

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

1791 Tullie Circle, N.E./Atlanta, GA 30329
404-636-8400

TC/TG/TRG MINUTES COVER SHEET

TC/TG/TRG TITLE: TC 8.7 Variable Refrigerant Flow

DATE OF MEETING: Tuesday, June 28, 2011 3:30 PM to 6:00 PM

LOCATION: **Mont Royal** (Lower Level), Hilton Bonaventure, Montreal, Canada

| MEMBERS PRESENT | YEAR APPTD | EX-OFFICIO MEMBERS AND ADDITIONAL ATTENDANCE | EX-OFFICIO MEMBERS AND ADDITIONAL ATTENDANCE |
|------------------------|-------------------|---|---|
| Bob Jones | 2010 | Andrew Moore | Shane Angle |
| Paul Doppel | 2010 | David Markusz | |
| Brian Bogdan | 2011 | Bob Skorupsky | |
| Ron Domitrovic | 2010 | Dermott McMorrow | |
| David Heckler | 2010 | Dominic Kolandayan | |
| Paul Solberg | 2011 | John Cummings | |
| Arturo Thur de Koos | 2009 | Richard Raustad | |
| Dunstan Macauley | 2010 | John Molnar | |
| | | Kirk Stifle | |
| | | Scott Frey | |
| | | John Vucci | |
| | | Jun Furuta | |
| | | Sami Zendah | |
| MEMBERS ABSENT | YEAR APPTD | Jocelyn Leger | |
| Chris Bellshaw | 2007 | Nick Conklin | |
| Oswaldo de S. Bueno | 2009 | Chris Haws | |
| Roberto Aguilo | 2007 | Joseph Higham | |
| Malcom Persand | 2007 | Jon Lemmond | |
| | | Harris Sheiman | |
| | | Osami Kataoka | |
| | | Kamel Hoddad | |
| | | Pam Androff | |
| | | Jack M. O'Leary | |

DISTRIBUTION

| <i>All Members of TC/TG/TRG plus the following:</i> | |
|---|--|
| TAC Section Head: Steve Duda | SH8@ashrae.net |
| TAC Chair: Craig Way | TACCHAIR@ashrae.net |
| ASHRAE Manager of Technical Services: | MORTS@ashrae.net |
| All Committee Liaisons as shown on TC/TG/TRG Rosters: | Program: PL8@ashrae.net Special Publications: PUBCHAIR@ashrae.net Handbook: HBS8@ashrae.net CTTC: CTTC8@ashrae.net RAC Research: RL8@ashrae.net PDC: PDCCHAIR@ashrae.net |
| Additional Distribution | |
| ASHRAE Manager Of Standards | MOS@ashrae.net |

1. Call to Order

Paul Doppel called meeting to order, June 28, 2011, **Mont Royal** (Lower Level) conference room, Hilton Bonaventure

2. Welcome/Introductions

Roster: We are set up to have a specific # of voting members (12) 8 are present at the meeting & unlimited corresponding members.

- 8 of 12 voting members present—we have a quorum.
 - Dustan Macauley arrived late—after minutes acceptance vote.
- Present:
 - Ron Domitrovic
 - Paul Doppel
 - Dave Heckler
 - Robert Jones
 - Paul Solberg
 - Arturo Thur de Koos
 - Brian Bogdan (LG)
 - Dustan Macauley
- Absent:
 - Chris Bellshaw
 - Oswaldo de S. Bueno (International)
 - Roberto Aguilo (International)
 - Malcom Persand

Announcement made: To become a corresponding member—put your ASHRAE number on the attendance list being passed around & put CC next to your name.

3. Minutes Approval

1. Minutes from Winter 2011: copies were passed out
2. Any discussion:
 - a. Correct Paul Solberg spelling
 - b. Question as to voting status of Brian Bogdan. He's listed in the L.V. minutes, but is not on the ASHRAE roster. Paul S. & Paul D. will correct ASHRAE.
 - c. Dominic comment: suggested change to add “ supporting data” to Where we are now (top of page 4).
3. Motion to accept, and 2nd
4. Vote 6-0-0 CNV

4. Agenda Review/Updates: Any adjustment to the agenda?

1. Add Paul Solberg as membership chair—section will be added to subcommittee reports
2. Paul Solberg circulated the roster page for corrections by attendees.
3. Paul Doppel comment—any incorrect info is generally a reflection of the person's ASHRAE bio.
4. Passed 6-0-0 CNV

5. Chair's Comments (Doppel)

1. Paul attended the chair breakfast
2. Technical Council Steering Committee, task groups:
 - a. If anyone is interested
3. ASHRAE will take a firmer stance on speaker performance—they will be held to maintain a 3.5 average rating (out of 5.0). Pam (from Conference & Exposition Committee—CEC).
4. TC 8.7 has a website—we can also use a Google site.
 - a. Dunstan Macauley has one set up for research.
 - b. Dunstan Macauley motioned that we set up a Google Group for TC 8.7
 - c. Brian questioned what is a Google Group...
 - d. Paul Doppel explained it is a mechanism for transferring information between the group. It can handle larger files than email.

