the construction and, after all leaks have been identified and corrected, verifies performance. The code language allows for penetrations to be cut where equipment and systems installations are not completed, but sealed off for the test. This test can be acceptable where visual inspection of the final installations at penetrations can be made and proper sealing verified. As with any construction procedure, practice makes for good techniques and improves performance; a truism borne out by builders now constructing Energy Star homes.

3. The technical feasibility of the provision.

- This provision depends upon certified testers. The EPA Energy Star program has developed a cadre of qualified testing companies/individuals who can certify performance; more companies can also be developed by builders associations throughout the Commonwealth that work with their local weatherization programs to have qualified testers available.

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**Commonwealth of Pennsylvania
Uniform Construction Code
Review and Advisory Council**

**PENNSYLVANIA UNIFORM CONSTRUCTION CODE
2012 CODE CHANGE RECOMMENDATION FORM**

Date Submitted:	November 24, 2011
Proposer's Name	Donald J. Vigneau
Company Affiliation (if any):	Northeast Energy Efficiency Partnerships Inc.
Address:	91 Hartwell Ave, Lexington MA 02421
Telephone:	781-860-9177, Ext. 136
Email:	dvigneau@neep.org
ICC Code:	2012 International Energy Conservation Code
ICC Code Change Number :	EC27
Code Section(s):	Section R402.1; Tables 402.1.1, 402.1.3 and 402.2.5
This is a Recommendation:	<input checked="" type="checkbox"/> To Adopt the Change <input type="checkbox"/> To Not Adopt the Change
For the Following Reasons: (Provide Details Below)	<input checked="" type="checkbox"/> Health Safety and Welfare <input checked="" type="checkbox"/> Technical Feasibility <input checked="" type="checkbox"/> Economic and Financial Impacts <input checked="" type="checkbox"/> Other (Specify Below)

Detailed reasons for your recommendation. Provide relevant data to support your position when possible.

Reason. Reason: The proposed changes improve the thermal integrity of the building envelope by decreasing the allowed U-factors for several building components that are currently below their reasonable potential in the Commonwealth's climate zones. Improvements in available technologies and the demonstrated viability of the proposed levels in programs such as Energy Star, Building America, and other beyond-code efforts make these changes viable improvements in the context of the current and increasing need for lower energy consumption by buildings.

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

The specific criteria outlined in Section 107(B)(3) of the Pennsylvania Construction Code Act apply to this proposal as follows:

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Submission Method:	Public Hearing: E-Mail: <input checked="" type="checkbox"/>	Date Received: 12-30-11

129

1. The impact that the provision may have upon the health, safety, and welfare of the public.

- **Improvements to the components of the permanent thermal building envelope, including more efficient window requirements and better insulation requirements, will bring efficiency benefits to Pennsylvania homes over the useful life of the dwellings.** Chapter 4[RE] of the 2012 IECC improves insulation requirements for more efficient attics, walls, basements, and crawl spaces. These measures are cost-effective at initial construction of the dwelling, and will yield energy savings for the useful lifetime of the home. The 2012 IECC also includes better glazing U-factors and tighter window seals, and now includes a moderate limitation on solar heat gain (SHGC) in climate zone 4, typically at no additional cost for the window. SHGC can contribute to reduced HVAC equipment cost, as equipment is sized smaller to account for less heat gain. This will also help control summer peak electric demand in the Philadelphia area, allow cooling systems to be down-sized, and keep homes more comfortable during the summer months, with or without air conditioning.

2. The economic and financial impact of the provision.

- As highlighted above, improvements to the building thermal envelope are most cost-effective at initial construction. For example, a study by ICF International Consulting and the Building Codes Assistance Project (BCAP) shows that the incremental cost increase for a typical Philadelphia row house built to 2012 IECC requirements is between \$1,222 and \$1,847. However, with energy cost savings between \$194 and \$205 annually, these measures will completely offset the first cost within the first four years of the home's occupancy. More importantly, these modern and efficient homes continue to save fuel expenses for the homeowner for decades to come. After 30 years, the home will have saved its owner(s) up to \$3,500 beyond the cost of the efficiency improvements. The result will be similar across the other climate zones of the Commonwealth. These improvements are smart investments in Pennsylvania's energy future. A copy of the ICF/BCAP analysis can be provided on request.

3. The technical feasibility of the provision.

- Each provision of the 2012 IECC undergoes several rounds of review, and ultimately every proposal has been approved, disapproved, or modified by a representative body of the nation's building officials and governmental officials who are responsible for enacting and administering their jurisdiction's building codes. Many of these representative officials are Pennsylvania citizens. The ICC's consensus-driven process ensures that all section of the code are technically feasible, coordinated for consistency among the model code documents, and enforceable.

