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Commonwealth of Massachusetts
Division of Professional Licensure
Office of Public Safety and Inspections
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JOHN C. CHAPMAN
UNDERSECRETARY OF
CONSUMER AFFAIRS AND
BUSINESS REGULATION

CHARLES BORSTEL
COMMISSIONER, DIVISION OF
PROFESSIONAL LICENSURE

BOARD OF BUILDING REGULATIONS AND STANDARDS
NOTICE OF MEETING

In accordance with the provisions of G.L. c. 30A § 20, notice is hereby given that the Board of Building Regulations and Standards (BBRS) will convene a regular monthly meeting and public hearing on:

December 11, 2018 @ 1:00 p.m. until approximately 4 p.m.

@

The Office of Public Safety & Inspections (OPSI)
50 Maple Street in Milford

Posted on December 4, 2018

It is anticipated that the topics shown below will be discussed at the aforementioned meeting:

AGENDA

Roll Call, by BBRS Chair:

John Couture, Chair present absent
Kerry Dietz, Vice Chair present absent
Richard Crowley, Second Vice Chair present absent
Steve Frederickson present absent
Kevin Gallagher present absent
Cheryl Lavalley present absent

Robert Anderson, or designee present absent
Peter Ostroskey; or designee present absent
Michael McDowell present absent
Susan Gleason present absent
Lisa Davey present absent

Public Hearing Portion

1. In accordance with Massachusetts General Law (MGL) c143, §94(o), Board members will hear testimony relating to the 2018 International Energy Conservation Code (IECC) as modified by Massachusetts proposed amendments, inclusive of the Stretch Energy Code. Copies of proposed changes are attached to this agenda. The 2018 IECC may be viewed @ <https://codes.iccsafe.org/content/IECC2018P2>.

- **Proposal Number 12-1-2018** – Consider revising Sections N1103.3.3 (R403.3.3).
Proponent: Catherine Flaherty, *Air Conditioning Association of New England (ACCA), Inc.*
- **Proposal Number 12-2-2018** – Consider revising Sections N1103.6.2.
Proponent: Catherine Flaherty, *Air Conditioning Association of New England (ACCA), Inc.*
- **Proposal Number 12-3-2018** – Consider revising Sections R806.5.
Proponent: David Weitz, *CLEAResult for Mass Save.*



- **Proposal Number 12-4-2018** – Consider adoption of the 2018 IECC as required by c143, §94(o).
Proponent: Department of Energy Resources (DOER) and others.

Regular Meeting

1. **Review\Vote** approval of November 14, 2018 BBRS draft meeting minutes.
2. **Review\Vote** approval of October 15, 2018 BOCC draft meeting minutes.
3. **Discuss** letter from Massachusetts Federation of Building Officials (MFBO), President dated December 1, 2018.
4. **Review\Approve** proposed BOCC
 - a.) Exam Approval Form
 - b.) Continuing Education Policy Revision
5. **Discuss** progress relating to the next edition of 780 CMR.
6. **Discuss** Advisory Committee make-up.
 - a.) Cannabis
 - b.) Fire Prevention\Fire Protection (FPFP)
 - c.) Geotechnical Advisory Committee (GAC)
7. **Discuss** progress of Manufactured Buildings Study Group.
8. **Discuss** approval of 120 new CSLs issued in the month of November, 2018.
9. **Discuss** Draft FAQ for Residential Code pertaining to Sections R105.3.1.1, R322, AJ101.3
10. **Discuss\Vote**
CSL Average Passing Score\Medical\Military\Age or Continuing Education Requirements.
 - a.) Mark Monroe CS-098909 (*Age consideration*)
 - b.) Robert Glover CS-060228 (*Age consideration*)
 - c.) Jorge Lage CS-056274 (*Medical*)
11. **Discuss** CSL Continuing Education Waiver Request for State Department Employee.
12. **Discuss** 2019 meeting dates.
13. **Discuss** full Board Training.
14. **Discuss** other matters not reasonably anticipated 48 hours in advance of meeting.

12-1-2018



The Commonwealth of Massachusetts

Office of Public Safety & Inspections
Board of Building Regulations and Standards
One Ashburton Place - Room 1301
Boston, MA 02108

780 CMR - MASSACHUSETTS BUILDING CODE - AMENDMENT PROPOSAL FORM

Code (Indicate with an 'x')	<input type="checkbox"/> Ninth Edition Base <input type="checkbox"/> Ninth Edition One- and Two-Family Dwellings <input checked="" type="checkbox"/> IECC Amendments	<i>State Use Only</i>	
Date: 8/22/2018	N1103.3.3 (R403.3.3)	Date Received:	
Code Section:	R403 SYSTEMS - Duct testing	Code Change Number::	
Name and company affiliation if any: Air Conditioning Association of New England, Inc.			
Address: 11 Robert Tower Blvd. #234 North Attleboro, MA 02763		Telephone: 508-839-3407 Email: cflaherty@acane.org	

