

**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, January 28, 2013  
Dallas, Texas**

***These draft minutes were approved by this Committee in Denver on June 24, 2013***

**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, January 28, 2013. Meeting convened at 2:18 pm.**

**Location: Lone Star Ballroom A1 (CC2), Sheraton Conference Center, Dallas, Texas**

**DISTRIBUTION**

All members of TC 4.4 plus the following:

TAC Chair

Committee Liaisons

**ADDITIONAL DISTRIBUTION**

Manager of Standards

Manager of Technical Services and Research

**ASHRAE TC 4.4 MINUTES**

**Dallas, TX, USA**

**January 28, 2012**

**Technical Committee 4.4**

**Building Materials and Building Envelope Performance**

**1. Introduction and Attendance**

The Chair, Garth Hall, called the meeting to order at 2:18 pm with 48 members and guests present. A quorum was present.

**Voting Members and Officers Present:**

<b><u>Name</u></b>	<b><u>Affiliation</u></b>	<b><u>Role</u></b>	<b><u>Notes</u></b>
Garth Hall	Raths, Raths & Johnson, Inc.	Chair	
Marcus Bianchi	NREL	Vice-Chair	Non-voting
Peter Adams	Morrison Hershfield Ltd.	Secretary/Handbook (acting)	
Paul Shipp	USG Corporation		
Holly Bailey	Bailey Engineering Corporation		
Steve Cornick	NRC/IRC	Website	
Hugo Hens	K.U. Leuven		Non-quorum
Hartwig Kunzel	Fraunhofer Institut Bauphysik		Non-quorum
Anton TenWolde			
Achilles Karagiozis	Owens-Corning		
Fiona Aldous	Wiss, Janney, Elstner Associates		
Diana Fisler	Johns Manville		
Alex McGowan	Levelton Consultants Ltd.		

**Number of voting members present: 12 (2 non-quorum)**

**Voting Members and Officers Absent**

<b><u>Name</u></b>	<b><u>Affiliation</u></b>	<b><u>Role</u></b>	<b><u>Notes</u></b>
Theresa Weston	DuPont	Standards	
Larry Elkin	Applied Building Sciences	ALI/Honors & Awards	
Sean O'Brien	Simpson Gumpertz & Heger, Inc.	Program	
Sam Glass	USDA Forest Products Lab	Research	
Stan Gatland	CertainTeed Corporation		

## Corresponding Members Present

<b><u>Name</u></b>	<b><u>Affiliation</u></b>
Charles Cottrell	NAIMA
William Rose	Univ of Illinois at Urbana-Champaign
Raoul A Webb	ENVIRON International Corporation
Andre Desjarlais	ORNL
Fitsum Tariku	BCIT
David Roodvoets	DLR Consultants
Pat Noonan	Knauf Insulation
Mikael Salonvaara	Owens Corning
Wagdy Anis	Wiss, Janney, Elstner Associates
Chris Crall	CCrall Consulting
Rick Peters	TBS Engineering
Jan Kosny	Fraunhofer Center for Sustainable Energy Systems
Wahid Maref	National Research Council Canada
Alan Neely	Pittsburgh Corning Corp
Tom Ponder	Saint-Gobain
Ken Collier	Pittsburgh Corning Corp
Joe Deringer	Inst. for Sustainable Perf. of Bldgs (SuPerB)

## Visitors Present

<b><u>Name</u></b>	<b><u>Affiliation</u></b>
Mike Moore	Newport Ventures Inc.
Manfred Kehr	ORNL
Paulo Tabares	NREL
Neal Kruis	
Roderick Jackson	ORNL
David Catrill	CXGBS
Joon-Ho Choi	
Lisa Rosenow	
Christy Cronin	Wiss, Janney, Elstner Associates
Aleka Pappas	Wiss, Janney, Elstner Associates
Donald Snell	
John G. Davis	
Florian Antreller	Fraunhofer Institut Bauphysik

## 2. Approval of Previous Minutes

The draft minutes from the June 25, 2012 meeting in San Antonio had been posted on the Google site and ASHRAE site for review.