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Uniform Construction Code
Review and Advisory Council

PENNSYLVANIA UNIFORM CONSTRUCTION CODE
2012 CODE CHANGE RECOMMENDATION FORM

Date Submitted:	01/02/2012		
Proposer's Name	George (Gig) Settle, PE, CEM, CMVP, Level II Thermographer		
Company Affiliation (if any):	PA UCC RAC Member		
Address:	142 Franklintown Rd, Dillsburg, PA 17019		
Telephone:	717-903-3481		
Email:	GigSettle@me.com		
ICC Code:	2012 IRC		
ICC Code Change Number :	M-156-09/10 Part III		
Code Section(s):	M-303.4 Whole House Ventilation System Requirement		
This is a Recommendation:	<input type="checkbox"/> To Adopt the Change	<input checked="" type="checkbox"/> To Not Adopt the Change	
For the Following Reasons: (Provide Details Below)	<input type="checkbox"/> Health Safety and Welfare	<input type="checkbox"/> Technical Feasibility	
	<input checked="" type="checkbox"/> Economic and Financial Impacts	<input type="checkbox"/> Other (Specify Below)	

Detailed reasons for your recommendation. Provide relevant data to support your position when possible.

It is recommended that this Article be eliminated from the PA UCC and the Code reverts to 2009 IECC verbiage because:

- 2012 IRC R303.4 requires separate outdoor air ventilation systems for dwellings that test < 5 ACHs, yet 2012 IECC R402.4.1.2 requires PA dwellings to have envelopes that leak < 3 ACHs. Therefore all new PA homes will require this outdoor air ventilation system. These items together are not cost effective use of PA home purchaser's dollars. The expected probable cost of adding a whole house ventilation system to PA homes is \$1,200 to \$4,000 (or more), depending on the size and sophistication.
- IAQ problems due to excessively tight homes have not been a chronic problem in PA.
- The ventilation system (IRC M1507.3) reference in R303.4 will result in unintended

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130

consequences if not properly designed, maintained, and calibrated. These consequences can include damaged equipment, mold growth, and excessive energy use.

Additional Discussion

When the dwelling envelope is built very tight, Indoor Air Quality can begin to become a problem, depending on the number of occupants, their activities (cooking, exercise, etc.) and type of heating appliance. However, the PHRC claims that of the twelve homes they tested in their Research Report 106, July 2008, all homes had air exchange rates above 5 ACH; therefore insufficient outdoor air ventilation has not been a chronic problem in PA.

2012 IECC, Article R.402.4.1.2 requires housing envelopes to leak less than 3 ACH when tested, yet R303.4 requires whole house ventilation system for houses that pressure test less than 5ACH under the same test conditions! Therefore, R.402.4.1.2 requires envelopes to become tight enough where insufficient ventilation air may become an IAQ problem – a situation PA does not currently experience frequently.

If the outside air damper is not closed tightly or if it is not properly air balanced, then one or more of the following can occur:

- Excessive energy use, unbeknownst to the home owner.
- Frozen heating coil with resulting costly repair and flooding water damage.
- House under a continuous negative pressure, potentially resulting in mold damage.
- Insufficient heating or cooling.

The Cost of installing a ventilation system to homes that do not IAQ ventilation issues is not good use of PA \$\$s. The expected probable cost of adding a whole house ventilation system to PA homes is \$1,200 to \$4,000, depending on the size and sophistication.

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PENNSYLVANIA UNIFORM CONSTRUCTION CODE
2012 CODE CHANGE RECOMMENDATION FORM

Date Submitted:	12/28/2011		
Proposer's Name	Mark Halverson		
Company Affiliation (if any):	Coalition for Fair Energy Codes		
Address:	P.O. Box 202, Flagtown, NJ 08821		
Telephone:	908-371-0807		
Email:	mark.halverson@apawood.org		
ICC Code:	IECC		
ICC Code Change Number :	EC45-09/10, Part I and Part II		
Code Section(s):	IECC Table 402.1.1 and 402.1.3; IRC Tables N1102.1.2 and 1102.2.5		
This is a Recommendation:	<input type="checkbox"/> To Adopt the Change	<input checked="" type="checkbox"/> To Not Adopt the Change	
For the Following Reasons: (Provide Details Below)	<input type="checkbox"/> Health Safety and Welfare	<input type="checkbox"/> Technical Feasibility	
	<input type="checkbox"/> Economic and Financial Impacts	<input type="checkbox"/> Other (Specify Below)	

Detailed reasons for your recommendation. Provide relevant data to support your position when possible.

