

**AMERICAN SOCIETY OF HEATING, REFRIGERATING AND
AIR-CONDITIONING ENGINEERS, INC.
1791 Tullie Circle, NE, Atlanta, GA
404-636-8400**

**Technical Committee 4.4
Building Materials and Building Envelope Performance**

Minutes

Monday, June 29, 2015

Atlanta, Georgia

These minutes are unapproved and will be approved at the ASHRAE Winter Meeting in Orlando FL, January 25th 2016

AMERICAN SOCIETY OF HEATING, REFRIGERATING AND AIR-CONDITIONING ENGINEERS, INC.

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TC/TG/TRG MINUTES COVER SHEET

(Minutes of all TC/TG/TRG Meetings are to be distributed to the individuals listed below within 60 days following the meeting.)

TC/TG/SSPC: TC 4.4
TC Title: Building Materials and Building Envelope Performance
Date of Meeting: Monday, June 29, 2015. Meeting convened at 2:15 pm.
Location: Pavilion 3, Second Floor, Downtown Atlanta Hilton, Atlanta, Georgia

DISTRIBUTION

All members of TC 4.4 plus the following:

TAC Chair

Committee Liaisons

ADDITIONAL DISTRIBUTION

Manager of Standards

Manager of Research and Technical Services

Unapproved

ASHRAE TC 4.4 MINUTES

Monday, June 29, 2015 – Atlanta, Georgia

Building Materials and Building Envelope Performance

1. Introductions/Roll Call/Attendance

The Chair, Marcus Bianchi, called the meeting to order at 2:15pm. Roll call and introductions. A total of 30 committee members and guests were present. A quorum was present (12/14 not counting NVM). Attendance is shown below.

Voting Members and Officers Present:

| <u>Name</u> | <u>Affiliation</u> | <u>Role</u> |
|--------------------|------------------------------------|---------------------|
| Marcus V Bianchi | Owens Corning | Chair |
| Steven M Cornick | National Research Council Canada | Secretary/Webmaster |
| Samuel Glass | USDA Forest Products Laboratory | Research Chair |
| Stanley D Gatland | CertainTeed Corporation | Std. 160 Liaison |
| Laverne E Dagleish | Air Barrier Assoc. Of America Inc. | Handbook Chair |
| Fiona Aldous | WJE | |
| Charles C Cottrell | NAIMA | |
| Diana Fisler | Johns Manville | Std. 189.1 Liaison |
| Manfred Kehrer | Oak Ridge National Laboratory | |
| Jan Kosny | Fraunhofer/USA | |
| Pat Noonan | Knauf Insulation | |
| Alexander McGowan | Levelton Engineering | |
| Richard E Peters | TBS Engineering | |
| Paul H Shipp | USG Corporation | |

Number of voting members present: 12 (0 non-quorum)

Voting Members and Officers Absent

| <u>Name</u> | <u>Affiliation</u> | <u>Role</u> | <u>Notes</u> |
|------------------|---------------------------------|-----------------------|----------------------|
| Peter J Adams | Morrison Hershfield Ltd | Vice Chair | Corresponding Member |
| Sean M O'Brien | Simpson Gumpertz & Heger Inc | Program Chair | Corresponding Member |
| Theresa A Weston | Dupont | Standards Chair, 90.2 | Voting Member |
| Fitsum Tariku | BCIT | | Voting Member |
| Andreas H Holm | Fraunhofer IBP | | VM Non quorum |
| Carsten Rode | Technical University of Denmark | | VM Non quorum |
| Mr Larry Elkin | Law Engineering | ALI Coordinator | Corresponding Member |
| Jonathon Humble | American Iron & Steel Institute | 90.1 Liaison | Corresponding Member |

Corresponding Members Present

| <u>Name</u> | <u>Affiliation</u> |
|-----------------------------|----------------------------------|
| Hugo Hens | BPh Consult bvba |
| Achilles Karagiozis | Owens Corning |
| Wahid Maref | National Research Council Canada |
| Dave Roodvoets | DLR Consulting |
| William Rose | University of Illinois |
| Mikael H Salonvaara | Owens Corning |
| Paulo Cesar Tabares Velasco | National Renewable Energy Lab |
| Ali Fallahi | Fraunhofer CSE |
| Alejandra Nieto | Roxul Inc. |
| Kelley Vogel | WJE |

Visitors Present

| <u>Name</u> | <u>Affiliation</u> |
|-------------------|-----------------------|
| Anthony Fontanini | Fraunhofer CSE |
| Marcin Pazera | Owens Corning |
| Jerry Phelan | Bayer |
| Cheryl Saldanha | SGH |
| Chris Schumacher | Building Science Labs |
| Sam J. Taylor | |

2. Review of Agenda/Approval of January 26, 2015 Chicago Minutes

An executive session to discuss the recommendations of the 1696-RP PES was added to the agenda. (Attached).

