

**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

(Minutes of all TC/TG/TRG Meetings are to be distributed to all persons listed below within 60 days following the meeting.)

TC/TG/TRG NO 3.2 DATE JUNE 29, 2015

TC/TG/TRG TITLE System Chemistry

DATE OF MEETING June 29, 2015 LOCATION Atlanta, GA

MEMBERS PRESENT	STATUS	MEMBERS ABSENT	STATUS	EX-OFFICIO MEMBERS AND ADDITIONAL ATTENDANCE
Joe Karnaz	Chair/VM	Kirsten Ahrenstorf	CM	Mark Spatz
Danny Halel	Sec/VM	Liz Dixon	CM	Valerie Balsh
Julie Majurin	VM	Corey Anderson	CM	Michael Callan
Warren Clough	VM	Karim Amrane	CM	William Kopko
Brad Boggess	PSC/VM	Chris Bertelo	CM	Jay Kohler
Rob Yost	SSC/VM	Charlie Butler	CM	Sheli Porter
Rosine Rohatgi	VChair/VM	Ken Lilje	CM	Mikelann Scerbo
Scott Gustafson	ALI/CM	Dale Carr	CM	Sarah Kim
Mark Baker	RSC/CM	Raymond Thomas	CM	Roberto Urrego
Stephen Spletzer	CM	Michael Foster`	CM	Knut Petry
Joe Nigro	CM	Clinton Finstad	CM	Ivan Rydkin
Ed Hessell	VM	Andrew Gbur	CM	Scott Wujek
Stephen Kujak	VM	Ersin Gercek	CM	Hewitt Gaudin
Thomas Leck	CM	Katrin Juch	CM	Damian Lively
Frank Nagy	CM	Barry Milward	CM	Jian Sun Blanks
Alan Cohen	CM	Tony Min	CM	
Marc Scancarello	CM	Eric Newberg	CM	
Chris Seeton	VM	Fred Polley	CM	
Glen Steinkoenig	CM	Dave Vincent	Web/VM	
Sonny Sundaesan	CM	Curtis Slayton	CM	
Elyse Sorenson	CM	William Walter	CM	
Greg Smith	HSC/CM	Jay Field	CM	
		Alice Reimer	NQM	
		Jorge Cabrera	CM	
		Amanda Hickman	CM	
		Robert Woods	CM	
		Yanwei Cen	CM	
		Christopher Reeves	CM	
		Juan Flores	CM	

DISTRIBUTION

All Members of TC/TG/TRG plus the following:

TAC Section Head: Jay Kohler	
All Committee Liaisons As Shown On TC/TG/TRG Rosters: Research Liaison – Mark Spatz	Manager Of Standards – Stephanie Reiniche Manager Of Research & Technical Services – Mike Vaughn
Note: These draft minutes have not been approved and are not the official, approved record until approved by this committee.	

Call to Order

Chair Joe Karnaz, called the meeting to order at 2:15 pm on Monday, June 29, 2015. The meeting was held in Room 302 of the Hilton Hotel Atlanta, GA. After the introduction of members and guests, a quorum was confirmed with 10 members present (including chair) 0 International Members with 1 members absent.

ASHRAE Code of Ethics – A mention of the Code was made to remind all members and visitors of the Code and that it should be adhered to whenever at an ASHRAE meeting.

Establishment of Quorum – Of the eleven voting members – nine were present at the start of the meeting. An additional Voting Member arrived later in the meeting. Quorum was established.

MOTION #1 A motion was made by Rob Yost and seconded by Warren Clough to approve the Agenda for this meeting as written.

MOTION PASSED 9-0-0 CV

MOTION #2 A motion was made by Sonny Sundaresan and seconded by Rosine Rohatgi to approve the Minutes from the meeting in Chicago in January of 2015.