- e. Brian Bogdan: Some companies do not allow uploading of data to such sites.
 - f. Vote: 6-0-1 CNV approved
5. Several workshops
- a. 10th IEA HP conference later in the summer—this will be a web conference—it was to be held in Tokyo—earthquake
 - b. Other conferences were listed by Paul...members can look at the listing Paul passed around. Available at www.ashrae.org/events/page/429
6. ASHRAE suggested letters of gratitude to employers from ASHRAE for their service over the past year. There should be a link on website to request a letter be sent to your employer
7. Future Meetings:
- a. Winter meeting: Jan 21-25, 2012—Chicago
 - i. Seminars due: Aug 12, 2011
 - b. Annual June 23-28, 2012, San Antonio
 - i. Abstracts due 9-26 2011
 - ii. Seminar proposals 2-13-2012
 - c. Dunstan Macauley comment: CEC is open to suggestions for future themes, tracks, program adjustments intended to improve the conference—speak to anyone on CEC.
 - d. Dermott McMorrow comment: Asked for feedback (from ASHRAE) as to why TC 8.7's two seminars were not accepted—received none from ASHRAE.
 - e. Dunstan Macauley: Track Chair is generally the decision maker. Before submission submitters should contact the track chair to discuss the concept, etc...Track chair writes the track vision or abstract—it is usually available ~ 1 year before the conference.
 - i. Pam Androff: go to the next level—ASHRAE staff or conference chair.
 - ii. Paul Doppel comment: Track 7 in Chicago is HVAC & Systems & Equipment
 - iii. Also: Integrated Energy Systems.
 - iv. Much discussion about the process for getting programs into the ASHRAE system.
 - v. Chicago is the last conference with a theme—San Antonio will not have a theme.
 - vi. Dunstan Macauley —there will be three permanent tracks:
 - 1. Systems & equipment

2. Fundamentals & Applications
3. Refrigeration
- vii. Total # of tracks is flexible and may vary with each meeting.

6.0 Liaison Reports:

1. 90.1 (Andrew Moore)
 - a. Discussion about requirements for data centers—working with TC 9.9.
 - b. Discussions about fan efficiencies.
 - c. Ashley Armstrong from DOE presented to mechanical subcommittee
 - d. New NOPR: ARM & AEDM to be released in the fall
 - e. Drake Erbe gave a presentation about path of the committee—moving toward part-load, system efficiency & building efficiency mindset.
 - f. Paul D. comment: Murmurings that 90.1 may go for another 30% efficient.
 - g. Dominic: NODA (Notice of data availability) from DOE is forthcoming and will supersede whatever is presently in 90.1. Comments are closed—should be out ~3-6 months. Paul D: DOE generally agrees with 90.1 except for some details on water source systems.
2. ASHRAE 15—John V is heading up a group with Paul D. & Chris B. to refine some unrefined terms related to 15.

7.0 Subcommittee Reports

1. Research (Dunstan Macauley)
 - a. Had a conf call to discuss possible topics. Reached out to U of M. (Radermacher) to discuss.
 - b. Paul D—topic that came up in discussions with ASHRAE 15—definition of a leak and leak dynamics with VRF systems.
 - c. Dave H. volunteered to write RTAR on this topic.
 - d. Need rough draft by Chicago.
2. Program (Doppel (filling in))
 - a. Our two programs (seminars) were not allowed for Montreal.
 - b. Richard Raustad has submitted 2 technical papers—
 - c. 2 other papers—EPRI & ORNL are already on a program—can perhaps add Richard's papers to this session??
 - d. Paul Doppel. Comments about a presentation related to ASHRAE 15 that had less than admirable things to say about VRF.
 - e. Dunstan Macauley comment: Conference paper is an expression of the author and does not have to come up through the TC (they may, but they don't have to). ASHRAE does not restrict what the authors can say.

- f. Dominic—the free presentation of ideas should be supported.
 - g. CEC will take back the comment that TC would like review
3. Standards (Bellshaw) - Deferred
 4. AAHRAE Learning Institute (Thur De Koos) – No update
 5. Webmaster (Kolandayan)
 - a. TC 8.7 website was updated ~ 1 week prior to the meeting
 - b. We have a list of papers related to VRF (ASHRAE & other) being published on the website.
 6. Membership (Paul Solberg)
 - a. Two members are cycling off: Malcom Persand & Roberto Aguilo (international member).
 - b. Paul D & Paul S suggested that we should try to replace an international with an international—asked for suggested people & will table filling that position for Chicago.
 - c. Add as corresponding members:
 - i. Shane Angle—Emerson: Shane.Angle@Emerson.com
 - ii. Sami Zendah—Emerson:...Sami.Zendah@emerson.com
 - iii. Jocelyn Legar—Mitsubishi Jocelyn.legar@mesca.mea.com
 - iv. Joseph Higham—Norman Wright jhigham@nswnm.com
 7. Handbook (Doppel)
 - a. Handbook subcommittee approved the chapter with minor edits.
 - b. Committee will vote on acceptance at the end of the meeting.
 - c. Move to accept the handbook chapter as edited.
 - d. 2nd
 - e. Discussion? None
 - f. Vote: 7-0-0-CNV
 - g. Chapter will be submitted to ASHRAE...

8. Old Business – None

9. Committee Status - TC-8.7

10. New Business

1. AHRI certification program for VRF systems is nearly ready for unveiling. Manufacturers have submitted numbers to AHRI. Certification should be available later this summer.
2. Energy Plus—HP model is in Energy Plus—HR data is being gathered to develop a model.

11. Adjournment

1. Next meeting: Jan 21-25, 2012 in Chicago IL
2. Motion to adjourn—2nd—passed.
3. Adjourned.