Indicate with an 'x' the type of amendment proposed:

- Change Section
 Add new section
 Delete section and substitute
 Delete section; no substitute
 Other, Explain:

Please type below the proposed amendment. If you propose to change a section, please copy the original text from the appropriate 2015 I-code and/or Massachusetts amendment. Indicate with strike out the text you propose to delete and add new text in either *italic* or **red** font. Also you please provide justification of your proposal as a second page and include information on the **Introduction and Background** of your proposal, **Pro and Con Reasons for Adoption** of it, a summary of estimated **Costs for Building Owners**, and **Life Safety Benefits** for building occupants. Also, please indicate whether or not the proposal has been presented to the International Code Council (ICC) for consideration. If not, please explain why the proposal is unique to Massachusetts. When complete email this file to Cesar.Lastra@state.ma.us. Please use additional pages if necessary.

Post-construction or rough-in testing and verification shall be done by a HERS Rater, HERS Rating Field Inspector, ~~or~~ an applicable BPI Certified Professional **or a Professionally Competent Licensed Sheet Metal Worker**.

Introduction and Background:

We feel that this amendment in its current form, does not produce the intended results. Licensed HVAC/Sheet Metal professionals possess the prerequisite knowledge and are uniquely equipped with the necessary tools to test duct system leakage rates.

Pro and Con Reasons for Adoption: Pros: Cons:

- This amendment is in direct conflict with the Massachusetts General Laws. Duct testing is by statute the domain of the Sheet Metal Board. (See supporting document (1) on the next page).
- This amendment is impractical. It places a burden on people who are not always equipped to do such work, like having a tall ladder.

3. It unnecessarily imposes additional costs on consumers by duplicating services that in many cases were already done by the HVAC people.
4. It greatly inconveniences the consumer by imposing one more sub-contractor and at least one more inspection and requiring the consumer to take additional days off from work. It is hard to schedule HERS Raters around the customer's needs.
5. This amendment contradicts State Law regarding licensing and singles out one trade (sheet metal workers) from checking and testing their own work. Other trades can test their own work.
6. The AHJ has no power to enforce the provision in this amendment on persons not licensed under the BBRS. HERS Raters and BPI persons hold certifications that are not under the jurisdiction of the Commonwealth.
7. The IECC 2015 and IRC 2015 model codes are purposely neutral on the qualifications required for testing a ducted system. Ma. State law is very clear on this same question; it is the work of a licensed sheet metal worker.
8. It should be noted that the ICC Model Codes have clear statements of intent. (See supporting document (2) below

Costs to Building Owners:

This will decrease the cost to the building owner.

Life Safety Benefits:

The adoption of this amendment has no impact on the Life Safety Benefits.

Supporting Documents:

- (1) *HOUSE- No. 4804 (excerpt)*
In the Year Two Thousand and Eight
AN ACT RELATIVE TO THE LICENSING OF SHEET METAL WORKERS AND SHEET METAL CONTRACTORS.
Be it enacted by the Senate and House of Representatives in General Court assembled, and by the authority of the same, as follows:

1 SECTION 1. Chapter 13 of the General Laws is hereby amended by inserting at the end
There of the following section:—.....
18 "Sheet metal", manufacturing, fabrication, assembling, han-
19 dling, erection, installation, dismantling, conditioning, adjustment,
20 alteration, repairing, and servicing of all commercial and indus-
21 trial air-veyor systems including, but not limited, air handling sys-
22 terns regardless of the material used, including specifically the
handling, fabricating, setting, installation, assembling, disman-
24 tling, adjustment, alteration, reconditioning, repairing of all duct-
25 work; installation of fans, sheaves, belt guards, dampers, louvers,
26 screens, registers, grilles, diffusers, sound traps, attenuators,
27 mixing boxes, access doors related to air handling systems,
28 breaching, hoods, and any and all appurtenances relating to
29 heating, ventilation, air conditioning and exhaust systems, com-
30 mercial and industrial architectural sheet metal water shed roof
*31 systems, **the testing, adjusting, and balancing of all air-handling***
***32 equipment and ductwork**, the fabrication and installation of com-*
33 mercial and industrial kitchen hoods, kitchen vents, bathroom
34 exhaust vents and fans.

- (2) **N1101.2 (R101.3) Intent.**

This code shall regulate the design and construction of buildings for the effective use and conservation of energy over the useful life of each building. This code is intended to provide flexibility to permit the use of innovative approaches and techniques to achieve this objective. This code is not intended to abridge safety, health or environmental requirements contained in other applicable codes or ordinances.