## Motion 1

Peter Adams moved to accept minutes as posted on Google Site			<b>SECOND:</b> Paul Shipp
<b>FOR:</b> 7	<b>AGAINST:</b> 0	<b>ABSTAIN:</b> 4	<b>Notes:</b> Chair not voting

**DISCUSSION:** None

**MOTION CARRIES**

### 3. Report From the Chair

Chair, Garth Hall, made general announcements:

- New 2013-2014 rosters are due Midnight 1/29/13
  - Anyone wanting to be added needs to provide Chair their contact info by the end of main committee meeting
  - Check to make sure your personal information is correct
    - [www.ashrae.org](http://www.ashrae.org) <Update your bio>
  - Current officers for 2012 – 2013:
    - Garth Hall, Chair
    - Marcus Bianchi, Vice Chair
    - Peter Adams, Secretary Subcommittee Chair
    - Paul Shipp, Handbook Subcommittee Chair
    - Sam Glass, Research Subcommittee Chair
    - Sean O’Brien, Program Subcommittee Chair
    - Theresa Weston, Standards Subcommittee Chair
    - Steve Cornick, Webmaster
  - New Executive Committee starting July 1, 2013
    - Marcus Bianchi, Chair
    - Peter Adams, Vice Chair
    - Steve Cornick, Secretary
  - Five new voting members starting July 1, 2013
    - Marcus Bianchi
    - Manfred Kehrer
    - Sam Glass
    - Charles Cottrell
    - Laverne Dagleish
- TC Chair Breakfast Summary
  - Individual TC’s have been expressed frustration in not being involved in programs that appear to fall directly into their area of expertise and not getting programs with similar topics and outside individuals.
  - TC’s also expressed frustration of having meetings scheduled during subcommittee and/or main committee meetings.

- ASHRAE is asking each technical committee to review ASHRAE Code of Ethics. See the following link for the latest version of the ASHRAE Code of Ethics: <https://www.ashrae.org/about-ashrae/>
- New TAC Presentation template for TC members to use with local Chapter. The new presentation template allows TC members, without a lot of effort, to give a presentation to their local chapter on TAC and the TCs in general and to also customize a few slides with information specific to their own TC or TCs. TAC hopes to roll-out this new presentation to the TCs in Dallas at the TC Chairs' Training Workshop briefly. The template will then be posted to the Technical Committee page of the ASHRAE website for download.
- 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 Annual meeting in Denver by going to the Members Only section <https://eweb.ashrae.org/eweb/DynamicPage.aspx?Site=ASHRAE&WebKey=8396a37a-9fc2-4f50-9332-5eebebe73494>) and enter their employment discipline information. The link should take you directly to the screen, which is located under demographics.
- E&P Beta Test #3 TC meetings being Held in Dallas. The 3rd 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 Dallas and the following TCs have agreed to participate in this test: TCs 1.5, 1.8, 2.2, 5.8, 7.4, 7.9, and 8.8. 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, 1/30.
- The Technical Committee Master Calendar is now available through Google. In order to access this calendar you need to have a Google account. Once you log into your Google account, follow the instructions below:  
To add a friend's calendar, just follow these steps:
  1. At the bottom of the calendar list on the left, click Add and select Add a friend's calendar.
  2. Enter the appropriate email address (techservices1791@gmail.com) in the field provided, then click Add.
 This calendar is public and will appear under 'Other Calendars' in the left column.  
To set up Google Calendar Sync to your Outlook:
  1. Make sure you're using a supported operating system and Outlook version.
  2. Download Google Calendar Sync (version 0.9.3.6) at [http://dl.google.com/googlecalendarsync/GoogleCalendarSync\\_Installer.exe](http://dl.google.com/googlecalendarsync/GoogleCalendarSync_Installer.exe)
  3. Once a dialog box appears, click Save File. The downloaded file should open automatically. If it doesn't, manually open it from your browser's download window.
  4. Click OK to confirm that you're aware this is an executable file.
  5. Read through the Google Calendar Sync Terms of Service, and click I Agree.
  6. Follow through the Installation Options and click Install to finish the set-up process.
 Once Google Calendar Sync is installed on your computer, the Google Calendar Sync Settings window will appear:  
In the Settings window, enter your email address and password and select the Sync Option you prefer. Read about each Sync Option.  
You'll also be able to set the time interval for syncing to occur. Please keep in mind that 10 minutes is the minimum time interval allowed.  
After the initial set-up, you can access the Google Calendar Sync Settings window again by double-clicking the calendar icon in your Windows System Tray.

