



## ASHRAE TC8.7 Variable Refrigerant Flow Committee



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

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### TC/TG/TRG DRAFT MINUTES COVER SHEET

**TC 8.7 Variable Refrigerant Flow  
Monday, June 26, 4:15 pm–6:30 pm  
Long Beach, CA**

<b>Committee Leadership Team</b>	<b>Committee Role</b>
Dermot McMorro	Chair
Arturo Thur de Koos	Vice Chair & Webmaster
Richie Mohan	Secretary/ Liaison SSPC 62.1 & 62.2
Bach Tsan	Subcommittee Chair - Standards
Bill Artis	Subcommittee Chair - Programs
Christopher Laughman	Subcommittee Chair - Research
Madhav Kashinath	Subcommittee Chair – Membership
Paul Doppel	Subcommittee Chair – Handbook/Liaison TC 205/GPC41
Christopher Williams	ALI Coordinator
Doug Tucker	Liaison SSPC 15/189.1/MTG Low GWP Refrigerants
John Cummings	Liaison SSPC 90.1

## DISTRIBUTION

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

### 1. Call to Order 4.15 pm

### 2. Opening Remarks

- a. Mr. McMorrow made opening remarks regarding the ASHRAE code of ethics, housekeeping items, and requested everyone to introduce themselves.
- b. Mr. McMorrow confirmed that a quorum was achieved (7/11 VM present)
- c. Mr. Bogdan reported that there may be an error on his membership. Mr. McMorrow, Mr. Kashinath and Mr. Bogdan will address this error after this meeting.
- d. Minutes from 2017 Las Vegas Meeting were approved (7-0-0)

### 3. Chair's Breakfast Remarks

- a. Membership Roster: Discussion on membership roster and roster management. There is now an online method for managing the committee roster available for the ASHRAE committees. TC 8.7 is currently transitioning to the online method for managing the committee roster.
- b. ASHRAE historical technical group gave an overview of plans for celebrating 125<sup>th</sup> anniversary. Currently, this group is asking for articles/write-ups from ASHRAE members/non-members for the 125<sup>th</sup> anniversary celebration. Some topics include the evolution of refrigerants and BACnet.
- c. There is a new operating procedure for running ASHRAE meetings. A copy of this new procedure can be obtained from the ASHRAE website.

- d. There currently exists a new cover page for minutes. TC 8.7 secretary will make sure to use this new cover page.
- e. Training session for sub committees chairs is being held in conjunction with the ASHRAE summer conference.
- f. Remote participation can be set up for ASHRAE TC meetings. If there is interest from TC 8.7 to set up remote participation, members can submit their request to TC 8.7 chair accordingly.
- g. RAC seems to be placing a new priority on any projects pertaining to the residential sector.
- h. If there is an idea for program track – members are encouraged to share their track suggestions to the ASHRAE CEC committee.
- i. PDC is looking for ideas for courses under the ASHRAE learning institute.
- j. Conference Papers: 151/129 papers approved. 19/27 technical papers. 61/127 seminars approved (quality issues led to a low approval rate for the seminar papers).

#### **4. Subcommittee Reports**

##### *a. Handbook Chapter*

- i. The handbook is current as of right now. A new group will need to be set up shortly to revise the chapters in 2019.
- ii. Mr. Doppel requested if another member would be willing to lead the handbook chapter revisions, as Mr. Doppel will be leading the GPC-41 activities.
- iii. Richie Mohan volunteered to lead the handbook chapter revision.

##### *b. Membership*

- i. There are 114 members in the entire TC 8.7, including VM and CM.
- ii. There are 12 voting members. If anyone in the room is interested in joining this committee, they are requested to use the online method to submit their requests.

##### *c. Programs*

- i. TC 8.7 Programs subcommittee met on June 20, 2017.
- ii. Topics covered: Research on controls, refrigerant leaks and dispersion

- iii. Program planned for the upcoming ASHRAE winter conference in Chicago: “Designing VRF systems for code compliance” (IECC-2015, ASHRAE 90.1, ASHRAE 62, SSPC 15, and City of Chicago).
- iv. Another program that was discussed for the future: Energy modeling for VRF equipment.
- v. Mr. Artis requested for suggestions for 2018 ASHRAE summer conference tracks. Members can reach out Mr. Artis after this meeting accordingly.
- vi. Little over 200 individuals attended the program on commissioning of VRF equipment, held in conjunction or the 2017 ASHRAE summer conference.

