

**Residential Building Committee
Meeting Minutes
Las Vegas Winter Meeting
Monday, January 30, 2017**

Attendance

Members Present:

Max Sherman (Chair)
Chris Mathis (Vice-Chair)
Costas Balaras
Robert Bean
Charles Culp
Paul Francisco
Chris Gray
Jeff Inks
David Lee
Dan Pettway
Chris Van Rite
Iain Walker
David Weishuhn
Theresa Weston
Dan Int-Hout (ExO)

Members Not Available:

Philip Fairey
Neil Leslie
Glenn Hourahan
Pat Graef (Coordinating Officer)

ASHRAE Staff

Lilas Pratt (Staff Liaison)
Jim Scarborough

Guests:

Michael Ansel
Susan Asmus
Laurence Cardlan
Kristin Cetin
Roy Crawford
Andre Desjarlais
Craig Drumheller
Tom Ertsgaard
Paul Haydock
Bill Healy
Scott Hellendrung
Kristoff Irwin
Robert Jackson
Marc La France
Iyabo Lawal
Stephanie Mages
Simon Pallon
Roger Pasch
Janice Peterson
Sam Shrestha
David Underwood
Pawel Wargocki
Eric Werling

Principal Motions¹

Motion 1: The Chair brought the November 9, 2016 meeting minutes to the floor for approval.

Vote: Motion passed without objection (9-0-0, CNV)

Motion 2: The Chair moved that the RBC approve the Manual of Procedures as presented.

Vote: Motion passed 9-0-0, CNV

¹ All motion votes are listed as yes-no-abstain.

Motion 3: Publications Subcommittee moved that the RBC approve the Special Projects submittal proposal on a residential design guide for low to mid rise residential buildings as amended.

Vote: Motion passed 11-0-0 CNV

Motion 4: Conferences Subcommittee moved that RBC support ASHRAE’s leadership of the Buildings Conference and the selection of Andre Desjarlais as chair of the Organizing Steering Committee.

Vote: Motion passed 11-0-0 CNV

Motion 5: The Chair moved that RBC recommend that Tech Council allocate \$5000 to RBC starting in FY 2017-18 to fund travel for RBC members (or designees) to attend outside conferences to promote ASHRAE residential topics and resources.

Vote: Motion passed 11-0-0, CNV

Motion 6: Robert Bean moved that UPONOR be recognized and thanked for their financial contributions to assist his participation at the HPC (Home Performance Coalition) National Meeting.

Vote: Motion passed without objection.

New and Open Action Items

March 18, 2016 Conference Call Web Meeting

3	Neil Leslie	Create an approach for outreach to the chapters and RVCs with help from Jodi Scott, Lilas Pratt, and Chris Mathis. (Note: This will be added to the Las Vegas Meeting Agenda)	On-going
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November 9, 2016 Conference Call Web Meeting

1	Stakeholders Subcommittee	Develop an Outreach list that is separate from the stakeholders list.	On-going
2	Chris Mathis	Send a draft report on the Stakeholders Workshop to RBC members by December 1 for their review and feedback by December 31	On-going
6	Theresa Weston & RBC Members	Send the list of residential meetings/conferences to Pratt for distribution to RBC members for review and comment	On-going
9	Lilas Pratt	Investigate new member training materials	On-going

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1	Jim Scarborough	Provide GGAC legislative related information for possible inclusion on the RBC website	New
2	RBC Members	Review the GGAC MBO#3 Adhoc report and provide feedback to Mathis (copy Pratt) by Friday, February 10, 2017	New
3	Jeff Inks	Lead a task group to write the Reference Manual for RBC	New

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4	Lilas Pratt	Send Reference Manual examples/templates to Jeff Inks	New
5	Lilas Pratt/ Paul Haydock	Send a copy of the Green Guide residential chapter to RBC members for review and feedback	New
6	Theresa Weston	Provide a one paragraph description (TPS) of the conference for use in publicizing/explaining the conference	New
7	Technical Subcommittee	Discuss how RBC could provide leadership to determine why Standards 55, 90.2, 62.2 aren't more widely used	New

Meeting Minutes

Monday January 30, 2017, 9:00am-12:00pm PST

1. Call to Order (Sherman) – **Meeting convened at 9:01 PST**
 - a. ASHRAE Code of Ethics www.ashrae.org/codeofethics
 - b. Committee Structure – [Roster and Subcommittees](#)
 - c. Introductions
2. Review of Agenda
3. Approval of minutes (Sherman)
 - a. November 9, 2016 Meeting (File: [11-9-16 RBC MtgMinutesR1.pdf](#))

Motion 1: The Chair brought the November 9, 2016 meeting minutes to the floor for approval.

