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Energy Advisory Committee (EAC) of the Board of Building Regulations and Standards

MEETING NOTES

Thursday, January 3rd 2019, beginning @ 3:00 p.m. and ending @ approximately 5:15 p.m.

National Grid Offices
40 Sylvan Road, Waltham MA

Roll Call

Members

1. Ian Finlayson, Chair	X	present	absent	remote
2. Michael Andelman, Vice-chair	X	present	absent	remote
3. Robert Anderson or designee (Adelle Reynolds)	X	present	absent	remote
4. Michael Browne	X	present	absent	remote
5. Fran Boucher	X	present	absent	remote
6. Isabel Kaubisch	X	present	absent	remote
7. Don Vigneau	X	present	absent	remote
8. Peter Ostroskey or designee (Jennifer Hoyt)	X	present	absent	remote
9. David Weitz	X	present	absent	remote
10. Alan Glynn		present	X absent	remote
11. Mark Halverson	X	present	absent	remote
12.				

A quorum of members was present.

Guests

Name	Affiliation	email	Phone
Magda Lelek	Andelman and Lelek Engineering	magda@andelmanlelek.com	781-769-8773
Brendan Giza-Sisson	Eversource	david.giza-sisson@eversource.com	781-441-3781
Robert deSousa	PSD	rdesousa@psdconsulting.com	215-384-8410
Glenn Heinmiller	LAM Partners	glenn@lampartners.com	617-851-4502

Nicole Sanches	MAPC	nsanches@mapc.org	
Kevin Rose	National Grid	kevin.rose@nationalgrid.com	

Agenda:

- I. Review building energy code proposals presented to the BBRS at the November 13th and December 11th, 2018 meetings

Detailed Agenda and Code Change Proposal Summary for BBRS Energy Advisory Committee meeting – 1-3-19

Agenda: Review of BBRS code change proposals relative to the IECC2018 received and heard at November 2018 and December 2018 meetings, available online here: <https://www.mass.gov/service-details/board-of-building-regulation-and-standards-and-building-code-appeals-2018-meetings>

1. 11-1-2018 – Kevin Rose – Mass Save – Adds new section R407 to prescriptive residential code path

Adds additional requirements for base code prescriptive residential new construction – choice of 3:

- a) More efficient HVAC (Furnaces, Boilers or Ground Source Heat Pumps)
- b) Heat Recovery Ventilation
- c) More efficient Hot water heating

Reasoning: Better aligns the stringency of the base code with the HERS pathway used by the stretch code.

DOER Staff note: As written this doesn't include air source heat pumps, energy recovery ventilation or differentiate between fossil fueled hot water and hybrid heat pump water heating which is much more efficient.

ACTION: Support with the addition of a 4th option to R407.2: "4. Air-source heat pump with a minimum HSPF of 10."

Moved by: Mike Brown

Second by: Don Vigneau

EAC vote: yes-9, no-0, abstain-0

2. 11-2-2018 – Kevin Rose – Mass Save – Amend R402.2 – Insulation requirements to require Grade 1 level installation level.

Reasoning: This is a major source of potential energy savings.

DOER Staff note: The discussion at the BBRS raised concerns around the feasibility of achieving grade 1 level insulation in all homes, and with all materials. Much harder with batt insulation than blown or sprayed insulation.

ACTION: EAC supports this proposal

Moved by: David Weitz

Second by: Mike Brown

EAC vote: yes-10, no-0, abstain-0

3. 11-3-2018 – Christopher Alphen – Dolphin Insulation – R806.5 Unvented Roof Assemblies

- **Note:** This is an energy related code change proposal, but it amends the IRC2015 or 2018 rather than the IECC2018

DOER staff note: Building Science Corporation, Inc. is near the end of a 2-year study of unvented roof assemblies in MA – so DOER would recommend we use their independent research to inform any potential code change regarding vapor smart membranes.

ACTION: Item tabled.

4. 11-4-2018 – Brendan Giza Sisson – Mass Save – Add new sections on Lab exhaust systems:

C403.7.8 Laboratory and Process facility Variable Air Volume exhaust systems (Mandatory)

C403.8.6 Allowable Fan Power for Laboratory and Process Facility Exhaust Systems

This two part proposal would first require Variable Air Volume (VAV) exhaust systems for labs and process facilities with over 5,000 CFM of exhaust and then prescribe 4 options for ensuring adequate exhaust to avoid recirculation of pollutants.