The draft minutes from the January 26, 2015 meeting in Chicago were posted on the TC Google Site in February 2015 and the ASHRAE Website for review. There were a few minor editorial changes. Steve Cornick moved to approve the Seattle minutes as amended. Paul Shipp seconded.

VOTE: For 9, Against 0, Abstaining 2, CNV; MOTION CARRIED

3. Report From the Chair/Membership/Roll-on, Roll-off

Report was presented by Chair, Marcus Bianchi

Marcus Bianchi attended the chairs breakfast on Sunday morning.

Provisional Corresponding Member (PCM) Process - The process for adding new PCMs to TC rosters and notifying all affected parties has now been automated through the ASHRAE website. Potential new TC members now just need to click on the "JOIN A TC" button at the top of the TC page (www.ashrae.org/tcs) on the ASHRAE website to get started.

New Easier to Use Standard Website Template in Development – TAC is working with the Society's Electronic Communication Committee (ECC), staff, and a consultant to modernize and streamline the template for TC websites. This will include WYSIWIG editing, automatic rosters and simplified document uploading. A preliminary design is nigh and staff will be

working with several volunteer beta testers from various TCs to finalize the design and operation. Anticipate release sometime in the fall of 2015.

New TC E-mail Position Aliases for 15-16 Society Year – ASHRAE is in the process of creating new position e-mail alias addresses for each of the remaining mandatory positions of the Technical Committee management team (Secretary, Standards Sub. Chair, Program Sub. Chair, Handbook Sub. Chair, and Webmaster). The process will take 4-6 weeks. the 15-16 E-mail Alias list will then be distributed to the TCs once this work is complete.

RAC Prioritizing Research Topics Related to the Residential Sector Starting in the 2015-2016, RAC will be prioritizing for bid accepted research topics that support Goal #3 below from the Research Strategic Plan.

Goal #3: To reduce significantly the energy consumption for HVAC&R, water heating and lighting in existing homes.

The 8th beta test of Electronic and Present (E&P) meetings, which allows some TC members to participate in the TC meeting from a remote location electronically, will occur in Atlanta and the following ten TCs have agreed to participate in this test: TC 1.5, TC 2.2, TC 4.2 (RP-1561 & RP-1699 PMSC), TC 5.8, TC 6.8, TC 7.9, TC 8.4, TC 8.8, TC 9.2, TC 10.2
The chairs of those TCs participating should provide to their Section Head feedback on their E&P meeting experience before TAC meets on Wednesday morning, 7/1.

Thank You Letters to Employers - ASHRAE President – Thomas Phoenix – has offered to send letters to the employers of TC volunteers this year thanking them for supporting their employee's service on an ASHRAE TC during Society year 2014-2015.

2015-2016 Hightower Award Nomination Process and Deadline - Nominations for the 2015-2016 George B. Hightower Technical Achievement Award are due to you Section Head by September 1, 2015.

2015-2016 Service to ASHRAE Research Award Nomination Process and Deadline - Nominations for the 2015-2016 Service to ASHRAE Research Award for TC volunteer efforts in research are due to RAC research liaison by September 1, 2015 (new date).

Employment Discipline added to ASHRAE BIO Online Input Form - A new input field titled Employment Discipline has been added to the ASHRAE online member (BIO) graphical input form and TAC would like ALL TC members to self-declare their employment discipline prior to the start of the new Society year on July 1, 2015 by going to the Members Only area.

A new MTG was formed; MTG.O&MEE – Operations and Maintenance Activities That Impact Energy Efficiency. For more information on this MTG and the six other active MTGs, please go to the MTG section on the following web page: <http://www.ashrae.org/tcs>

Standard 203-2014 now available for use and reference - Standard 203-2014, Method of Test for Determining Heat Gain of Office Equipment Used in Buildings, is published. The Chair of SPC 203, Glenn Friedman, would like to make other project committee chairs aware of it and possibly reference it in other standards.

