

**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 24, 2013
Denver, Colorado**

These draft minutes were approved at the New York City Winter meeting 2014

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 24, 2013. Meeting convened at 2:18 pm.

Location: Silver Room, Sheraton Denver Downtown, Denver, Colorado

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

Monday, June 24, 2013 - Denver

Building Materials and Building Envelope Performance

1. Introduction and Attendance

The Secretary, Peter Adams, called the meeting to order on behalf of the Chair, Garth Hall at 2:18 pm with 34 members and guests present. A quorum was present.

Voting Members and Officers Present:

| <u>Name</u> | <u>Affiliation</u> | <u>Role</u> | <u>Notes</u> |
|---------------------|----------------------------------|-----------------------------|--------------|
| Peter Adams | Morrison Hershfield Ltd. | Secretary/Handbook (acting) | |
| Paul Shipp | USG Corporation | | |
| Holly Bailey | Bailey Engineering Corporation | | |
| Steve Cornick | NRC/IRC | Website | |
| Hartwig Kunzel | Fraunhofer Institut Bauphysik | | Non-quorum |
| Anton TenWolde | | | |
| Achilles Karagiozis | Owens-Corning | | |
| Fiona Aldous | Wiss, Janney, Elstner Associates | | |
| Stan Gatland | CertainTeed Corporation | | |
| Diana Fisler | Johns Manville | | |
| Sam Glass | USDA Forest Products Lab | Research | Non-voting |

Number of voting members present: 10 (1 non-quorum)

Voting Members and Officers Absent

| <u>Name</u> | <u>Affiliation</u> | <u>Role</u> | <u>Notes</u> |
|----------------|--------------------------------|---------------------|----------------------|
| Garth Hall | Raths, Raths & Johnson, Inc. | Chair | |
| Marcus Bianchi | Owens Corning | Vice-Chair | Non-voting, by phone |
| Hugo Hens | K.U. Leuven | | Non-quorum |
| Alex McGowan | Levelton Consultants Ltd. | | |
| Theresa Weston | DuPont | Standards | |
| Larry Elkin | Applied Building Sciences | ALI/Honors & Awards | |
| Sean O'Brien | Simpson Gumpertz & Heger, Inc. | Program | |

Corresponding Members Present

| <u>Name</u> | <u>Affiliation</u> |
|-------------------|---|
| Charles Cottrell | NAIMA |
| Paul Berry | Dow Corning |
| Raoul A Webb | ENVIRON International Corporation |
| Andre Desjarlais | ORNL |
| Fitsum Tariku | BCIT |
| David Roodvoets | DLR Consultants |
| Pat Noonan | Knauf Insulation |
| Mikael Salonvaara | Owens Corning |
| Rick Peters | TBS Engineering |
| Ken Collier | Pittsburgh Corning Corp |
| Joe Deringer | Inst. for Sustainable Perf. of Bldgs (SuPerB) |

Visitors Present

| <u>Name</u> | <u>Affiliation</u> |
|-------------------|-----------------------------|
| Charlie Petty | Lamtec Corp. |
| Norman Nelson | CH2MHill |
| Mike Moore | Newport Ventures Inc. |
| Manfred Kehrler | ORNL |
| Paulo Tabares | NREL |
| Anthony Fontanini | Iowa State U, Franhofer CSE |
| Roderick Jackson | ORNL |
| David Catrill | CXGBS |
| Ali Fallahi | Fraunhofer CSE |
| Bert Phillips | UNIES Ltd. |
| Donald Snell | Liberty Building Forensics |
| Sam Zelinka | USDA FPL |
| Dave Johnston | Vinyl Siding Institute |

2. Visit from Professional Development Committee

Kelley Cramm of ASHRAE's Professional Development Committee (PDC) visited the meeting and discussed the proposal by Building Enclosure Commissioning Cooperative for an ASHRAE Building Envelope Design short course. This was problematic because of the different terms from the normal ASHRAE short course. PDC wants to know if the TC will consider supporting the course and whether they will supply reviews if so the course will happen –don't need an answer now.

Kelly would provide information on the course and info will be submitted to the TC for review/comment. The PDC outlined the following concerns 1) need course material in multi-units, 2) technical support needed to develop content, 3) a non-profit course would be a problem.