Reasoning: Lab exhaust is currently rule of thumb leading to high energy use. Similar language adopted in CA code. Proposed language better aligns IECC and ASHRAE fan power requirements

ACTION: Table discussion and direct proponent to make modifications including:

- Remove "Process facility" universally.
- Engage top-tier lab system designers for their perspective.
- Consider adding heat recovery requirement.
- Define space types.

5. 11-5-2018 – Kevin Rose – Mass Save – Amend Daylight responsive lighting controls (C405.2.3)

Changes trigger for daylight responsive controls in new commercial lighting from spaces with 150 watts of general lighting to spaces with 100 watts.

Reasoning: Mass Save analysis done by Andelman and Lelek (represented on the EAC) suggested this as a practical improvement to the MA code.

Item was not reviewed on Jan 3rd due to time constraints

6. 11-6-2018 – Brendan Giza Sisson – Mass Save – Changes to Exterior Lighting power requirements (C405.4)

Reduces allowable exterior lighting from 100% of calculation in C405.4.2 to 90% or less.

Adds reduction of allowable exterior lighting power in optional section C406.3 to 80%.

Reasoning: Market adoption of LED exterior lighting allows for a reduction in exterior lighting power in a highly cost-effective way – may reduce cost of construction rather than increase it based on CA analysis.

Item was not reviewed on Jan 3rd due to time constraints

7. 11-7-2018 – Kevin Rose – Mass Save – Adds new section: C405.10 Automatic receptacle control

Requires offices, classrooms, conference rooms, and individual workstations to have occupancy or time-switch controls on at least 50% of 15 and 20amp outlets.

Reasoning: IECC2018 doesn't address plug loads, and ASHRAE 90.1 offers only a few requirements. This change would improve alignment between IECC and ASHRAE 90.1, and reduce electric loads.

Item was not reviewed on Jan 3rd due to time constraints

8. 11-8-2018 – Brendan Giza-Sisson – Mass Save – Revise Interior Lighting Power allowance table (C405.3.2(1) and C405.3.2(2)). Also amends (weakens) C406.3 – Optional reduction in lighting power

Reasoning: Mass Save 2018 study of industry standard practice (ISP) in MA shows actual lighting power is significantly lower than max allowed by 2018 code (which was written in 2016). This amendment updates interior lighting power to better reflect market conditions, at no incremental cost of construction.

DOER staff Note: DOER opposes the original proposal which modified C406.3. Mass Save has submitted a revised proposal since the version published for the BBRs November meeting.

ACTION: Support the updated form of the proposal, which removes the weakening of C406.3.

Moved by: Mike Andelman

Second by: Ian Finlayson

EAC vote: yes-8, no-0, abstain-0

9. 11-9-2018 – Glenn Heinmiller – International Association of Lighting Designers (IALD) – Amend Time-switch controls (C405.2.2.1)

Editorial change from term “manual control for lighting reduction” to “light-reduction control”

Reasoning: Clarifies intent of the code by using clearer more concise language. No cost impact.

ACTION: Support the proposal.

Moved by: Don Vigneau

Second by: Mike Brown

EAC vote: yes-8, no-0, abstain-0

10.11-10-2018 - Glenn Heinmiller – IALD – Amend C406.4 Enhanced digital lighting controls.

Removes the term “Individual user control of overhead general illumination in open offices.”

Reasoning: Designing lighting controls to accommodate individual user control adds complexity and does not align with Design Light Consortium (DLC) technical requirements. The current language is a barrier to the use of C406.4 (an optional section), removing this term simplifies C406.4 and improves it's likelihood of use.

ACTION: Support the proposal.

Moved by: Don Vigneau

Second by: Ian Finlayson

EAC vote: yes-8, no-0, abstain-0

11.11-11-2018 - Glenn Heinmiller – IALD – Amend C503.1 Building Alterations to exclude the application of C406 (optional sections) to building alterations, and exclude alterations under ASHRAE 90.1 from IECC requirements.

Reasoning: While technically a ‘weakening’ of the building code, this change seeks to clarify the intent of the code, that Alterations be treated similarly to Additions, rather than similarly to New Construction. Specifically it excludes C406 optional requirements from building alteration projects.