- TAC approved the formation of the following new Multidisciplinary Task Group (MTG) at their fall meeting: MTG.CCDG – Cold Climate Design Guide Development

Scope: MTG.CCDG will coordinate TC/TG/TRG technical activities to help support the technical basis, development, and publication of a “Cold Climate Design Guide” in conjunction with REHVA and SCANVAC. Responsibilities include the development of supporting research, presentations, and content for the “Cold Climate Design Guide” special publication.

The chair and vice chair of the MTG are Frank Mills and Bjarne Olesen, respectively.

If you are interested in participating, please notify the TC4.4 Chair and I will provide to ASHRAE. ASHRAE Manager of Research and Technical Services, Mike Vaughn, at [MORTS@ashrae.net](mailto:MORTS@ashrae.net).

- TC Volunteers willing to Support Content Development and Quality Control for Society Technical Program at Society 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.

Please see TC4.4 Chair if you are interested.

- Option for TC Subcommittee Meetings via Conference Calls and Web Meetings. More and more TCs are taking advantage of a new Society service that allows TCs to hold subcommittee meetings by phone and/or web. Many TCs are finding this to be a more efficient way for them to conduct subcommittee business and it also allows TC members that can’t travel to meetings on a regular basis a way to still contribute to the TC. Such a change can also eliminate potential conflicts with the TC’s program sessions at Society meetings. Please pass your conference call/web meeting/webinar requests on to the Manager of Research and Technical Services, Mike Vaughn, at [mvaughn@ashrae.org](mailto:mvaughn@ashrae.org) or [MORTS@ashrae.net](mailto:MORTS@ashrae.net)

Recommend utilizing for Handbook and other subcommittees, as needed.

- Upcoming Program Dates
  - Denver Meeting - June 22-26, 2013
    - Conference Site Live: January 7, 2013
    - Denver Seminar and Forum Session Proposals are due February 11, 2013
    - Technical Papers Final Review Due – February 15, 2013
    - Acceptance/Reject Notifications issued for Conference papers, Seminars and Forums – March 25, 2013
    - All presentation files (PPT) due online – June 3, 2013
    - Conference Website: <http://www.ashrae.org/denver/>
  - New York Meeting – January 18-22, 2014
    - Conference Paper Abstracts due March 15, 2013
    - Acceptance/Reject Notifications issued for Conference papers abstracts – April 5, 2013
    - Technical Papers Due for Review – April 19, 2013

- Conference Site Live: June 3, 2013
- Web Site Opens for Seminar and Forum proposals – June 3, 2013
- Final Conference Papers Submitted for Review – July 3, 2013
- Technical Papers final review due August 12, 2013
- New York Seminar and Forum Session Proposals are due August 12, 2013
- All presentation files (PPT) due online – January 3, 2013
- Conference Website: <http://www.ashrae.org/newyork/>

The Conferences and Expositions Committee (CEC) oversees ASHRAE’s annual and winter conferences and other specialty conferences and expositions globally. The CEC continually works to improve the conference experience for all attendees. To help keep a “pulse” on the technical issues facing professionals in the HVAC&R marketplace, the CEC seeks ideas for tracks for the Dallas and annual and winter conferences beyond as well as topics for specialty conferences from TC members.

Please submit your suggestions to ASHRAE Staff member Tony Giometti ([Giometti@ashrae.org](mailto:Giometti@ashrae.org))

- TC4.4 needs to review ASHRAE wiki and determine if those definitions are consistent with our use inside Handbooks chapters under our control.