Documentation will be forwarded for review by TC, with a report back to organizers by August 30.

3. Approval of Previous Minutes

The draft minutes from the January 28, 2013 meeting in Dallas had been posted on the Google site and ASHRAE site for review.

Steve Cornick moved to accept minutes as posted on Google Site, subject to editorial changes. Paul Shipp Second.

VOTE: For 9, Against 0, Abstain 0, Chair not voting

Discussion: Hartwig requested the minutes to be changed to reflect that he was no longer the principal reviser for Chapter 25, and that Marcus would take over Jul 1, 2013.

MOTION CARRIES

4. Report From the Chair

Peter Adams made general announcements on behalf of Chair, Garth Hall:

- Voting members for this meeting are:
 - Garth Hall, Chair
 - Sean O'Brien, Program Subcommittee Chair
 - Peter Adams, Secretary/Acting Handbook
 - Therese Stovall
 - Hugo Hens (non-quorum)
 - Hartwig Kunzel (non-quorum)
 - Hollace Bailey
 - Steve Cornick, Webmaster
 - Diana Fidler
 - Stan Gaitland
 - Fiona Aldous
 - Achilles Karigiozis
 - Alex McGowan
 - Paul Shipp
 - Anton TenWolde
- After this meeting the following roll off:
 - Garth Hall
 - Sean O'Brien
 - Hugo Hens
 - Hartwig Kunzel
 - Anton TenWolde
 - Achilles Karigiozis
- The following will be added July 1st:
 - Andreas Holm (non-quorum)
 - Marcus Bianchi
 - Sam Glass
 - Charles Cottrell
 - Laverne Dagleish
- New Executive Committee starting July 1, 2013
 - Marcus Bianchi, Chair

- Peter Adams, Vice Chair
 - Steve Cornick, Secretary
 - Paul Shipp, Handbook Chair
- Check to make sure your personal information is correct
 - www.ashrae.org <Update your bio>
 - Employment Discipline added to ASHRAE BIO Online Input Form. TAC would like ALL TC members to self declare their employment discipline prior to the start of the new Society year on July 1, 2013
 - TC Chair Breakfast Summary
 - TC's still not getting program elements in that are totally on topic for meetings, although it seems that things are improving. All TC's have had sessions within the last 4 years – better than 2 years ago.
 - There are new Special Sessions that are modeled after some of the European conferences where there is a coffee mixer afterwards to encourage mingling.
 - Free WiFi access for this meeting – conference area ASH13 for password and login
 - New ASHRAE Award Summary Sheet for use by TC members. TAC has developed a new summary sheet of ASHRAE awards that TC members are likely to be eligible for in order to make it easier for deserving members to be recognized.
 - New TAC Presentation template for TC members to use with local Chapter. The new presentation template that 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 is now available. The template is posted on the Technical Committee page of the ASHRAE website for download <http://www.ashrae.org/standards-research--technology/technical-committees>
 - PJA agreed to review the Template and see how it can be customized for TC4.4
 - Reminder, process is to post documents to Google site, and then a message to Group letting people know there is something to review. Let Steve or executive know if you are having problems.
 - Upcoming Program Dates
 - New York Meeting – January 18-22, 2014
 - **New York Seminar and Forum Session Proposals are due August 12, 2013**
 - **All presentation files (PPT) due online – January 3, 2013**
 - Seattle Meeting - June 28-July 2, 2014
 - 2013
 - **☑ Conference Paper Abstracts due September 23, 2013**
 - **☑ Technical Papers Due for Review – September 23, 2013**
 - 2014
 - **☑ Final Conference Papers Submitted for Review – January 9, 2014**
 - **☑ Seattle Seminar and Forum Session Proposals are due February 13, 2014**

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

- There was a request from the CEC liaison; A Conference paper to be presented in NYC needs reviewers from TC 4.4 (deemed cognizant committee); Topic - Feasibility of VIPs for high rise

construction; Steve, Paul, Paulo Tarares (?) from NREL volunteered provided Steve has no conflict of interest.

5. Research Subcommittee

Update was presented by Chair, Sam Glass

There is a new RTAR form - brevity and clarity stressed; word limits and radio buttons; for RAC generate more projects, 5 RTARs reviewed and 2 work stations; 14 TRPs released for bid; no shortage of funding.