The U.S. Department of Energy proposed several code changes to increase the stringency of the energy code during the 2012 International Energy Conservation Code (IECC) development process. While there was no legislative mandate requiring it, their changes increased the stringency of the 2012 IECC to meet their targeted goal of a 30% increase in energy savings over the 2006 IECC. These changes were developed following several national meetings with stakeholder groups during the code development cycle.

EC45-09/10 exceeds the levels proposed in the DOE's code change proposals.

EC45-09/10 was rejected by both the IRC and IECC committees during the developmental code hearings. The committee's reasons were that the proposed increases in ceiling insulation were not cost effective. The return on investment for

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131

these provisions would be 40 to 50 years.

We recommend the state not adopt these provisions because they are in excess of the DOE's proposed code changes and are not cost effective.

Commonwealth of Pennsylvania
Uniform Construction Code
Review and Advisory Council

PENNSYLVANIA UNIFORM CONSTRUCTION CODE
2012 CODE CHANGE RECOMMENDATION FORM

Date Submitted:	12/28/2011		
Proposer's Name	Mark Halverson		
Company Affiliation (if any):	Coalition for Fair Energy Codes		
Address:	P.O. Box 202, Flagtown, NJ 08821		
Telephone:	908-371-0807		
Email:	mark.halverson@apawood.org		
ICC Code:	IECC		
ICC Code Change Number :	EC47-09/10, Part I and Part II		
Code Section(s):	IECC Tables 4021.3 and 402.1.3 and IRC Tables N1102.1 and N1102.1.2		
This is a Recommendation:	<input type="checkbox"/> To Adopt the Change	<input checked="" type="checkbox"/> To Not Adopt the Change	
For the Following Reasons: (Provide Details Below)	<input type="checkbox"/> Health Safety and Welfare	<input type="checkbox"/> Technical Feasibility	
	<input type="checkbox"/> Economic and Financial Impacts	<input type="checkbox"/> Other (Specify Below)	

Detailed reasons for your recommendation. Provide relevant data to support your position when possible.

The U.S. Department of Energy proposed several code changes to increase the stringency of the energy code during the 2012 International Energy Conservation Code (IECC) development process. While there was no legislative mandate requiring it, their changes increased the stringency of the 2012 IECC to meet their targeted goal of a 30% increase in energy savings over the 2006 IECC. These changes were developed following several national meetings with stakeholder groups during the code development cycle.

EC47-09/10 increases the amount of insulation in both wood frame walls and mass walls in excess of the DOE's proposed code changes.

EC47-09/10 was rejected by the IRC committee during the developmental hearings. The committee's reason was that the proposed increases in wall insulation were not cost

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effective.

We recommend the state not adopt these provisions because they are in excess of DOE recommendations and are not cost effective.

**Commonwealth of Pennsylvania
Uniform Construction Code
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Date Submitted:	12/28/2011	
Proposer's Name	Mark Halverson	
Company Affiliation (if any):	Coalition for Fair Energy Codes	
Address:	P.O. Box 202, Flagtown, NJ 08821	
Telephone:	908-371-0807	
Email:	mark.halverson@apawood.org	
ICC Code:	IECC	
ICC Code Change Number :	EC50-09/10, Part I and Part II	
Code Section(s):	IECC Tables IRC 402.1.1 and 402.1.3 and IRC Tables N1102.1 and N1102.1.2	
This is a Recommendation:	<input type="checkbox"/> To Adopt the Change	<input checked="" type="checkbox"/> To Not Adopt the Change
For the Following Reasons: (Provide Details Below)	<input type="checkbox"/> Health Safety and Welfare	<input type="checkbox"/> Technical Feasibility
	<input type="checkbox"/> Economic and Financial Impacts	<input type="checkbox"/> Other (Specify Below)

Detailed reasons for your recommendation. Provide relevant data to support your position when possible.

The U.S. Department of Energy proposed several code changes to increase the stringency of the energy code during the 2012 International Energy Conservation Code (IECC) development process. While there was no legislative mandate requiring it, their changes increased the stringency of the 2012 IECC to meet their targeted goal of a 30% increase in energy savings over the 2006 IECC. These changes were developed following several national meetings with stakeholder groups during the code development cycle.

EC50-09/10 increases the amount of insulation in both basement and crawl space walls in excess of the DOE's proposed code changes.

EC50-09/10 was rejected by the IRC committee during the developmental hearings. The committee's reason was that the proposed increases in wall insulation were not cost

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	E-Mail:	(AFTER DEADLINE)

133

effective.

We recommend the state not adopt these provisions because they are in excess of DOE recommendations and are not cost effective.