## 4. Research Subcommittee

Research Subcommittee chair: Sam Glass, presented by Anton TenWolde

### Future Research

#### 1561-TRP, “Procedures to Adjust Observed Climatic Data for Regional or Mesoscale Climatic Variations”

- Responsible Committee: TC 4.2 (Climatic Information)
- Original RTAR title/author: Characterization of Climate Conditions in Near Ocean Environments/Larry Elkin
- Committee decided that TC 4.2 should take the lead
- WS written by Steve Cornick, TC 4.4’s liaison with 4.2
- TC 4.4 voted to cosponsor WS at 2011 annual conference
- During their fall 2011 meeting, RAC voted to accept this WS for bid
- Went out for bid Spring 2012; Proposal Evaluation Subcommittee made a recommendation to TC 4.2 to accept the bidder and ASHRAE approved it in San Antonio
- Contractor: Novus Environmental, Inc.; Duration: 24 months; Cost to ASHRAE: \$142,000
- Künzel volunteered to represent TC 4.4 on the Project Monitoring Subcommittee
  - *1/28/2013 meeting: Kunzel was not apprised of PMS meeting but will participate in next one (April 15). Steve Cornick reported that project is on track.*



### **RTAR 1670: Research to Determine Energy and Moisture Impacts of Attic Ventilation**

- Author: Dave Roodvoets
- Posted on Google site 2012-1-20
- Committee voted in Chicago to submit RTAR to RAC pending comments from research liaison; submitted to MORTS 2012-2-15
- Returned by RAC with comments
- Task group formed to develop work statement in the meantime; group includes David Roodvoets, Andre Desjarlais, Holly Bailey, Bill Rose, Anton TenWolde, Achilles Karagiozis, Sam Glass
- Changed direction of the RTAR to a parametric modeling study; updated 2012-6-19
- TC 1.12 asked to co-sponsor; did not vote but general sense was not to support it in its current form
- Long discussion in San Antonio; no decision on which direction to go
- Additional volunteers for task group: Stan Gatland and Wahid Maref
- Task group conference call 2012-12-14 (Sam Glass, Dave Roodvoets, Bill Rose, Stan Gatland, Andre Desjarlais)
- Discussion of major issues to address in current RTAR: criteria for evaluating moisture performance and selection of boundary conditions
- Summary of tasks to pursue:
  - Write RTAR to focus on measuring ceiling-to-attic leakage areas and attic-to-outside leakage areas in a sample of houses using zonal pressure methods described by Bill Rose
  - Compile existing literature on attic performance and add to Handbook of Applications chapter
  - Get funding for someone to run a parametric study using Ken Wilkes' model (ASTM C1340, Standard Practice for Estimation of Heat Gain or Loss Through Ceilings Under Attics Containing Radiant Barriers by Use of a Computer Program) to answer energy questions regarding insulation and radiant barriers. Eventually add guidance to handbook.
  - Decide what we consider reasonable criteria for acceptable moisture performance in vented attics
- *1/28/2013 meeting: Had long discussion without resolution. Subcommittee will continue the discussion. Jan Kosny indicated TC 4.7 is interested in this project.*

### **RTAR (TC 4.2): A Global Database of Moisture Design Reference Years for Hygrothermal Analysis and Design of Buildings: 1325-RP Update**

- Author: Steve Cornick; TC 4.2 taking the lead, looking for TC 4.4 to co-sponsor
- Posted on Google site; updated 2011-12-9, 2012-5-1, 2013-1-18

- TC 4.4 voted to co-sponsor in San Antonio; further changes made in response to TC 4.2 comments
- Latest revision (v5) has increased scope to reflect the fact that the contractor will have to produce time-series data, especially solar data. A deliverable has been added - namely a database of time-series data with all the TMY3 parameters. The budget has been increased accordingly.
- Looking for vote to cosponsor in Dallas
- Andre Desjarlais volunteered to represent TC 4.4 when it comes time for PES/PMS