Upcoming Workshops and Conferences: 2015

ISHVAC-COBEE 2015: 9th International Symposium on Heating, Ventilation and Air Conditioning (ISHVAC) and 3rd Conference on Building Energy and Environment (COBEE) - July 12 – 15, 2015 - Tianjin, CHINA – Contact: <http://www.cobee.org/>
ICR2015 (24th IIR International Congress of Refrigeration) - August 16 – 22, 2015 - Yokohama, JAPAN – Contact: <http://www.icr2015.org/index.html>
Cold Climate 2015 - October 20 – 23, 2015 - Dalian, CHINA – Contact: <http://www.coldclimate2015.org/>
11th International Conference on Industrial Ventilation - October 26 – 28, 2015 - Shanghai, CHINA – Contact: <http://www.ventilation2015.org/>
IBPSA 2015 (14th International Conference of the International Building Simulation Conference) – December 7 – 9, 2015 - Hyderabad, INDIA – Contact: <http://www.bs2015.in/>

Upcoming Workshops and Conferences: 2016

International Air-Conditioning, Heating, Refrigerating Exposition (AHR Expo) – 2016 - January 25 – 27, 2016 - Orlando, FL – Contact: <http://www.ahrexpo.com/>
CLIMA 2016 - May 22 – 25, 2016 - Aalborg, DENMARK – Contact: <http://www.clima2016.org/welcome.aspx>
IAQVEC 2016 (9th International Conference on Indoor Air Quality Ventilation & Energy Conservation in Buildings) – Oct. 17 – 19, 2016 - Seoul, SOUTH KOREA – Contact: <http://iaqvec2016.org/>

ASTM C16 collecting abstract submissions for: Symposium on Advances in Hygrothermal Performance of Building Envelopes: Materials, Systems and Simulations

Dates: Wednesday October 26 2016 - Thursday October 27 2016

Location: Renaissance Orlando at SeaWorld Orlando, FL

Sponsored by: C16 Thermal Insulation

Deadline for Abstract Submittal: Sunday July 19 2015

http://www.astm.org/SYMPOSIA/filtrexx40.cgi?+P+EVENT_ID+2884+callforpapers.frm#anchor2

TC Volunteers needed to help improve the ASHRAE technical program for meetings

Provide to your Section Head after each Society meeting a list of qualified volunteers from your TC that are potential Technical Session chairs and reviewers of session papers that are related to TC's scope for use by the Conferences & Expositions Committee (CEC) in developing technical content for future technical programs.

Upcoming meetings:

Orlando/tracks and dates are given in the Program Subcommittee Report.

St. Louis/tracks and dates are given in the Program Subcommittee Report.

The Chair reminded everyone to update their bios.

MEMBERSHIP: ROLL-ON/ROLL-OFF

The TC will have a new management team as July 2nd 2015:

Peter Adams, Chair
Rick Peters, Vice-chair
Fiona Aldous, Secretary

Rolling off as VM's after the June meeting in Atlanta (July 2nd, 2015):

Marcus Bianchi

The Chair has added the following VM's after the June meeting in Atlanta (July 2nd, 2015):

Peter J.Adams
Hua Ge
Achilles Karagiozis
Paulo Cesar Tabares Velasco

4. Executive Session

An executive session was held so the 1696-PES could make its recommendation to the TC on the 1696 rebid. The PES made its recommendation to the committee. The results of the TC recommendation will be communicated to MORTS.

5. Research Subcommittee

Update was presented by Sam Glass, Research Subcommittee Chair

Note TC 4.4 Google site: <https://sites.google.com/site/ashraetc44/home/research-page>

Section 4 RL is Xudong Yang from Tsinghua University.

Current (since 2013) RTAR form is a fillable pdf. Brevity and clarity are stressed; form has word limits and radio buttons. Please use it. <https://www.ashrae.org/standards-research--technology/research> (near bottom of page under "Information for TCs/TGs/MTGs Sponsoring Research"). Template for work statements is also posted here.

Highlights from Research Subcommittee Chairs' breakfast:

- Current research finance status: 61 active research projects with total value of \$10 million. Since July 2014, 11 projects completed; 11 new projects approved; 13 TRPs released for bid. No projects are on-hold due to funding.
- Current meeting: RAC evaluated 9 RTARs and 8 WSs; will evaluate 8 TRP bid packages and 4 URPs.
- All new work statements must have milestone chart and associated costs for each milestone as a percentage of total project cost. Criteria will allow PMS to exercise better control over payment approval.

- The Research Advisory Committee (RAC) is looking at improving efficiency of research processes; asked for suggestions for improving quality and reducing time; received only 3 comments spring 2015; scheduled forum in Atlanta for input.

Research topic brainstorming session was held at subcommittee meeting 2015-6-28, led by Theresa Weston. Topics will be compiled prior to next meeting in Orlando, where topics will be prioritized.