Vote: Motion passed without objection (9-0-0, CNV)

4. Announcements (Sherman)
 - a. ASHRAE/ICC Standard 700 Call for Members (<http://www.iccsafe.org/news-announcements/national-green-building-standard-update-process-underway/>)
 - b. Code/Legislation Updates
 - i. 2018 IECC adoption of ANSI/RESNET/ICC Standard 301-2014
 - ii. MA Energy Rating Index Compliance Code ([Attachment A](#)) (<http://www.mass.gov/eopss/docs/dps/buildingcode/inf4/bbrs-chapter13-06142016.pdf>)
 - iii. Portland, OR Energy Audits ([Attachment B](#)) (http://www.oregonlive.com/front-porch/index.ssf/2016/11/portland_may_require_energy_audits.html)
5. Liaison reports
 - a. Marketing and Communications (Jodi Scott)
 - No report at this time.
 - b. Staff Report (Pratt)
 - The requested link to the High Performance Building Coalition Link is: <http://hpbccc.squarespace.com/>

- c. GGAC (Jim Scarborough)
 - i. GGAC Collaboration on promoting ASHRAE Residential Resources
 - ii. GGAC Adhoc Report (File: [MBO # 3 Interim Report Draft Version 4 Jan 20 2017.docx](#))
 - The final report from the GGAC MBO#3 Adhoc committee was sent to the committee on January 30, 2017.
 - GGAC has requested that the committee review the report and provide feedback to GGAC by February 15, 2017.
- d. Student Activities Committee / Student “Race to Zero” competition
 - No report at this time.
- e. Professional Development Committee (PDC)
 - No report at this time.

6. Old Business

- a. Approval of Manual of Procedures (File: [ResBuildingComm MOP 13Jan2017.pdf](#))
 - Chair Sherman introduced the final version of the Residential Building Committee MOP for approval by the committee.

Motion 2: The Chair moved that the RBC approve the Manual of Procedures as presented.

Discussion:

- A concern was noted about imposing strict membership terms on a committee as new as RBC.
- The committee discussed and agreed that a Reference Manual was now needed to accompany the MOP.

Vote: Motion passed 9-0-0, CNV

- b. RBC PowerPoint / Distinguished Lecturers for Residential ([Mar2016 AI3](#))
 - Mr. Mathis reported on the Distinguished lecturer program and the presentation template developed for use by DL’s and members of this committee.
 - Sharing information at the chapter level is the way to get feedback from our members (who are the users of ASHRAE information).
 - A presentation is available for anyone on this committee to use if they wish to add residential to their list of topics or present at other events.
 - This presentation will be updated regularly as needed.
 - DL’s are selected by CTTC and posted on the ASHRAE web site along with a list of their topics. Details on the distinguished lecturer program can be found on the ASHRAE website at: <https://www.ashrae.org/membership--conferences/distinguished-lecturer-program>. Nominations for new DL’s are due on December 1 each year.

7. Subcommittee Reports

- a. Stakeholders Subcommittee
 - i. Stakeholder Workshop Final Report ([Nov2016 AI2](#))
 - Mr. Mathis provided an update on the progress of the report from the Stakeholder workshop. A near final draft is expected by the end of February for review by the committee.

ii. Recommendations to BOD

- As part of the Stakeholders Workshop report, a set of recommendations will be developed for other groups within ASHRAE on suggested actions/activities that they might undertake to advance the residential strategic objectives of the Society.
- These recommendations will be a main topic at the spring web meeting so the final report can go to Tech Council (and then to the BOD) at the June meeting.

iii. Outreach List ([Nov2016 AI1](#))

- Mr. Mathis noted that there were several stakeholders who did not attend the workshop but are major players in influencing residential decisions and who need to be engaged with. These other players include academia at the university level, appropriate federal agencies, and utilities. Utilities are very tied in with existing buildings.
- A standing action item for this subcommittee will be to explore how to reach out to these additional groups.
- The goal of utilities is to reach the largest number of customers possible.

b. Publications Subcommittee

i. Residential content in ASHRAE Green Guide

- Paul Haydock reported on the efforts to add residential content to the ASHARE Green Guide.
- A residential chapter will be added to the guide rather than include residential content scattered throughout the guide.

ii. Residential Design Guide

- Mr. Francisco introduced the draft proposed Special Projects submittal on a residential design guide. The intent is to use a contractor overseen by a project committee composed of partnering organizations with expertise in this area.