There are changes to the research MOP - members can look them up regarding Work Statement form and what to put in them once the TC gets a WS ready to go up to RAC.

1. MK's RTAR; discussed in Dallas ; since revised; research recommends a vote, applicability needs to be addressed.

Sam Glass moves that TC accept MK's RTAR (Development of a method to determine the moisture transport of a roof shingle system under real conditions) submit as is applicability to ASHRAE's Strategic plan.

VOTE: For 9, Against 0, Abstain 0, Chair not voting

MOTION CARRIES

2. 1561-RP "**Procedures to Adjust Observed Climatic Data for Regional or Mesoscale Climatic Variations**" on track. Better co-ordination was requested by the TC
3. 1670-RTAR Roof attics – discussed at RSC meeting – Andre and Dave are going to generate a new pressure drop RTAR under a new RTAR number incorporating RAC comments on this version of the RTAR. Dave and Mika will coordinate to re-generate the original RTAR with the previous RAC comments under the old RTAR number (1670).

Action Item: Dave will post revised 1670-RTAR on Google site or similar for comment; TC comments by July15; TC letter ballot until 14 Aug, to RAC Aug 15.

4. 1696-RTAR revised WS available on Google site. Discussion. Proposal that WS be revised to do fewer different materials and more manufacturers within one material type to give upper and lower limits. Straw poll of committee accepts proposal.

Action Item: Revision to WS posted to Google site (or similar); comments by July 15; TC letter ballot by Aug 14; to RAC by Aug 15. SMC & AGM agreed to do this

5. 1700-RTAR comments to SMC by July 15

TC 4.2 taking lead; Work Statement draft is ready; need to include RAC comments. Hartwig and Omar to be on PMS.

Action Item: Revision to WS posted to Google site (or similar); comments by July 15; TC letter ballot by Aug 14; to RAC by Aug 15.

6. Handbook Subcommittee

Acting Handbook Subcommittee Chair: Peter Adams

Chapters 24-27

- Chapters have been submitted and bound into 2013 version of HOF.
- Much thanks to Chapter 25 – Harwig Kunzel, Chapter 26 – Alex McGowan and Chapter 27 – Bill Rose for their dedication, and to the committee for all the feedback and assistance in getting those chapters done.
- Some tables were not updated correctly but will be added to the electronic versions.

Proposed Changes to Table 1 – Chapter 26

- Proposed Changes to Table 1 in Chapter 26
 - Mike Moore 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.
 - Mike provided additional information to the Committee in Dallas and has agreed to
 - Highlights from Dallas Meeting
 - 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.
 - 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.
 - Mike Moore and Dave Johnston are consultants for Vinyl Siding Institute
 - Sample of siding system was passed around for review. Presentation (posted on Google) was given.
 - Stan commented that using window test ASTM 1363 was a conservative approach.
 - There was a discussion about using air flow across the wall.
 - Anton commented wind does not blow perpendicular to the wall very often and there would still be some air behind the siding. Lot of variables and more dependent on the insulation present in the siding.
 - It was commented that NAHB research study shows drying potential comparable – it is slightly better than regular vinyl siding.

Action Item: TC will review proposal, posted by PJA, by the end of August on including Vinyl insulation for a possible letter ballot.

HOA - Chapter 44

- HOA Ch. 44; schedule July 2014 submission, galley proofs by mid-March 2015. Chair encourages new members to contribute to this chapter; proposed teleconference/presence meeting in May; new draft but will be forthcoming and compared copy submitted to TC for review by the end of Aug 2013.
- **Action Item: new draft will be forthcoming for TC review by August 2013**

General

- There was some discussion regarding updated or replaced Table 3, Ch. 26. Members are encouraged to review the material on the Google site. There is a possibility of a presentation in NYC.
- **Action Item: Steve will draft proposal for updating or replaced Table 3 Ch 26 by the end of Aug and post the proposal.**

7. Program Subcommittee

Program Subcommittee Chair: Sean O'Brien -Peter presented on behalf of Sean

CEC has not set the tracks for Chicago 2015; Section 4 can have its own track for Chicago regarding Load Calculations and Energy Requirements

TC 4.04 is cosponsoring Special Session 8, 8-9am on Sunday: Workshop – Tools and Techniques for Avoiding Construction Moisture Problems (Sam Glass). Session was well attended and received.