Project Status Updates

- **1561-RP: Procedures to Adjust Observed Climatic Data for Regional or Mesoscale Climatic Variations (TC 4.2 lead, TC 4.4 co-sponsor).** Steve Cornick is PMS chair. Hartwig Künzle is the TC 4.4 liaison. Contractor is Novus Environmental Inc. Output will be web-based tool to generate mesoscale time series weather data on a 4-km grid based on meteorological models and station data. Temperature and humidity data appear reliable but wind and rain data do not; these are much harder to model. Final report accepted by PMS in Atlanta. Journal or Transactions paper submitted. Cornick reported that TC 4.4 was somehow not officially listed as a cosponsor in ASHRAE's records and therefore did not need to vote to approve final report.
- **1696-TRP: Thermal, Moisture and Air Transport Property Values for New Building and Insulating Materials (Authors: Alex McGowan, Steve Cornick).** PES includes Alex McGowan (chair), Sam Glass, Achilles Karagiozis, and Theresa Weston. RFP went out for re-bid spring 2015. Six proposals were received. PES met 2015-6-28 with RL present. PES recommendation was given to TC 4.4 during the executive session of the main committee meeting 2015-6-29.
- **1700-WS: A Global Database of Moisture Design Reference Years for Hygrothermal Analysis and Design of Buildings (Author: Steve Cornick; TC 4.2 lead; TC 4.4 co-sponsor).** TC 4.4 voted to cosponsor 2014-1-20. Andre Desjarlais and Hartwig Künzle volunteered to represent TC 4.4 on PES/PMS if WS accepted. TC 4.2 has work statement on hold pending disposition of 1325-RP results/incorporation into Standard 160. Removed from RAC's list (deadline for draft WS was not met).
- **1718-WS: Development of a Method to Determine the Moisture Transport Properties of a Roof Shingle System under Real Conditions (Author: Manfred Kehrer; cosponsored by TC 1.12 and SSPC 160).** TC voted to accept RTAR 2014-1-20 after revisions in response to RAC comments. RAC voted to accept with conditions (improve grammar, clarify approach and deliverables, get co-funding). First draft of WS should be submitted to RAC no later than 2016-5-15. A draft WS was distributed to TC 4.4 members 2015-1-23 and discussed in Chicago. WS was revised and distributed for further comments prior to the Atlanta meeting. Discussed in research subcommittee meeting 2015-6-28. Discussion during main committee meeting 2015-6-29 tried to resolve whether milestones needed to be added to WS before voting to send to RAC.

Motion: Pat Noonan moved that milestones be incorporated into the WS and vote by letter ballot to submit to RAC prior to August 15; seconded by Fiona Aldous. **VOTE:** For 9, Against 0, Abstaining 2, CNV; **MOTION CARRIED**

- **1730-WS: Research to Determine the Pressure Coefficients and Pressure Drop for Standard Venting Strategies and Components in Attic Spaces with Sloped Roofs (Authors: Anthony Fontanini, Dave Roodvoets; cosponsored by TCs 4.3, 4.5, and 4.7). TC voted to accept RTAR by letter ballot 2014-5-14. RAC voted to accept with conditions. First draft of the work statement should be submitted to RAC no later than 2016-5-15. Discussion in research subcommittee meeting 2015-1-25 identified volunteers for task group to provide input to draft WS: Stan Gatland, Fitsum Tariku, Marcus Bianchi, and Peter Adams. Bill Rose mentioned zonal pressure/airflow measurements of attics in weatherization work and will make a report available to the TC. Draft work statement distributed to task group prior to Atlanta meeting and briefly discussed in research subcommittee 2015-6-28.**

ACTION ITEM: Sam Glass to post draft work statement on TC Google site for comment, comments are due by 2015-7-31.

- **1759-RTAR: Impact of Air-Flow on Thermal Performance of Airspaces behind Cladding (Phase 1 of 2) (Authors: Jay Crandell, David Yarbrough, Jonathan Humble; SSPC 90.1 envelope subcommittee). SSPC 90.1 approached TC 4.4 with request for TC 4.4 to sponsor RTAR and SSPC 90.1 to cosponsor. RL recommended splitting project into two phases. RTAR was revised to include just phase 1. TC voted by letter ballot 2015-2-12: 11 for, 0 against, 4 not returning ballot, chair not voting. RAC evaluated RTAR at Atlanta meeting and accepted it.**

ACTION ITEM: Sam Glass to post accepted RTAR on TC Google site. Authors to develop draft WS.