Motion 3: Publications Subcommittee moved that the RBC approve the Special Projects submittal proposal on a residential design guide for low to mid rise residential buildings as amended.

Discussion:

- Much of the document will need to be original content.
- Federal funding may be more accessible if the focus were on affordable housing. That opens up several offices at HUD and the Dept of Agriculture.
- The proposed scope was amended to include affordable housing.
- A work statement will need to be written and the committee may wish to look for co-funding for the development of the guide.
- It was noted that the approach seems to be North American or even US centric. This would likely be the first in a series of these guides.

Vote: Motion passed 11-0-0 CNV

iii. Handbook Index for Residential content

- Mr. Francisco reported that he has reached out to the Handbook committee chair but has not yet heard back from him.

iv. ASHRAE Journal Special Issue Articles

- Mr. Francisco reported that the quarterly column on residential is on-going.
- The special issue on residential was originally scheduled for February 2017, but has been pushed back to May 2017. The submission deadline is now February.
- The development of the drafts seem to be lagging, so the committee may wish to delay this issue to August which would move the issue to shortly after the start of President-elect Bjarne Olesen's term.
- The regular quarterly column will be needed for the May issue if the special issue is delayed. The column should be 1500 words.
- Chris Van Rite's article on HVAC equipment is ready now and could also be used for the May column. Dan Pettway offered to review this article and provide feedback.
- Costas Belaras has offered to write an article on worldwide residential energy use for the special issue in August.
- The suggested topics for the special issue are:
 - Overview of residential, acknowledge what is and isn't being covered in this edition of the Journal (Max Sherman)
 - Occupant Behavior /Occupant values, consumption, comfort, etc., the importance of energy in residential (Neil Leslie/ Chris Gray)
 - IEQ including IAQ, Comfort, and Sound (Robert Bean/ Glenn Hourahan/ Allison Bailes/ Eric Werling)
 - HVAC equipment, importance of good air flow, duct design (Charlie Culp/ Iain Walker/Chris Van Rite)
 - Envelope (Chris Mathis/ Joe Lstiburek/ Marc LaFrance)
 - Retrofit applications, what works, what doesn't (Paul Francisco)
 - New Construction including codes , resiliency, durability, what works, what doesn't (Theresa Weston / Achilles Karagiozis / Michael Anshel)
- The articles for the special issue should range from 750 words to 4500 words and will be due sometime in April.
- Robert Bean also has an article in the hopper that is on hold with the Journal.

v. Recommendations on Building Science Education

- Mr. Francisco reported that the Technical Subcommittee is recommending that ASHRAE establish a stakeholder working group of industry and university/college faculty to explore how to integrate residential issues into existing curricula for the purpose of improving building science education in a manner that is useful to industry.
- The subcommittee felt that adding information to curricula being taught rather than trying to create new curricula would be a better approach.
- This issue will be turned over to the stakeholders subcommittee for further evaluation with the resulting recommendations from that exploration to be included with the recommendations list in the final workshop report.

c. Conferences Subcommittee

i. Buildings Conference Series

- Ms. Weston reported that an initial agreement has been reached that starting with the Buildings 14 Conference; the Building Conference series will be shifted from a DOE conference to an ASHRAE conference with DOE support.
- A Steering Committee will be formed as the Adhoc Standing Organizing Committee for the conference. Andre Desjarlais will be the chair and will make recommendations to populate the SC.
- Volunteers to be on the Steering Committee should send emails to Theresa Weston and Andre by March 1 at: Yt7@ornl.com
- The intent is to keep content from past conferences and to expand the content to include more topics on fenestration and interaction between equipment and envelope.
- It was suggested that the requirements for at least some papers be made to match the less stringent requirements used at the IAQ Conference which would likely increase participation and the range of information presented.

Motion 4: Conferences Subcommittee moved that RBC support ASHRAE's leadership of the Buildings Conference and the selection of Andre Desjarlais as chair of the Organizing Steering Committee.