Next conference is in NY, Jan 18-22.

- New York Meeting – January 18-22, 2014
 - 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/> Do we have any Conference papers in the works for NYC?

Conference tracks are:

Track 1 Systems and Equipment

Track 2 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

- One of the tracks in NYC is "Fundamentals". If the TC wants to do a seminar on what has changed in our chapters, I would be happy to put together a presentation on Chapter 26.
 - **ACTION: TC 4.4 submit for program a seminar discussing the changes that have been made to Chapter 26. (Alex McGowan)**
- Previous meeting we discussed the possibility of also something related to tall buildings. It focuses in building performance, internal pressure, air leakage, etc.
 - **ACTION: TC 4.4 submits for program the following (Stan Gatland submitted)**
 - ASHRAE Seminar Proposal - New York City 2014 (Gatland Draft – June 2013)
 - Complexities of Integrating Energy Efficient Building Envelope Technologies into Mid and High Rise Commercial Buildings
 - North American construction codes continue to evolve to improve the energy efficiency and durability of commercial buildings. Materials and systems to increase the thermal performance, water resistance and air tightness of the building envelope sometimes require additional criteria unforeseen by the design community. The seminar will highlight some of the current issues related to integrating continuous insulation, water resistive barriers, air barrier systems and solar reflective membranes into building envelope assemblies.
- Will be a Program Brain Storming session in NYC (invite 1.12). If you want to help, let us know
- Whole building air leakage testing 4.3 – joint presenting, co-sponsor?
-
- 1561 PMS to Seattle –presentation.
 - **ACTION: TC to submit past program item**
 - Measured Indoor Humidity Conditions in Residential Buildings: A Global Research Perspective, as previously submitted by TC1.12
- Seattle Meeting - June 28-July 2, 2014
 - 2013
 - ☐ Conference Paper Abstracts due September 23, 2013
 - ☐ Technical Papers Due for Review – September 23, 2013
 - ☐ Acceptance/Reject Notifications issued for Conf. paper abstracts – Oct. 7, 2013
 - 2014
 - ☐ Conference Site Live: January 6, 2014
 - ☐ Web Site Opens for Seminar and Forum proposals – January 6, 2014
 - ☐ Final Conference Papers Submitted for Review – January 9, 2014
 - ☐ Seattle Seminar and Forum Session Proposals are due February 13, 2014
 - ☐ Technical Papers final review due February 25, 2014
 - ☐ All presentation files (PPT) due online – June 2, 2014
 - ☐ Conference Website: <http://www.ashrae.org/seattle/>

Steve moved to accept the program plan for NYC as outlined by the three Action items above. Paul seconded.

VOTE: For 9, Against 0, Abstain 0, Chair not voting

MOTION CARRIES

- Seattle Tracks:
 - Research Summit – emphasis on high performance buildings
 - Indoor Environment – Health Comfort Productivity
 - Ground Source Heat Pumps: State of the Art Design, Performance and Research
 - HVAC&R Systems and Equipment
 - HVAC&R Fundamentals and Applications
 - Standards Guidelines and Codes
 - Refrigeration

8. Standards Subcommittee

Standards Subcommittee Chair: Theresa Weston (presented by Peter Adams)

1. Proposed Existing Buildings Retrofit Guide:
 - Peter Adams had posted a draft proposal on the Google groups site for comment and had further discussion at the sub-committee meeting. It was agreed that TPS will be further revised to tighten the scope with a goal to vote on the proposal at this meeting.
 - Peter did not move this forward this past term and requested that someone help champion the process. Paul Shipp agreed to provide input and Holly agreed to be point person.
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.
 - Bill tried to link to the GPC but was “told to go away”. Bill to tentatively track progress.
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: full meeting on Tuesday. Anoton’s last meeting as Chair, Stan Gatland to move into Chair position after July 1, 2013.

9. Old Business

Nothing to report.

10. New Business

Nothing to report.

Paul Shipp moved to adjourn the meeting at 16:00

Peter J Adams - Secretary, TC 4.4