- **1703-RTAR: (TC 1.8): Performance of Vapor Retarder Systems Used on Mechanical Insulation (Author: Charles Petty). TC 4.4 voted to cosponsor 2014-1-20. Andre Desjarlais volunteered to represent TC 4.4 on PES/PMS if RTAR/WS accepted. RAC evaluated RTAR at Atlanta meeting and accepted it with comments. Authors decided TC 4.4 co-sponsorship no longer needed.**
- **Draft RTAR: Evaluating the Accuracy of Whole Building Energy Simulations by Comparison with Field Measurement Data (Author: Sean O'Brien). Research subcommittee discussed 2014-1-19. Will be revised and posted on Google site for comments. Also seeking input from TC 4.7. No further action.**
- **Draft RTAR: Hygrothermal Properties of Aged Construction Materials (Author: Steve Cornick). Discussed at research subcommittee 2014-1-19. No further action.**
- **Draft RTAR: Moisture Transfer in Building Materials at High Temperatures (Author: Sam Glass). Discussed at research subcommittee 2014-1-19. No further action.**

6. Handbook Subcommittee

Update was presented by Peter Adams on behalf Laverne Dalglish, Handbook Subcommittee Chair

For Handbook issues go to the following website:

<https://www.ashrae.org/resources--publications/ashrae-handbook-central>

The Handbook – Fundamentals is to be revised for 2017. The names of Handbook team are:

Laverne Dalglish Handbook Subcommittee Chair

Handbook – Fundamentals revisers

- **Chapter 25 – Marcus Bianchi**
- **Chapter 26 – Alex McGowan**
- **Chapter 27 – Charles Cottrell**

Handbook – Applications reviser

- **Chapter 44 – Peter J. Adams**

All members were reminded of the deadlines

Chapter 25 – Marcus Bianchi - April 5, 2016

Chapter 26 – Alex McGowan - April 26, 2016

Chapter 27 – Charles Cottrell - May 17, 2016

Any member of TC4.4 is welcome to participate. The current chapters are located in google docs.

Handbook – Applications (HOF): There was a brief discussion with respect to the three HOF chapters. The drop dead date is March 31, 2016 for the committee. The deadlines were received from ASHRAE: Chapter manuscripts are due: 4/5/16 (Ch. 25) 4/26/16 (Ch. 26) and 5/17/16 (Ch. 27).

All three HB revisers reported that no comments were received from TC 4.4 so far. Marcus Bianchi reported that major revisions are expected for Ch. 25.

Chapter 25 – Theoretical - Updated fairly well over the years. The reviser is looking for a better way to organize the chapter. It is expected that the revision will contain mostly small fixes – cool roofs and insulation. The current reviser will focus on insulation including the temperature dependency of materials. Phase change materials could be revisited. Information could be added on thermal metrics which deals with the buffer zones – heat transfer (attics, foundations, etc.). Volunteers are being sought. The goal is to have the chapter out in December with a vote in January 2016.

Alex McGowan reported that there will be some revisions for Ch. 26, specifically three main areas:

- 1. An updating of data from 1696-RP although it may not be available on time for the print edition**
- 2. A review on how to use the tables properly**
- 3. Simplification of data on air spaces – Steve Cornick and Dave Yarbrough have proposed modifications**

Specific updates might include Table 1 – current and historical materials should be separated and put in different tables. The question of how to separate and who decides was raised. The historical materials should have a note to say that these materials may be in existing buildings. Chapter 26 is not expected to have any major structure changes. The fundamentals on temperature dependency should be in the data chapter. The chapter should show the aged performance of materials. The chapter is trying to capture values for design and research. Currently the values may underestimate the heat loss in buildings but may be good enough for building simulations. There is a need to look at how the data is presented.

Chapter 27 – examples – This chapter was sent out a couple of times to TC 4.4 plus interested parties. A question was raised as to the need for examples of new materials. The principal editor is looking for ideas. If no feedback is received, then the chapter will stay as is. Possibly examples on glazer method and variable impact of thermal conductivity based on temperature could be helpful. Charles Cottrell feels that Ch. 27 will be published as is.

Handbook – Applications (HOA): Chapter 44 of the 2015 Handbook – The 2015 HOA has been printed and circulated. Revisions to Chapter 44 were included in the final printed edition.

Michael Bilderbeck the current Section 4 Head (SH4) related that Dennis Wessel from RAC will be the new SH4.

Handbook Liaison HOA 2019 plus the Chapter Technology Transfer Liaison is Harris Sheinman

HL for the HOF 2017 continues to be Bass Abushakra

The production schedule for the 2017 HOF (attached) can be found on the TC Google site.

<https://sites.google.com/site/ashraetc44/home/handbook-page>

7. Program Subcommittee

Update was presented by Sean O'Brien, Program Subcommittee Chair

General items: There were three TC 4.4 sponsored program items at the Atlanta Annual Meeting, two sponsored and one co-sponsor.