- **Motion 2**

Anton TenWolde moved that TC 4.4 co-sponsor the RTAR, A Global Database of Moisture Design Reference Years for Hygrothermal Analysis and Design			<b>SECOND:</b> Paul Shipp
<b>FOR:</b> 11	<b>AGAINST:</b> 0	<b>ABSTAIN:</b> 0	<b>Notes:</b> Chair not voting

- **DISCUSSION:** None
- **MOTION CARRIES**

**RTAR: Updating the Thermal and Moisture *and Air* Transport Property Values for Common Building and Insulating Materials**

- Authors: Steve Cornick and Alex McGowan
- TC recommended previously to combine two previous RTARs: “Updating Thermal Property Values in the Handbook of Fundamentals” (McGowan) and “A Thermal and Moisture Transport Property Database for Common Building and Insulating Materials: Update of RP 1018” (Cornick)
- Posted on Google site; updated 2012-1-9, 2012-6-24, 2013-1-18
- Latest revision (v3) focuses on determining the materials properties of new materials rather than updating the properties of materials already in the HOF
- Hugo suggested that we change the title of the RTAR to include air leakage. There was a discussion on how we select the materials to test. Possibly work with contractors. Andre suggested these details would be better put into the work statement rather than the RTAR.
- *1/28/2013 meeting: Title was changed to “Updating the Thermal and Moisture **and Air** Transport Property Values for Common Building and Insulating Materials”. TC voted unanimously to approve the RTAR.*

- **Motion 3**

Anton TenWolde moved to approve the RTAR “Updating the <i>Thermal and Moisture and Air Transport Property Values for Common Building and Insulating Materials</i> ”			<b>SECOND:</b> Paul Shipp
<b>FOR:</b> 11	<b>AGAINST:</b> 0	<b>ABSTAIN:</b> 0	<b>Notes:</b> Chair not voting

- **DISCUSSION:** None
- **MOTION CARRIES**

**RTAR: Hygrothermal Properties of Aged Construction Materials**

- Author: Steve Cornick
- Posted on Google site; updated 2012-1-9, 2013-1-18
- Latest revision (v5) reduces the scope of the RTAR considerably. The project now consists of 1) identifying materials in the HOF that are susceptible to aging; 2) pulling data and/or models from the literature and republishing in the handbook; and 3) producing a road map for future work. The budget has been reduced accordingly.
- *1/28/2013 meeting: More work is needed. TC needs to review and comment. Andre Desjarlais offered assistance.*

**New RTAR: Development of a method to determine the moisture transport of a roof shingle system under real conditions**

- Author: Manfred Kehrer
- Posted on Google site 2013-1-19
- *1/28/2013 meeting: RTAR was distributed to TC. Comments were requested.*

**RTARs Awaiting Further Revision**

**RTAR (TC 1.8): Testing the Water Vapor Transfer of Materials and Systems Used in Chilled Water Mechanical Insulation Systems**

- Author: Gordon Hart; TC 1.8 taking the lead, looking for TC 4.4 to co-sponsor
- Posted on Google site 2011-6-13
- *1/28/2013 meeting: RTAR has been rewritten by TC 1.8. Needs distributing to TC 4.4 members.*

### **RTAR: Evaluating the Accuracy of Whole Building Energy Simulations by Comparison with Field Measurement Data**

- Author: Sean O'Brien
- Working with TC 4.7 and others to further define the scope of this project

### **RTAR: Investigation of the Long-Term Performance of Sheathing Membranes due to the Effects of Surfactants, Chemicals, and Aging**

- Author: Garth Hall
- Draft has been circulated; received comments from liaison
- Co-sponsored by TC 1.12
- RTAR needs to be revised to include more information on existing methodologies and other references
- Will be revised by Garth Hall and Theresa Weston
- *1/28/2013 meeting: This RTAR was tabled indefinitely.*