Vote: Motion passed 11-0-0 CNV

ii. RBC Web Page (Related Meetings List & Residential Resources List)

- Ms. Weston noted that the list of conferences is in process.

d. Programs Subcommittee

i. Las Vegas, Long Beach, and Chicago Meeting Sessions

- Ms. Weston reported that there were seven residential sessions in the Las Vegas technical program. One session was so successful that the suggestion has been made to repeat that session in Chicago.
- CEC is also excited about the track to be offered at the Expo on Tuesday and wants to include a residential track at the Expo in Chicago.
- Long Beach has a track on Residential Guidelines and Codes. A session on each of the ASHRAE standards (90.2, 62.2, 55) and ICC 700 was suggested.
- The deadline for initial proposals is February 6. Committee members with suggestions for a session should be sent to Theresa Weston or Neil Leslie.
- There will be a residential track in Houston, several have been suggested and CEC is still working to finalize the theme of the track. Ideas for the theme should be sent to Theresa Weston or Neil Leslie.

e. Technical Subcommittee

i. Active House

- Mr. Int-Hout reported that the subcommittee spent most of the hour discussing Active House. There are problems with Active House, but it does offer a rating system that is integrated.
- One question raised was why ASHRAE products wouldn't be used to develop an

integrated approach/rating system rather than adapting a European product.

- The subcommittee discussed Standards 55, Std 90.2, 62.2 and noted that there is really no process that ties all these together.
- This committee could provide leadership to explore why Std 55, Std 90.2, 62.2 have not been adopted more widely in an integrated way.
- It was suggested that the connection to Active House and residential rating systems in general could be included in the proposed design guide.
- Mr. Int-Hout also noted that there has been an RTAR submitted by TC 2.1 to look at thermal comfort in residential.

ii. Globalization of Standards

- No report at this time.

iii. Status of Standard 90.2

- The public review has closed. The committee received 120 total comments from roughly 52 commenters.

8. New Business

a. RBC Budget

- The committee had previously voted to recommend that money be allocated to subsidize travel of residential stakeholders members to ASHRAE conferences in hardship situations. The committee would now like to recommend that money be allocated to subsidize committee travel to non-ASHRAE conferences to promote ASHRAE residential resources.

Motion 5: The Chair moved that RBC recommend that Tech Council allocate \$5000 to RBC starting in FY 2017-18 to fund travel for RBC members (or designees) to attend outside conferences to promote ASHRAE residential topics and resources.

Discussion: The decisions to spend this money would be overseen by the Conferences Subcommittee.

Vote: Motion passed 11-0-0, CNV

Motion 6: Bean moved that UPONOR be recognized and thanked for their financial contributions to assist his participation at the HPC (Home Performance Coalition) National Meeting.

Vote: Motion passed without objection.

b. New Member Training

- It was suggested that the 2nd hour of the Stakeholders subcommittee meeting be used for new member training. It was decided that this training would be initiated in June 2018 so that the committee complete the Reference Manual which would be used for the training.

9. Next Meetings

- Long Beach Annual Meeting, Monday, June 26, 9:00am-12:00pm
 - It was suggested that future meetings start at 8am rather than 9am.

10. Adjourn – **Meeting adjourned 12pm PST.**

**Residential Building Committee
Roster & Subcommittees**

201-2017 Committee

Voting Members: Max H Sherman (Chair), R Christopher Mathis (Vice chair), Constantinos A Balaras, Robert Bean, Charles H Culp III, Philip W Fairey, Paul Francisco, Chris Gray, Jeff Inks, David F. Lee, Neil P Leslie, Chris Van Rite, Iain S Walker, Theresa A Weston, David Weishuhn

Non-Voting Members: Glenn C. Hourahan (Consultant), Daniel C Pettway (Consultant), Pat Graef (Coordinating Officer), Dan Int-Hout, III (BOD Ex-Officio)

2016-2017 Subcommittees:

- Conferences: Weston (Chair), Balaras, Lee, Walker
- Programs: Leslie (Chair), Balaras, Inks, Walker
- Publications: Francisco (Chair), Bean, Gray, Hourahan, (Haydock)
- Stakeholders: Mathis (Chair), Culp, Hourahan, Lee, Pettway
- Technical: Fairey (Chair), Bean, Culp, Gray, Lee, Inks, Weishuhn

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RULES OF THE BOARD – 2.423 RESIDENTIAL BUILDINGS COMMITTEE

2.423.001 SCOPE AND PURPOSE

This committee shall be responsible for identifying major residential trends impacting the practice of HVAC&R, informing the ASHRAE leadership and membership of these trends and their potential impacts, and making recommendations on new activities and policies in response to these trends. In addition, this committee shall serve as a resource to the Society on activities and issues that relate to residential impacts of building technologies including but not limited to ventilation, and thermal organizations that focus on residential buildings. The committee will be responsible for implementation of the residential aspects of the Strategic Plan.