Sunday, June 28, 9:45 AM-10:45 AM

SEMINAR 5 (INTERMEDIATE)

The Building Envelope and Its Impacts on Occupant Comfort

Chair: Sean O'Brien

Track: HVAC&R Fundamentals and Applications

Monday, June 29, 9:45 AM-10:45 AM

SEMINAR 30 (INTERMEDIATE)

U-Factors, Thermal Bridging and What They Mean for Energy Code Compliance

Chair: Sean O'Brien

Track: HVAC&R Fundamentals and Applications

Tuesday, June 30, 11:00 AM-12:30 PM

SEMINAR 49 (INTERMEDIATE)

Moisture in Buildings and Envelopes: Simulation, Modeling and Design

Chair: Jonathan Sullivan

Track: Modeling throughout the Building Life Cycle

The plan for St. Louis and on is to submit similar basic to intermediate seminars to educate ASHRAE members about envelope issues.

Dave Roodvoets will resubmit roofs and attics seminar, “Moisture Issues with Sealed and Semi-Conditioned Attics” for St. Louis.

Other Possible seminar items include:

- a) Solar driven vapor flows (past RP-1235)
- b) VIPs in practice
- c) Double skin facades
- d) Envelope tracks – suggest a track to CEC on envelope for Las Vegas or Long Beach (2017)

Sam Taylor suggested that ASHRAE could create a YouTube channel featuring various educational seminars.

CEC deadlines for the Orlando and St. Louis conferences are below.

Orlando Meeting - January 23 - 27, 2016

- Orlando Seminar and Forum Session Proposals are due August 10, 2015
- Revised conference papers / Final Technical Papers due August 21, 2015
- Conf. and Tech. Paper Final Accept/Reject Notifications sent August 28, 2015
- Seminar, Forum, Workshop Accept/Reject Notifications sent September 11, 2015
- All presentation files (PPT) due online – January 4, 2016
- Conference Website: : <http://www.ashrae.org/orlando/>

Program Focus at Orlando Winter Conference

- Track 1: Systems and Equipment Track chair: Gary C. Debes - gcdebes@verizon.net
- Track 2: Fundamentals and Applications Track chair: Cynthia Moreno - cindym@tmmechanical.com
- Track 3: Design Build Track chair: James Liston - jfliston@verizon.net
- Track 4: International Design Track chair: Leon Shapiro - leoneshapiro@gmail.com
- Track 5: Standards, Guidelines and Codes Track chair: Michael Collarin - Michael.Collarin@parsons.com

- Track 6: Cutting-Edge Technologies Track chair: Ann Peratt - agregg.ksu@gmail.com
- Track 7: The Great Debate Track chair: Chuck Curlin - ccurlin@shultzeg.com
- Track 8: Modern Residential Systems Track chair: Rocky Alazazi - mralazazi@yahoo.com

St. Louis Meeting - June 25 – June 29, 2016

- St. Louis Conference Paper Abstracts Due are due September 14, 2015
- Technical Papers initial drafts due September 14, 2015
- Conference Paper Abstract Accept/Reject Notifications sent October 5, 2015
- Website Opens for Seminar, Forum and Workshop Proposals on January 4, 2016
- Final Conference Papers Submitted for Review due January 4, 2016
- Conference Website: <http://www.ashrae.org/stlouis/>
- Conference Program Chair: Tom Kuehn Email: kuehn001@umn.edu

Program Focus at St. Louis Annual Conference

- Track 1: Advances in Refrigeration Systems and Alternative Refrigerants Track Chair: Frank Schambach Email: frankschambach@mindspring.com
- Track 2: Research Summit Track Chair: Jeffrey Spitler Email: spitler@okstate.edu
- Track 3: Fundamentals and Application Track Chair: David E. Claridge Email: dclaridge@tamu.edu
- Track 4: HVAC Systems and Equipment Track Chair: Alan Neely Email: alan_neely@pghcorning.com
- Track 5: Smart Building Systems/Remote Monitoring and Diagnostics Track Chair: Samir Traboulsi Email: traboulsi.samir@gmail.com
- Track 6: Indoor Environment: Health, Comfort, Productivity Track Chair: Dennis Alejandro Email:
- Track 7: Professional Skills Beyond Engineering Track Chair: Rachel Romero Email: rachel.romero@nrel.gov
- Track 8: Renewable Energy Systems and Net Zero Buildings Track Chair: Kevin Gallen Email: kevin@gallenengineering.com

8. Standards Subcommittee

Update was presented by Marcus Bianchi on the behalf of the Standards Subcommittee Chair, Theresa Weston.