## **High Priority RTAR Ideas from Brainstorm**

- Measurement of high temperature / high humidity material properties - Glass (I vow to write this one before Denver)
- Building foundations: heat & moisture transfer - Karagiozis / Rose
- Interactions between the envelope and HVAC systems with improved air barrier effectiveness - O'Brien
- Effect of airflow on moisture/thermal behavior of frame walls – Dalglish
- Determine thresholds for the risk of moisture damage/mold growth of various cellulose based sheathings - How much wetting and drying is acceptable - TenWolde/Glass/**Lew Harriman**
- Impact of air tightness of 2 wall systems of a function of 5 pathways in all IECC zones - Dalglish / Karagiozis
- Improving thermal and moisture performance of existing residential above grade walls - Christian / Bianchi
- Energy performance of unvented and cathedralized attics - Gatland

## **5. Handbook Subcommittee**

Acting Handbook Subcommittee Chair: Peter Adams

The committee was visited by George Sestak: HB liaison

## Chapters 24-27

Chapters are being revised and are almost done.

Values at the current versions of the tables will be revised. Sam pointed out the error.

Questions from ASHRAE were submitted. The principal revisers took care of the questions.

## Changes to Table 1 – Chapter 26

Mike Moore submitted proposal to change Table 1. Committee requested asked for more information in San Antonio which Mike provided. We discussed the additional information at the Subcommittee meeting on Sunday.

- Mike said that insulated vinyl siding is different and manufacturers are developing a higher R-value product and would like to validate the material by including in the HOF.
- Peter offered to discuss the product so it would be considered to be included in the CD version of the HOF.
- Alex and Garth pointed out that the data that is on the table now for vinyl siding with insulation is higher than the data provided by Mike.
- Wadgy asked about the fact that siding is vented. Mike said that the ASTM standard does take into account wind.
- Bill Rose pointed out that there is a cavity. Mike said that there is no counting of the benefit of the air space. Bill stated that designers (users) will need guidance on how to treat the R-value.
- Mike also pointed out that insulated vinyl siding is different from what it is on the table.
- Holly asked to include Mike in the discussions of the Handbook Subcommittee. The TC requested that Mike provide additional information at a presentation to be given in Denver.
- Charles Cottrell asked if the product is installed as regular vinyl siding. Mike answered that it is.
- Peter discussed that Chapter 26 does have air space data. Peter asked for information and papers to be submitted on that before Denver.

## HOA - Chapter 44

- Peter will solicit input on Applications Chapter 44 in the next two months.

## General

- Peter introduced the new Handbook Subcommittee Chair as Paul Shipp who will take over as chair. Principal revisers for the various chapters are as follows;
  - HOF - Chapter 25 – Marcus Bianchi
  - HOF – Chapter 26 – Alex McGowan
  - HOF- Chapter 27 – Bill Rose
  - HOA – Chapter 44 – Peter Adams

## 6. Program Subcommittee

Program Subcommittee Chair: Sean O'Brien (provided by Garth).

TC 4.4 has the following program items in the current (Dallas) program:

- **Moisture Control in Commissioning of New and Existing Buildings**

Sunday 11am-12:30pm; Seminar 11, Co-sponsor w/ TC 7.9

- **What Mechanical Engineers Need to Know about Envelopes for High Performance Buildings**

Sunday 1:30-3pm; Seminar 18

### 2013 Summer Conference – Denver CO – June 22 thru 26

- Seminar and Forum proposals due: February 11
- Acceptance notices sent for seminar/forum/conf papers: March 25
- Upload presentations beginning: May 6
- Presentations due: June 3

### Conference tracks for Denver:

Track 1 Research Summit

Track 2 Integrated Project Delivery (mini-conference)

Track 3 Building Energy Modeling vs. Measurement & Verification

Track 4 Mile-High Efficiency & Equipment

Track 5 Renewable & Alternative Energy Sources

Track 6 HVAC&R Systems & Equipment

Track 7 HVAC&R Fundamentals & Applications

### 2014 Winter Conference – New York City – Jan 18 thru 22

Conference site: <http://www.ashrae.org/newyork>

- Conference Paper Abstracts, due March 15, 2013. Upon acceptance, papers will be due July 2, 2013. These "final" papers undergo a single-blind review, are submitted as a PDF, and have an eight single-spaced page maximum length.