12-2-2018



The Commonwealth of Massachusetts

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Board of Building Regulations and Standards
One Ashburton Place - Room 1301
Boston, MA 02108

780 CMR - MASSACHUSETTS BUILDING CODE - AMENDMENT PROPOSAL FORM

Code (Indicate with an 'x')	<input type="checkbox"/> Ninth Edition Base <input type="checkbox"/> Ninth Edition One- and Two-Family Dwellings <input checked="" type="checkbox"/> IECC Amendments	<i>State Use Only</i>	
Date: 8/22/2018	N1103.6.2	Date Received:	
Code Section:	R403 SYSTEMS - Mechanical Ventilation	Code Change Number::	
Name and company affiliation if any: Air Conditioning Association of New England, Inc. (ACA/NE)			
Address: 11 Robert Tower Blvd #234 North Attleboro, MA 02763		Telephone: 508-839-3407 Email: cflaherty@acane.org	

Indicate with an 'x' the type of amendment proposed:

- Change Section Add new section Delete section and substitute Delete section; no substitute
 Other, Explain:

Please type below the proposed amendment. If you propose to change a section, please copy the original text from the appropriate 2015 I-code and/or Massachusetts amendment. Indicate with strike out the text you propose to delete and add new text in either *italic* or **red** font. Also you please provide justification of your proposal as a second page and include information on the **Introduction and Background** of your proposal, **Pro and Con Reasons for Adoption** of it, a summary of estimated **Costs for Building Owners**, and **Life Safety Benefits** for building occupants. Also, please indicate whether or not the proposal has been presented to the International Code Council (ICC) for consideration. If not, please explain why the proposal is unique to Massachusetts. When complete email this file to Cesar.Lastra@state.ma.us. Please use additional pages if necessary.

Installed performance of the mechanical ventilation system shall be tested and verified by a HERS Rater, HERS Rater Field Inspector, ~~or~~ an applicable BPI Certified Professional **or a Professionally Competent Licensed Sheet Metal Worker**, and measured using a flow hood, flow grid, or other air flow measuring device in accordance with RESNET Standard Chapter 8 or ACCA Standard 5.

Introduction and Background:

We feel that this amendment in its current form, does not produce the intended results. Licensed HVAC/Sheet Metal professionals possess the prerequisite knowledge and are uniquely equipped with the necessary tools to test duct system leakage rates.

Pro and Con Reasons for Adoption: Pros: Cons:

- This amendment is in direct conflict with the Massachusetts General Laws. Duct testing is by statute the domain of the Sheet Metal Board. (See supporting document on the next page).**

2. This amendment is impractical. It places a burden on people who are not always equipped to do such work, like having a tall ladder.
3. It unnecessarily imposes additional costs on consumers by duplicating services that in many cases were already done by the HVAC people.
4. It greatly inconveniences the consumer by imposing one more sub-contractor and at least one more inspection and requiring the consumer to take additional days off from work. It is hard to schedule HERS Raters around the customer's needs.
5. This amendment singles out one trade from checking and testing their own work. All other trades are allowed to test their own work.
6. The AHJ has no power to enforce the provision in this amendment on persons not licensed under the BBRs. HERS Raters and BPI persons hold certifications that are not under the jurisdiction of the Commonwealth.
7. The IECC 2015 and IRC 2015 model codes are purposely neutral on the qualifications required for testing the performance of the mechanical ventilation system. Ma. State law is very clear on this same question; it is the work of a licensed sheet metal worker.

Costs to Building Owners:

This will decrease the cost to the building owner.

Life Safety Benefits:

The adoption of this amendment has no impact on the Life Safety Benefits.

Supporting Documents:

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- 1 SECTION 1. Chapter 13 of the General Laws is hereby amended by inserting at the end*
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25 work; installation of fans, sheaves, belt guards, dampers, louvers,
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34 exhaust vents and fans.

12-3-2018



The Commonwealth of Massachusetts
 Department of Public Safety
 Board of Building Regulations and Standards
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 Boston, Massachusetts 02108-1618

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Matthew Moran
 Commissioner

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 Chairman

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 Administrator

MASSACHUSETTS STATE BUILDING CODE – CODE AMENDMENT FORM

Impacted code:	<input type="checkbox"/> 9 th Edition Base Code <input checked="" type="checkbox"/> 9 th Edition Residential Code	State Use Only	
Date Submitted:	September 5, 2018		
Code Section:	2018 IRC Section R806.5	Code Change Number:	
Name of proponent:	David Weitz		
Company / Organization represented, if any:	CLEAResult for Mass Save Check <input type="checkbox"/> if representing self		
Address (number, street, city, state, ZIP):	50 Washington Street, Westborough, MA 01581		
Telephone number:	508-365-3312		
Email address:	David.weitz@clearresult.com		