Std.90.1: (Jonathan Humble Liaison) The envelope Subcommittee is still working on metal building issues such as gaps in insulation systems, opaque portions, and windows (orientation, shading etc) to squeeze more savings out (Charles Cottrell for JH)

Std. 90.2: (Theresa Weston Liaison) The standard 90.2 committee is considering a repositioning of the Title, Purpose, and Scope.

Std. 160: (Stan Gatland Liaison) ASHRAE/ANSI Standard 160 is focusing on updating several topics. First up is the revision of section on mold and establishing a failure criterion based on VTT's mold index model. A vote is planned for the meeting in Atlanta on the mold growth criteria. A section on modelling air-flow in 1D simulations is being developed. Finally consideration is being given to developing a user guide or compliance manual, either by the committee or by contract. A Public Review version is planned for the spring of 2016 before the St. Louis meeting.

Std. 169: (Steve Cornick Liaison). Std. 169 "Climatic Data for Building Design Standards" is steadily progressing towards the next version and a PR draft should be ready before Orlando.

Std. 189.1: (Diane Fisler Liaison) Std. 189.1 was expanding its scope to include walkways, bike paths, and vegetative roofs for example.

GPC34P "Energy Guideline for Historical Buildings and Structures": Bill Rose reported that the committee would be meeting informally on and will have a PR version out late summer early fall.

MTG.DB "Building Dampness": Cornick reported that the MTG has come up with a draft of a hierarchy of symptoms of increasing concern and to what extent they can be backed by peer reviewed literature.

9. Old Business

Nothing to report.

10. New Business

Nothing to report.

11. Adjournment

Manfred Kehrer moved to adjourn the meeting at 15:45; Sam Glass seconded.

Steve Cornick – Secretary, TC 4.4

Next meeting Orlando FL, January 25th, 2016

Action items

From the Atlanta Annual June 29, 2015 meeting.

| Person | Item | Date |
|----------------|---|-----------|
| Sam Glass | 1730-WS: post draft work statement on TC Google site for comment, comments are due by 2015-7-31. | 2015-7-31 |
| Sam Glass | Sam Glass to post accepted RTAR on TC Google site. Authors to develop draft WS. | 2015-7-02 |
| Manfred Kehrer | 1718-WS: Milestones be incorporated into the WS and vote by letter ballot to submit to RAC prior to August 15 | 2015-8-15 |

Unapproved

Summary of Research Projects

From the Atlanta Annual June 29, 2015 meeting.

| ID | Title | Champion | Status |
|-----------------------|--|--|---|
| 1561-RP (TC 4.2) | Procedures to Adjust Observed Climatic Data for Regional or Mesoscale Climatic Variations | Steve Cornick | Final report submitted and TC 4.2 will vote on accepting final reports and to close out project. |
| 1696-TRP | Thermal, Moisture and Air Transport Property Values for New Building and Insulating Materials | Alex McGowan, Steve Cornick | PES recommendation accepted by TC 4.4, work should commence after ASHRAE and bidder sign contract, |
| 1700-WS (TC 4.2) | A Global Database of Moisture Design Reference Years for Hygrothermal Analysis and Design of Buildings | Steve Cornick | TC 4.4 cosponsor. On hold pending disposition of 1325-RP results/incorporation into Std 160. Resubmit once done. |
| 1718-WS | Development of a Method to Determine the Moisture Transport Properties of a Roof Shingle System under Real Conditions | Manfred Kehrer | Revise work statement to phase the work. Letter ballot, submit to RAC by Aug 15, 2015. |
| 1730-WS | Research to Determine the Pressure Coefficients and Pressure Drop for Standard Venting Strategies and Components in Attic Spaces with Sloped Roofs | Anthony Fontanini, David Roodvoets | Sam Glass to post draft work statement on TC Google site for comment, comments are due by 2015-7-31. |
| 1703-RTAR (TC 1.8) | Performance of Vapor Retarder Systems Used on Mechanical Insulation | Charles Petty | RAC evaluated RTAR at Atlanta meeting and accepted it with comments. Authors decided TC 4.4 co-sponsorship no longer needed. |
| 1759-RTAR | Impact of Air-Flow on Thermal Performance of Airspaces Behind Cladding | David Yarbrough, Jonathan Humble, Jay Crandell | TC voted by letter ballot 2015-2-12: 11 for, 0 against, 4 not returning ballot, chair not voting. RAC evaluated RTAR at Atlanta meeting and accepted it. Draft WS next. |
| Draft RTAR | Evaluating the Accuracy of Whole Building Energy Simulations by Comparison with Field Measurement Data | Sean O'Brien | Will be revised and posted on Google site for comments. Also seeking input from TC 4.7. No further action. |
| Draft RTAR | Hygrothermal Properties of Aged Construction Materials | Steve Cornick | Under revision. |
| Draft RTAR | Moisture Transfer in Building Materials at High Temperatures | Sam Glass | Under revision. |