ACTION: Support the updated form of the proposal, which corrects errata.

Moved by: Don Vigneau

Second by: Ian Finlayson

EAC vote: yes-8, no-0, abstain-0

II. BBRS December Meeting Code change proposals:

These code change proposals have already been reviewed and voted on by the EAC, however, additional review and comment may be helpful for the BBRS to hear feedback at the January 8th Monthly meeting.

12.12-1-2018 – Catherine Flaherty – Air Conditioning Association of New England (ACCA), Inc. – Consider revising Section R403.3.3

- The EAC previously discussed this code change proposal and did not vote on it. DOER recommends that the Sheet Metal Board consider developing a certification program or other means of demonstrating training and competence in duct testing for its members.

13.12-2-2018 – Catherine Flaherty – Air Conditioning Association of New England (ACCA), Inc. – Consider revising Section R403.3.3

- The EAC previously discussed this code change proposal and did not vote on it. DOER recommends that the Sheet Metal Board consider developing a certification program or other means of demonstrating training and competence in duct testing for its members.

14.12-3-2018 – David Weitz – CLEAResult for Mass Save – Consider revising Section R806.5 Unvented Roof Assemblies.

- **Note:** This is an energy related code change proposal, but it amends the IRC2015 or 2018 rather than the IECC2018
- The EAC previously reviewed and voted to support this code change proposal, but it may not happen at the same time as the IECC2018 adoption

15.12-4-2018 – Ian Finlayson – Department of Energy Resources (DOER) – Adoption of 2018 IECC with MA amendments proposed by DOER

- Previously reviewed and approved by the EAC.
- The BBRS website posted the August 2018 version of the DOER amendments. Attached are the updated versions (Oct 15 Residential and Commercial) provided to the BBRS in December.
- One significant change is removal of the IECC section C407 performance path (which to DOER's knowledge is not widely used) to allow for easier numbering for MA performance path options (Passivehouse, HERS and Energy Star)

Ian Finlayson provided an update, and there was brief discussion on the merits of removing Section C407 but no vote was taken.

The meeting was adjourned at around 5:15pm

III. Other code changes in written comments:

- **Ingersoll Rand** (Trane parent company & HVAC multi-national)

3.1 Consider revisions to the Stretch code language for large commercial buildings (ASHRAE 90.1 Appendix G) to prevent any unintended disincentive for energy storage systems.

Add the following language to Chapter 13, Table G3.1 Section 10:

If the proposed design includes a thermal energy storage system then the baseline design shall use the same equipment, schedules, and setpoints, including required equipment performance corrections, as necessary to operate the thermal energy storage system.

OR

(2) Add a new footnote following Chapter 115 Appendix AA103.2:

If the building includes a thermal energy storage system, then the baseline design in ANSI/ASHRAE/IESNA 90.1-2013 APPENDIX G shall be permitted to use the same equipment, schedules, and setpoints, including required equipment performance corrections, as necessary to operate the thermal energy storage system.

3.2 Consider revisions to section C406.2 option for High Efficiency HVAC equipment to allow for dual fuel rooftop units.

DRAFT

IV. Summary of other Oral public comments at the BBRS December meeting:

Supportive of the MA EV ready language

- **National Grid** (MA electric and natural gas utility)
- **Conservation Law Foundation** (MA-based national non-profit)
- **Metropolitan Area Planning Council** (Regional Planning Agency)
- **Massachusetts Climate Action Network** (MA non-profit)
- **Chargepoint** (EV charger supplier)
- **Greenlots** (EV charger supplier)
- **MA Sierra Club** (MA non-profit)
- **Town of Brookline Energy Committee**

Opposed to the MA EV ready language

- **Home Builders and Remodelers Association of MA**
- **MA Federation of Code officials**

V. Other business not reasonably anticipated within 2 business days of the meeting.

EAC composition – Updates to EAC membership

- Paul Raymer was previously nominated by Mike Browne and supported by the EAC to be put forward to the BBRS as a new member for his expertise in residential building ventilation and related matters.
- Glenn Heinmiller from LAM partners and the International Association of Lighting Designers (IALD) was nominated by Ian Finlayson for consideration by the BBRS for the EAC for his expertise in commercial lighting and lighting code development.