PLEASE CHECK OFF THE TYPE OF AMENDMENT PROPOSED

- Change existing section language Add new section Delete existing section and substitute
 Delete existing section, no substitute Other, Explain: Add exception to an existing section

PLEASE TYPE THE PROPOSED AMENDMENT BELOW. If you propose to change a section, please copy the original text from either the relevant model code and/or MA amendment. Indicate, with a strikethrough, the text that you propose to delete. Please also indicate any new text in both *italic* and **red** font. Finally, for each proposal submitted, please provide the justification items requested below. Completed code amendment forms may be emailed to Felix Zemel, Director of Code Development and Manufactured Buildings at felix.zemel@state.ma.us. Please attach additional pages as necessary.

Existing language:

Proposed changes: Add following 806.5, sub 5.3 – "*Exception: In existing buildings, unvented enclosed rafter assemblies of up to eight linear feet and with ventilated spaces above are allowed when completely filled with fibrous material dense packed in the cavity. Cellulose insulation installed at minimum 3.4 pounds per cubic foot shall be considered dense packed.*"

Background and rationale: The roof ventilation requirements in Section R806 of the International Residential Code are written fundamentally for new construction, and provide many options for various configurations. While for the most part these requirements are transferable to existing buildings, there are

some circumstances where this is not feasible, and where it is impracticable to retrofit insulation and ventilation in an existing roof system because of limited access.

For more than 30 years, insulation contractors working in utility-based and low-income programs in Massachusetts have used dense-packed cellulose in limited sloped roof areas of cape-style houses, eyebrow roofs, mansard roof cavities, and the similar construction types where short lengths of rafters run between soffit areas (e.g., knee walls) and attic caps. Although this practice is not explicitly allowed by building code, it has been regularly accepted by building officials. There is no evidence of damage or failure to roof sheathing, framing, or other building systems, despite many thousands of homes receiving this treatment. Approximately 4500 homes per year are treated this way by CLEAResult alone, any many more by other Mass Save vendors and low-income agencies.

The problem with achieving the R806 ventilation requirements in these assemblies is that it is practically impossible to install a vent chute between the soffit and attic cap. There is often very limited space in the soffit and attic areas, prohibiting the vent chute from being fed up or down through the enclosed rafter space. Additionally, roofing nails that penetrate through the sheathing make it impossible to feed the vent chutes through the cavity.

The reason for roof venting is to allow accumulated moisture to dissipate from the assembly so that it does not cause structural deterioration or lead to biologic growth. There are three basic ways that moisture accumulates in assemblies. In order of importance, based on the amount of potential moisture, these are: (1) bulk water intrusion caused by leaks from roofs, flashing, or plumbing/mechanical systems; (2) moisture that is carried into the assembly by air leakage; and (3) vapor diffusion through building materials. The code's roof ventilation requirements are not intended to protect the structure from bulk water intrusion, but instead are meant to address the other two mechanisms.

Dense packing of an enclosed rafter assembly significantly reduces air flow within the cavity, and thereby limits the amount of water vapor that is introduced. In this regard, a dense packed assembly is both more energy efficient and less prone to moisture accumulation. Any water vapor that does make its way into the assembly has multiple ways of being released. First, the insulation material itself has reservoir capacity to store moisture and release it over time. Existing ceiling systems are extremely unlikely to have a Class I vapor retarder, so moisture can diffuse directly through the plaster, drywall, or wood finish. For the exception being requested, the unventilated assembly is limited to eight linear feet with an additional requirement that a ventilated attic cap area exist above the enclosed rafter space. This means that accumulated moisture can dissipate as it wicks through the insulation toward the ventilated area.

This proposed exception is founded on building science principles of moisture movement in residential buildings. More important, it is based on three decades of practice in Massachusetts, with thousands of installations and no known failures. This proposal will allow for the proper insulation of roof assemblies that will perform more efficiently and be less prone to ice dams and other moisture problems.

This proposal was presented to the Energy Advisory Committee at its September 4, 2018 meeting, and received a unanimous endorsement with a vote of seven members in favor and zero opposed. (As the proponent of the amendment, I abstained from voting.)

Pros of the proposed change: This exception will codify what is already common practice in Massachusetts, but for which it has been necessary to make an alternate means argument on a case-by-case basis. It will eliminate a formal barrier to insulating portions of existing homes for which it is impracticable to achieve the roof ventilation requirements, but will not compromise the structural or biological integrity of buildings.

Cons of the proposed change: There are no predictable cons to the proposed change.

Estimated impact on life safety: There are no impacts on life safety.

Estimated impact on cost: This are no impacts on cost.

12-4-2018