ASHRAE Technical Committee 4.4
Building Materials and Building Envelope Performance

Main Committee Agenda

Date: Monday, June 29, 2015

Time: 2:15 pm – 4:15 pm

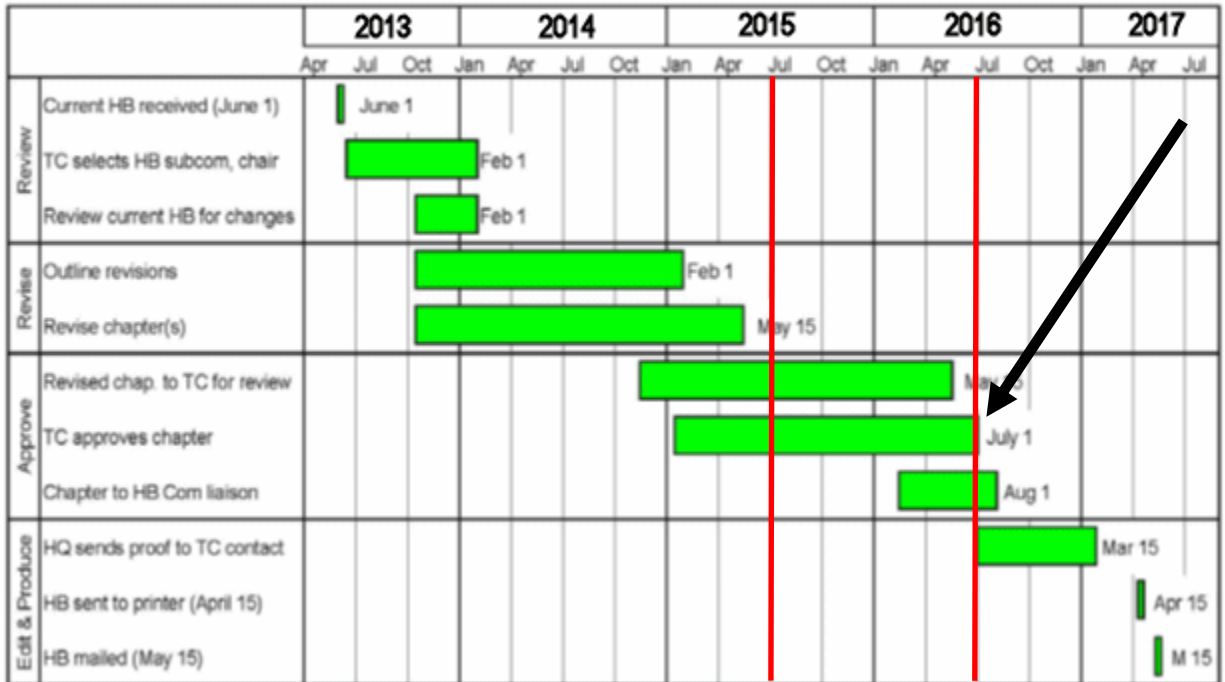
Location: Pavilion 3, Second Floor
Downtown Atlanta Hilton
Atlanta, Georgia

- | | | |
|-----|---|------|
| 1. | Introductions/Roll call/Attendance – Marcus Bianchi [Marcus.V.Bianchi@owenscorning.com] | 2:15 |
| 2. | Agenda/Approval of minutes – Steve Cornick [cornicksm@gmail.com] | 2:20 |
| 3. | Report from the Chair.Membership/Roll-on roll-off – Marcus Bianchi [Marcus.V.Bianchi@owenscorning.com] | 2:25 |
| 4. | Executive Session – Sam Glass [svglass@fs.fed.us] | 2:35 |
| 5. | Research Subcommittee – Sam Glass [svglass@fs.fed.us] | 2:45 |
| 6. | Handbook Subcommittee Peter Adams [PAdams@morrisonhershfield.com] | 2:50 |
| 7. | Program Subcommittee – Sean O’Brien [smobrien@sgh.com] | 3:00 |
| 8. | Standards Subcommittee – Theresa Weston [theresa.a.weston@usa.dupont.com] | 3:10 |
| 9. | Old business | 3:25 |
| 10. | New business | 3:30 |
| 11. | Adjournment | 4:15 |

(End)

2017 Handbook Production Schedule

2017 Handbook Revision Schedule



Unapproved