- Full Technical Papers, due April 19, 2013. Papers submitted for review must be both technically accurate and clearly written. These papers undergo a rigorous double-blind review and can be a maximum of 30 double-spaced pages.

#### Conference tracks for NYC:

Track 1 HVAC&R Systems and Equipment

Track 2 HVAC&R Fundamentals and Applications

Track 3 Environmental Health through Indoor Environmental Quality

Track 4 Building Information Systems: Integrating Technology for Control, Management, Optimization and Efficiency

Track 5 International Design

Track 6 Building Performance and Commissioning for Operation and Management

Track 7 Hydronic System Design for Efficiency and Large Buildings

Track 8 Tall Buildings: Performance Meets Policy

- There was discussion that the tall buildings track has potential for TC 4.4 programs, since it focuses on building performance, internal pressures, air leakage, etc.; all things we cover in our Committee.

Possibly schedule a brainstorming session for research and programs for Denver meeting.

- Ideas for presentations on Tall Buildings?
- Roofing failures under extreme weather?
- Double skin facades – Hugo suggested a topic of practical experienced in buildings where PCMs have been used, historical masonry buildings and insulation, degrading of insulation materials.

## **7. Standards Subcommittee**

Standards Subcommittee Chair: Theresa Weston (presented by Garth Hall)

### 1. Proposed Existing Buildings Retrofit Guide:

- At the San Antonio meeting (June, 2013), TC 4.4 voted to pursue the development of a new Guideline on Retrofitting Building Envelopes with historical buildings included within its scope. Following this vote, Peter Adams posted a draft proposal on the google groups site for comment and had further discussion at the sub-committee meeting. TPS will be further revised with a goal to vote on the proposal at the Denver meeting. Additionally, TC1.12 will be asked for their support and input.

2. Tech Council proposed Guide on Historic Buildings: -- **GPC34 (Bill Rose)**
  - Tech council has initiated a Guide on Historic Buildings (GPC34). Bill Rose will be the liaison between TC4.4 and GPC34.
  
3. Update on current Standards:
  - SSPC 90.1: Under continuous improvement.
  
  - SSPC 90.2: The SSPC received recommendations from Tech Council concerning goals for the standard which are being used to guide the new draft of the standard. Focus in the last 6 months has been on cost effectiveness evaluation criteria.
  
  - SSPC 160: Under continuous improvement with a focus on implementation. July 1, 2013 Stan Gatland will be new chair.

## 8. Old Business

Nothing to report.

## 9. New Business

- TC4.5 Fenestration was discussing moving their main committee meeting to 1:00pm -3:00pm, and thought TC4.4 maybe could move to 3:00-5:00. It was discussed that this will encroach upon TC 1.8. Current time for TC 4.4 meetings makes sense for many – suggest they change their time.
- Reminded people that much of the committee business is discussed during sub-committee meetings on Sunday – people are encouraged to attend.
- Hugo suggested that we need to generate a course for what HVAC engineers need to know about building envelopes. Speak to Sean, head up a committee to develop training course. ASHRAE would have resources to commit to that effort. Helpers – Hugo, Holly, Peter, Raoul, Alex, Sean. Next meeting to sit together for course development. Make on-paper suggestions prior to Denver so that there are ideas to discuss.
- Steve to check to see and make sure that people have to be on list. Process is to post documents to Google site, and then a message to Group letting people know there is something to review.



## Motion 4

Steve Cornick voted to adjourn meeting.			<b>SECOND:</b> Achilles
<b>FOR:</b> 9	<b>AGAINST:</b> 0	<b>ABSTAIN:</b> 0	<b>Note:</b> Chair not voting

- **DISCUSSION:** None  
**MOTION CARRIES** –Meeting Adjourned at 3:31

Peter J Adams - Secretary, TC 4.4