

## Minutes

### 2013 ASHRAE WINTER CONFERENCE Dallas, TX

#### TC8.11 Unitary and Room Air Conditioners and Heat Pumps Monday, January 21, 2012 4:15 – 6:30 PM Location: Sheraton Dallas Hotel, City View 8 (H4)

#### Sponsored Program

Sunday, January 27, 8:00 am – 9:30 am

#### Conference Paper Session 1: *Advances in Performance and Efficiency of Air Conditioning Systems.*

Track: HVAC&R Systems & Equipment

3 Papers

Chair: Vance Payne

Monday, January 28, 11:00 am – 12:00 pm

#### Seminar 33: *Future Directions in Sizing Residential and Small Commercial HVAC Equipment.*

Track: HVAC&R Systems & Equipment

3 presentations

Chair: Jon Douglas

#### Minutes

1. Call to order Payne
  - a. Meeting was called to order at 4:15 p.m.
2. Introductions All
  - a. Introductions were made.
3. Determination of a quorum Payne
  - a. Quorum was met. 9 voting members present., 3 absent
  - b.
4. Announcements and Highlights Payne

From TC Chairs Breakfast Meeting

  - a. **Hightower Award.** Nominations for the 2012-2013 George B. Hightower Technical Achievement Award for exceptionally active members were submitted to the Section Head September 1, 2012. The award winner will announced at the annual meeting in June.
  - b. **New Members.** New persons interested to be a corresponding member, please provide membership number and send to Vance Payne. If you don't show up for 2 years your name will be removed.
  - c. **50% draft peer review meeting.** We are invited to provide a guide for a "how to for commissioning of a project." If you have experience in commercial refrigeration, please sign up.
  - d. **Multi-Group Task Force.** There is a new multi group task force. Cold Climate design guide for ReVA and Scantech. No mention of who is on it but apparently looking for volunteers.
  - e. **Registration Fees.** Speaker registration fees are now \$95; no longer free.
  - f. **Website.** Our website has been up to date. Steve Duda, section head, complimented us
  - g. **Next Meetings.**
    - i. Jun 22-26 next meeting in Denver
    - ii. Jan 18-22 next winter for NY
  - h. **Upcoming workshops and conferences**
    - i. IIR April in Paris

- ii. Int'l duct air tightness Apr 18 19 in Washington DC
- iii. 5<sup>th</sup> Int'l ammonia conference Macedonia
- iv. Sept Germany
- v. IAQ low energy buildings Oct in Vancouver CAN

**Wiki** needs help. <http://wiki.ashrae.org/index.php/ASHRAEwiki>

The TAC morning meeting report is listed here:



SH Breakfast  
Handout W13 Final.

5. Agenda additions All
  - a. Neal Kruis brought up : SPC 205 (TC 4.7 Energy Calculations) standard to get data from manufacturers to get data into simulation studies. Unitary equipment Prof Mc??
  - b. Wayne Reedy: (SPC 206 Method of Test of Rating for multipurpose space heating). Committee unanimously voted to send it out for public review in the next few weeks. It took 18 months which was a record. 380 pages. Covers 6 different types of systems air/liquid source units, single/dual/variable speed units. Will be published on the website. Will include a CD of calculations using excel spreadsheet and will be part of the public. This is similar to 116 as best it can because it is seasonal. This will also eliminate ASHRAE 137 that deals with desuperheaters and will remove some AHRI standards and some federal waivers. Will have three metrics: space cooling, space heating, and water heating. For cooling SEERca (ca means combined appliance) same units, for heating HSPFca, for annual water heating Water heatingca.
  
6. Liaison reports (as they arrive) Liaisons
  - a. Steve Duda: TAC representative Technical activities committee oversee section 8. Asked if there are questions.
  - b. Announcements: please update your bio what your employment category is. This will allow us to have a balance of different types of members. (Academia, Government, Manufacturing, consultant, student, architect, contractor, building manager).
  - c. TAC would like a chapter presentation. The local chapter people don't always know what a TAC is responsible for. There is not a slide show to give to the local chapter that explains. Several blank slides allow you add your specific TC. Send you comments to [Sh8@ashrae.net](mailto:Sh8@ashrae.net) (section head for section 8)
  
7. Approval of Minutes from San Antonio Messmer

Minutes were unanimously approved and will be sent to all members and corresponding members via email.
  
8. Membership/Roster Payne
  - a. Ray is rolling off next meeting
  - b. Don will not be removed. He would have been the second member from Carrier but Don changed jobs so it wasn't an issue.
  - c. New voting members: Eric Newberg , Rusty Tharp, Clint Finstad
  - d. New corresponding: Chad Kirkwood, Chad Bowers, Jon Winkler, Ankit Sethi, Gustavo Pottker.
  
