

**2014 ASHRAE SUMMER MEETING
Seattle, WA**

TC8.11 Unitary and Room Air Conditioners and Heat Pumps

Monday, June 30, 2014: 4:15 – 6:30 PM

Location: Willow B, Sheraton 2nd Floor

Sponsored Programs

Technical Paper Session 2 – Analysis and Modeling of Unitary and Room Air Conditioners and Heat Pumps (Sunday, 13:30 – 15:00, Room 609)

Conference Paper Session 5 – Evaluation and Optimization of Variable Refrigerant Flow Systems, Fan Coil Units, Packaged Terminal Air Conditioning Unit Fan Blowers, Variable Speed Compressor Heat Pumps and Chiller Plant Components (Sunday, 13:30 – 15:00, Room 607)

Seminar 37 – Measuring Commercial HVAC Performance Through Load-Based Testing (Tuesday, 11:00 – 12:30, Room 609)

Full Committee Agenda

1. Call to order Berg
 - a. Meeting was called to order at 4:17 pm.
2. Introductions All
 - a. Introductions were made.
3. Determination of a quorum Berg
 - a. Out of 12 voting members 3 were not present.
 - i. Vance Payne – Absent
 - ii. Yunho Hwang – Absent
 - iii. Robert Brown - Absent
 - b. 6 members are needed for quorum, 8 were present so quorum was met.
4. Announcements and Highlights Berg

From TC Chairs Breakfast Meeting

 - a. The chair reviewed items from the TC chairs breakfast. There were no questions.
 - b. The handout from the TC chairs breakfast is attached.
5. Agenda additions All
 - a. There were no agenda additions
6. Liaison reports (as they arrive) Liaisons
 - a. TAC Section 8 - Steve Duda
 - i. Mr. Duda discussed the outstanding TC award. Points are awarded for getting minutes out on time, send the agenda out on time, etc. The award will be given at the next meeting.
 - ii. Updated rosters have been sent out. Corrections can still be made.
 - iii. Mr. Duda thanked the outgoing chair Vance Payne who was absent. His certificate will be mailed to him.
7. Approval of minutes from New York Messmer
 - a. The chair made corrections suggested by Ray Rite, Chris Stone and Reid Hart.
 - b. No additional changes were suggested.
 - c. Darrin Nutter made a motion to approve the minutes as presented
 - d. Chris Stone seconded
 - e. Passed 8-0-0-3-cnv
8. Membership/Roster Berg

- a. The chair reviewed the roster for the next term.
- b. Vance Payne will roll off as chair. Eric Berg will move from vice chair to chair. Craig Messmer will move from secretary to vice chair. Dane Christensen will start as secretary.
- c. Don Schuster will roll off as a voting member. Ray Rite will roll on as a voting member.
- d. Byron Horak was added as a voting member
- e. Kevin Mercer was added as a voting member
- f. The chair reminded anyone who is a provisional corresponding member to contact him if they want to become a full corresponding member, otherwise they will roll off after a specified period of time.

9. Subcommittee reports

a. Programs

Kevin Mercer

- i. Kevin reviewed the programs that were approved for the Seattle meeting
 - 1. Technical Paper Session 2 – Analysis and Modeling of Unitary and Room Air Conditioners and Heat Pumps (Sunday, 13:30 – 15:00, Room 609)
 - 2. Conference Paper Session 5 – Evaluation and Optimization of Variable Refrigerant Flow Systems, Fan Coil Units, Packaged Terminal Air Conditioning Unit Fan Blowers, Variable Speed Compressor Heat Pumps and Chiller Plant Components (Sunday, 13:30 – 15:00, Room 607)
 - 3. Seminar 37 – Measuring Commercial HVAC Performance Through Load-Based Testing (Tuesday, 11:00 – 12:30, Room 609)
- ii. Two programs were rejected for Seattle
 - 1. **Title:** International Codes and Standards Issues Impacting use of A2L Refrigerants in Unitary Heat Pump and Air-Conditioning Equipment
 - Chicago Seminar submission status as of 19-Jun-2014 – Session ID 14926 Van Baxter has resubmitted for the Chicago meeting.
 - 2. Variable System Field Results and Why Load Based Testing is Needed for Residential Equipment Applications
 - Will resubmit for Chicago
- iii. Working on putting together a program on Regional standards for Chicago. Could be a seminar or workshop. Target Energy Efficiency track.
- iv. Asked for new ideas for programs
- v. Rakesh Goel suggested a program on how to reduce discharge gas temperature when using A2L refrigerants. Perhaps a cosponsor with compressor section.
- vi. Additional program ideas can be found in the program subcommittee minutes.



TC8 11 Program Subcommittee Minute

b. Research

Don Schuster

- i. Don reviewed highlights from the research chair breakfast. Details are in the research subcommittee minutes which are attached.
- ii. Active Research
 - 1. *Complete*
 - **None**
 - 2. *In-Progress*
 - **1608-TRP - Development of a Load-Based Method of Test for Light Commercial Unitary HVAC**
 - PMS: Reid Hart (chair), Jay Baggett, Michael Deru, Chris Stone, Semant Jain
 - **Meetings**
 - i. Kick-off PMS held on 1/19/14