*d. Research*

- i. Highlights from the Research chair includes: abiding to the word limit, and setting milestones (at least three) entered into the project lifecycle in order to review the researcher’s work and progress. Additionally, there is currently parity between research projects and funding.
- ii. Currently, there are no research projects in the pipeline – but the chair requested for any ideas on developing a research project. Some of the potential research topics discussed were:
- iii. Three suggestions were made:
  - 1. Why is VRF not listed in the equipment lifecycle section of the ASHRAE handbook? Is there any research needed on this part?
  - 2. To review the time taken to detect leak sources in VRF equipment.
  - 3. Energy usage in VRF equipment.
- iv. All suggestions can be shared with the research chair after this meeting. Chair will create a method for assessing the suggestions list.

*e. Standards*

- i. ASHRAE Guideline 36P – currently out for public review.
- ii. AHRI 1230 – currently under revision.
- iii. DOE TP for central air conditioners and heat pumps – finalized and published.

## **5. ALI**

- a. Mr. Doppel is holding an ALI session on 6/27/2017 on VRF equipment. Two more sessions are also scheduled for July 18, 2017, and November 29, 2017.
- b. NYC transportation commission has requested for an ALI session in October, 2017.
- c. Mr. McMorrow mentioned that there is high interest in these ALI sessions from the industry, and encouraged the committee to continue to actively work towards these ALI Sessions.

## **6. Webmaster**

- a. No new updates.

## **7. ASHRAE 90.1**

- a. Very hard at work (went through 17 motions for approval at the Long Beach meeting)
- b. A lot of work with the new format in 2016 version (more reader friendly)
- c. Trying to make the compliance paths easier to comprehend within the standard.
- d. Dick Lord is beginning a working group to address the mechanical tables and the future outlook of these tables.

## **8. IECC-2015**

- a. Currently, there are many different interpretations on IECC-2015 airside economizer requirements and is causing some confusion in the marketplace.

## **9. SPC 205**

- a. Planning on releasing an APR after ASHRAE summer conference.

## **10. GPC-41**

- a. Meeting to be held on 6/27 to continue the guideline development efforts.

## **11. ASHRAE 189.1**

- a. Standard for high performance green buildings.
- b. Committee working through few other addenda's to be added into ASHRAE 189.1 (expected to be done by November, December)
- c. CEE Tier 1 values were used for VRF efficiency tables for VRF equipment.
  - i. TC 8.7 and AHRI ductless section were not approached for comments on the VRF efficiency table.

## **12. ASHRAE 15**

- a. Primary focus of this committee recently has been to address A2L refrigerants.
- b. There was a proposal on moving ammonia from the scope of ASHRAE SSPC 15 to IIAR, however, additional discussion seems to be needed prior to making a decision.
- c. Set up a WG to define and address connecting spaces.
- d. Discussion on the deficiency of RCL value.

## **13. MTG for Low GWP Refrigerants**

- a. TC 8.7 is a member of this MTG. Meetings are being held once a month. This MTG is the cognizant committee for all research projects on refrigerants. This has a lot of interest from other relevant committees.

## **14. Old business**

- a. Hi-Tower award: Chairman requested for nominations for this award from this committee, after the meeting.
- b. Jim Wolf made a presentation (Las Vegas) on low GWP refrigerants, and it was very well received by TC 8.7. Chairman requested for new ideas to hold similar types of presentations.
- c. Chairman also asked the open ended question as to how this TC 8.7 can work together on VRF activities.
- d. If you are a part of local chapters and need the Distinguished Lecturers to lecture on any of the DL topics, please reach out to Ms. Pamela Duffy.
- e. Request was made to change the meeting time from Monday evenings due to conflicting events.

Meeting was adjourned at 6:30 p.m.