2.423.002 MEMBERSHIP

2.423.002.1 Composition

The members of this committee are as follow

- A. Maximum of fifteen (15) voting members, including a chair and a vice chair;
- B. Voting members shall include:
 - 1. a past member of Standards Committee
 - 2. a past member of Research Administration Committee
 - 3. a past member of Members Council
 - 4. a past member of Environmental Health Committee
 - 5. a home builder or someone representing the home building industry
 - 6. a past chair or other committee officer of a technical committee involved in residential issues
 - 7. a member from outside the U.S. and Canada
 - 8. a representative of at least one major residential stakeholder such as ACCA or RESNET
 - 9. a past Society officer
- C. Non-voting members include a Board ex-officio member and coordinating officer.

2.423.002.2 Qualifications

- A. The chair and vice chair shall hold the grade of Member or higher in the Society.
- B. The majority of the voting members of the committee must be ASHRAE members of Associate Grade or higher.

2.423.002.3 Term of Service

The term of service for voting members is intended to be three (3) years, subject to ROB 3.300 *Election and Appointment Procedures*.

2.423.003 OPERATIONS

2.423.003.1 General Requirements

This committee shall maintain a long-range plan for ASHRAE's role in the "Buildings" conferences (sponsored by BETEC and ASHRAE) and submit this plan to Technology Council at the Annual Meeting.

2.423.003.2 Transportation Expenses

Transportation costs to bring members of other societies/groups with needed expertise to meet with this committee may be paid if approved by the chair of Technology Council.

2.423.004 STRATEGIC PLAN

This committee shall develop procedures for recommending updates to the strategic plan on a continuous basis. As a minimum the committee shall submit a report to the council prior to the Annual Meeting that includes the current status of each activity which supports the fulfillment of the committee's assignments under the strategic plan. The committee shall report to the council all recommendations for changes to the strategic plan as provided by the committee's constituents prior to the Annual Meeting.

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ATTACHMENT A – Massachusetts State Energy Code

Massachusetts Adopts Energy Rating Index Compliance Option to State Energy Code

Massachusetts recently joined the ranks of states and municipal code jurisdictions that have incorporated the Energy Rating Index as a compliance option to their residential energy building codes.

Section 407.6.1.3 of the Massachusetts Energy Efficiency portion of the state's building code addresses the Energy Rating Index option:

C407.6.1.3 Energy rating index. The Energy Rating Index (ERI) shall be a numerical integer value that is based on a linear scale constructed such that the ERI reference design has an Index value of 100 and a residential building that uses no net purchased energy has an Index value of zero (0). Each integer value on the scale shall represent a one (1) percent change in the total energy use of the rated design relative to the total energy use of the ERI reference design. The ERI shall consider all energy used in the residential building. The RESNET Home Energy Rating System (HERS) index is the approved ERI approach in Massachusetts.

C407.6.1.4 ERI-based compliance. Compliance based on an ERI analysis requires that the rated design be shown to have an ERI less than, or equal to, the appropriate value listed in Table C407.6.1.4, when compared to the ERI reference design prior to issuance of any credit for onsite renewable electric generation.

C407.6.1.4.1 Trade-off for onsite renewable energy systems. New construction following C407.6.1.3, and existing buildings and additions following C501.4 may use any combination of the following renewable trade-offs to increase the maximum allowable HERS rating for each unit separately served by any combination of the following

1. Solar photovoltaic array, rated at 2.5kW or higher, shall offset 5 HERS points;
2. Clean Biomass Heating System, solar thermal array, or geothermal heat pump, or a combination of these systems, operating as the primary heating system shall offset 5 HERS points; and
3. Solar thermal array for primary domestic hot water heating or Clean Biomass Stove shall offset 2 HERS points. Note: a Clean Biomass Stove offset may not be combined with a primary heating system offset.

The State of Massachusetts also adopted a RESNET Home Energy Rating System (HERS) as an Approved Alternative Energy Performance Method. The section reads:

For residential units within a building up to 5 stories above grade plane, and with independent unit-level heating and cooling systems, a HERS rater verified index of 55 or less for the finished units together with a completed and HERS rater verified ENERGY STAR Thermal Enclosure Checklist

To view the new Massachusetts provisions go to [Massachusetts ERI](#).

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ATTACHMENT B – Portland, OR Energy Audits

Portland May Require Energy Audits for Houses Being Sold

PORTLAND, Ore.—An ordinance being considered by the Portland, Ore., city council would mandate that home sellers provide potential buyers with data on their homes' energy use. The measure would require each seller to have their home scored on a 1 to 10 scale, as well as disclose its estimated annual energy use and estimated cost. The city also may post the scores publicly online. If approved, the measure would become effective in 2018. The goal, said Mayor Charlie Hales, is to give home buyers a way to compare properties' energy use and to better gauge the entire cost of owning a given home.

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