- ii. April 10, 2014.
 - 1. Review draft test plan and testing
 - iii. April 29, 2014
 - 1. Review revised test plan and testing
 - iv. June 29, 2014
 - 1. Progress Report
 - iii. Work Statements
 - 1. *Accepted:*
 WS-1642 “Improved Cmpr. Perf. Modeling Methodology for use in Sys. Sim. Programs” (Ray Rite)
 Status: Due to failure of 8.1 o co-sponsor, this is not being pursued
 - 1. *In-Progress: None*
 - iv. RTARs
 - 2. *Submitted*
1733 - “Develop Design Criteria for Psychrometric Air Sampler and Mixer Apparatus for Use in ASHRAE Test Standards” (Kirkwood)
Status: Submitted, unsure if RAC reviewed at their meeting. Don Schuster to follow up with David Yashar (Section 8 RAC liaison)
 - 3. *In-Progress*
 RTAR 1721 “Oil Return and Retention in Unitary Split System Gas Lines” (Rite)
Status: Approved by RAC, Work Statement in works
 - v. Co-Sponsoring
 TC 8.4 Research Chair: Chad Bowers
 (chad.bowers@creativethermalsolutions.com)
 Research SC meeting: Mon 6:30 – 9pm
 - i. TRP 1645 “A Research Study to Determine and Compare New Accelerated Corrosion Tests for Microchannel and Standard Tube & Fin Heat Exchangers” (David Ellebrock)
Status: Rusty Tharp is the TC 8.11 liaison, contract approved, PMS committee being worked out
 - ii. TRP 1705 “Investigation of Air-side Fouling on Outdoor Condensing Heat Exchangers”
Status: Approved: Expected to go out for bid this fall. Hugh Henderson PES member from 8.11
 - iv. Ideas
 - 1. Reviewed ideas from SPC37/116
 - 2. Chair informed committee that the ideas from SPC37/116 would be prioritized in their meeting on Wednesday. Complete RTAR’s would be sent to TC 8.11 for approval by letter ballot.
 - 3. No new ideas were suggested.
 - 4. Research subcommittee minutes are attached.



TC 811 Research
 Report from Seattle (

- c. Handbook
 - i. Ray Rite reviewed the status of all chapters. Chapter 1 is complete and submitted
 - ii. Van Baxter will proof the galleys, should be available in December and will be able to report in Chicago

- iii. Have reviewed chapters 49 and 50. Ray sent out revised chapters to voting members for review. Will add Byron to distribution list.
- iv. Will have to vote on changes to chapters 49 and 50 in Chicago to meet deadlines.
- v. ASHRAE will be giving statistics on revision history for the chapters which will help to determine if a chapter needs revision.
- vi. Van has a copy of the revision history sheet
- vii. Handbook subcommittee minutes are attached.



Handbook Chapter
Revision Minutes0629

- d. Standards Chris Stone
 - i. 16/58 draft will probably not be ready until after Chicago. Meeting in Seattle was cancelled
 - ii. 37/116 is meeting on Wednesday, will develop work plan, prioritize RTARs
 - iii. Dutch Uelton mentioned that standard 23 will be split into 23.1 and 23.2. 23.2 will be for compressors that operate in trans-critical region.
 - iv. Standards report is attached.



Std_Report_Jun30_2
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- e. Web site Darin Nutter
 - i. Website is up to date.

10. Old Business

RTAR 1733 Letter Ballot Approved for SPC37/116: Sample Mixer

- a. A letter ballot was sent to the voting members on 4/29/14 to approve the submittal of RTAR 1733 to RAC.
- b. The ballot passed by a vote of 10-0-2-CV

11. New Business

Non-A1 Refrigerants Potential Application Safety Standard for Residential Systems – Rusty Tharp

- a. Rusty Tharp presented an application for a new standard titled “Safety Standard for Residential Air-conditioning/Refrigeration Systems”. Rusty gave some background for the reason behind creating the new standard. UL 1995 refers to ASHRAE 15 as an application safety standard. ASHRAE 15 does not cover residential products well. Feel there is a need to have a separate safety standard for residential systems.
- b. Mark Olsen asked about how ASHRAE 15 would be affected
- c. Committee generally agreed that ASHRAE 15 would need to be revised to align with the new standard.
- d. Rakesh Goel asked how it aligned with the European standard and it would it include A1 refrigerants
- e. There was more discussion around scope of the proposed standard and how to take out residential applications from 15
- f. Darin Nutter asked if room air conditioners fit in this standard. Brian Rodgers said there is not standard for installation for room air conditioners
- g. Rusty Tharp modified the title to: Safety Standard for Unitary Air-conditioning and heat pump systems applied to residential applications

- h. Van Baxter made a motion to approve the draft TPS for this recommended standard – Van
- i. Darin Nutter seconded the motion
- j. Discussion
 - a. Darin Nutter asked for clarified title
 - b. Mark Olsen asked if list of people needed to be balanced. Van Baxter replied that it did not need to be balanced on the standards form but the SPC would need to be balanced.
- k. Passed 7-0-0-4-CNV (Man Hoe Kim left before this vote was taken. The committee still had quorum).
- l. Van Baxter made a motion to have Rusty be the chair and use the list of names Rusty had plus some more from this committee.
- m. Darin Nutter seconded the motion
- n. There was no discussion
- o. The motion passed 7-0-0-4-CNV

Advanced RTU Program

- a. Michael Deru from NREL informed the committee about a DOE program called the Advanced RTU Campaign
- b. The campaign has been running for about a year.
- c. The goal is to help building owners try to promote higher efficiency RTU's for replacement applications

12. Adjourn

- a. Chris Stone made a motion to adjourn
- b. Darin Nutter seconded the motion
- c. The meeting was adjourned at 6:05

VOTING MEMBERS (Need 6 for a Quorum)

Vance Payne (NIST)	Yunho Hwang (U. of Maryland)	Reid Hart, MNQ (PNNL)
Darin Nutter (U. of Arkansas)	Robert Brown (Water Furnace)	Don Schuster (Trane)
Van Baxter (ORNL)	Rusty Tharp (Goodman/Daikin)	Man Hoe Kim, MNQ (Kyungpook Nat'l U.)
Chris Stone (AHRI)	Eric Berg (Lennox)	Roy Newberg (Johnson Controls)