9. Subcommittee reports Kevin Mercer
  - a. Programs
    - i. Annual meeting in Denver, Feb 11 seminars and forums
    - ii. NY Mar 15 is deadline for paper sessions
    - iii. New ideas:
      1. Seminar: Novel testing methods

2. Papers: Game changing methods (two of those papers are being presented this conference)
  3. Seminar: Impact of regional standards on the Unitary products. Invite DOE, AHRI, Industry, ACEEE, Etc.
  4. Seminar: high ambient of unitary heat pumps.
  5. Kevin asked for more ideas.
  6. Doug Kosar (GTI) has rooftop units., has some field trials going. Condensing heating module applications, restaurant. Energy use intensity factors. Very diverse use. This would be a conference paper. Doug says he can meet the March deadline for a conference paper. (too quick to be a technical paper. This will probably be a TC 6.3 Furnace paper (not a unitary product as Jim Crawford pointed out).
  7. Seminar: control strategies. Van: heat pump fault analysis, possible a conference paper, Hugh Henderson;
  8. Seminar on R410A replacement (Yunho),
  9. RP 1581 is finishing and we could do a paper on it (Dr. Pate)
- iv. Summary recap
1. Denver: Kevin will try to assemble a seminar for R410A replacement. Ray Rite will be chair.
  2. NY: different faults, Hugh and Vance. Van Baxter volunteered to be the chair.
  3. Future: control algorithm seminar; novel test methods or lab corrections.

b. Research

Ray Rite

i. Research chair meeting summary (at 6:30am):

1. 62 active projects,
2. RAC approved 3 RTARs and work statements; very few projects in the works. Need more RTARs!!! URP (unsolicited research proposal) has a lot there are nine, six were rejected, three approved.
3. Innovative research grant: 5 proposals all were rejected (not as novel as the committee wanted). RAC wants to get more people involved.
4. In Denver there will be a forum on how to get involved and what the process is. RAC is looking for new members – send your name to Mike Vaughn [morts@ashrae.org](mailto:morts@ashrae.org) (manager of research and technology stuff).

ii. RTARs

1. Line sizing for oil management using new refrigerants. Would like a generic method that would allow future refrigerants. Would require some testing to fill in the blanks from what is available. Ray will submit this in an email ballot in the next few months.
2. Rusty and Chad K., will work on an RTAR
3. Co-sponsored RTARs:
  - TC 8.4 determine accelerated corrosion testing for microchannel heat exchangers. Jay: the RTAR has been revised and sent back.
  - TC 3.1 is asking to co-sponsor a risk assessment of A2L refrigerants during off design conditions with fouling (does lint or dust cause a flammable risk). Ray will contact Omar for more details. Rusty: “sounds good”. No other comments.

iii. Research ideas:

1. Eric: eliminate cyclic testing by estimating Cd. DOE did some testing. Eric will follow up with DOE. Probably table this for a while.

2. Vance: refrigerant charge modeling for systems with microtube or microchannel heat exchangers (how sensitive are the low volume systems). The void fraction models can be as much as 50% in error. Will leave on the list for now.
3. Vance: heating linear fit method (this will be dependent on the charge imbalance problem). Will leave on the list for now.
- iv. Van spoke about an IEA heat pump program *Improved heat pumps for cold climates*  
Van said we are looking for travel budget to send a representative to the meetings in the UK and wherever the meetings are. The Research committee recommended by a vote to recommend that we support a person from ASHRAE to attend. We need a motion to be fund a cognizant person to attend the IEA meetings. Ray made a motion that that TC 8.11 be the cognizant committee.

Vote was approved 8-0-1.

- v. New Ideas
  1. Email new ideas to Ray Rite
- vi. The subcommittee full report is enclosed here.



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- c. Handbook Berg (filling in for Uselton)
  - i. Comments to consider for the next revision. Be positive about flexible duct and state that these products should be properly installed. Improper installation can adversely affect performance. Ask the Fundamentals chapter that addresses this to consider looking at this.

- d. Standards Chris Stone  
Chris Stone provided an update on the standards relevant to TC 8.11. The following is a short list
  - i. ASHRAE 16 & 58
  - ii. ASHRAE 57 –open for attendance on Wednesday
  - iii. ASHRAE 116, 137 – no activity
  - iv. SPC 206 – detail update
  - v. SSPC 41 – is getting active and Chris will keep an eye on it.
  - vi. ISO 15042 – air source equipment , annual performance factors similar to our SEER have been finalized.
  - vii. TC 86 SC6 – ISO standard, Working group 10 is air source will be having meetings in June in Paris.

The full report is included below.



Std\_Report\_Jan28\_2  
013\_TC811.docx

- e. Web site Darin Nutter  
Darin circulated the Tech FAQ on a good system (attached). Jim Crawford recommended removing unconventional system.



TC 8.11 FAQ.pdf

10. Old Business
  - a. None

11. New Business
  - a. None

12. Adjourn  
Vote was unanimous to adjourn.

DRAFT