MOTION PASSED 9-0-0 CV

Report on TC 3.0 Chair Breakfast Meeting

TC Chair Meeting Notes – TC 3.2

- Starting in St Louis will be a requirement for Potential Bias Disclosure for Presentation, in accordance with ASHRAE code of ethics.
- Programs for Orlando are due August 10th, 2015.
- St Louis track will include “Advances in Refrigeration Systems and Alternative Refrigerants”.
- Was suggested to CEC this type of track also be available for a Winter Session.
- New process for Provisional Corresponding Members – click on **JOIN A TC** button on the website.
- RAC prioritizing research topics related to the Residential Sector.
- 8th Beta test of Electronic and Presentation (E&P) being implemented at some TC meeting in Atlanta (limited to use and approval).
- Need for reviewers – if interested contact Tiffany Cox (tcox@ashrae.org).
- Upcoming Specialty Conferences particular to Section 3 committees.
 - ICR 2015 Yokohama Japan
 - CLIMA 2016 Aalborg Denmark

Liaison Reports - TC Liaison - Jay Kohler stopped by and introduced himself as the Section 3 Liaison. He wanted to thank the committee for their work and presented to the Outgoing Chair Joe Karnaz, a certificate thanking him for his work in the past years as Chair of TC 3.2.

Upcoming meetings

- Orlando Jan 2016
- St. Louis June 2016
- Las Vegas Jan 2017
- Long Beach June 2017
- Chicago Jan 2018

Sub-Committee Reports

Program – Brad Boggess

There were 0 programs sponsored here at the Atlanta meeting.

The program that was approved did not get accepted by ASHRAE Programs. So the prior Motions made in Chicago for Orlando are still on the books.

We are looking for speakers for the Orlando program – *Synthetic Lubricants: Making the Commercialization of Low GWP Refrigerants a Reality*. We have a speaker from a refrigerant manufacturer, a system manufacturer and still looking for a commitment from a compressor manufacturer. A lubricant manufacturer is also a potential fourth speaker.

MOTION #3 A MOTION was made by Sonny Sundaresan and seconded by Rob Yost to Cosponsor with TC 3.4 a Seminar for Orlando or Conference Paper held in St. Louis if the Seminar is rejected titled: *Synthetic Lubricants: Making the Commercialization of Low GWP Refrigerants a Reality*
MOTION PASSED 10-0-0 CV

More discussion was centered on finding subjects for more programs, including compatibility and chemistry. Discussion also included ways to provide means for presentation of papers when the CEC turns down our proposals.

Handbook – Gregory Smith

The Handbook committee is working 2018 Refrigeration Chapter 6 *Refrigerant System Chemistry*. Adding a section on HFO refrigerants, Material Compatibility and Degradation Process.

Committee Members include – Chair – Greg Smith, Rosine Rohatgi, Brad Boggess, Ed Hessel, Warren Clough and Sonny Sundaresan.

Reviewers will include – Elise Sorensen

The committee met on Sunday to formulate their strategy.

Standards –Rob Yost

- SPC 175 – *“Metal Pressure Vessel Method to Test Materials Used with Refrigeration Systems”*
 - Joe Karnaz – Chair. Committee members are Alan Cohen, Ed Hessel, Brad Boggess, Rosine Rohatgi and Chris Seeton, worked to change to a Guideline due to the requirements of mandatory language. The required paperwork will be submitted to convert to a guideline. The committee is close to a final draft based on the work they have done when it was a standard.
- SPC 97-2007 – *Sealed Glass Tube Method to Test for Chemical Stability of Materials for Use Within Refrigerant Systems*
 - Chris Seeton, Chair. Roster with balance is complete – sent the TPS to ASHRAE for approval – waiting for the response – looking for additional participants. This group meets at 9:20 on Tuesday morning.

A Guideline to address Polytopic Material Testing is being considered and was tabled for discussion at upcoming meetings.

Research – Mark Baker

- An RTAR has been completed - *Water Level Effects on Low GWP Refrigerants* – Brad Boggess is working on the document in conjunction with TC 3.3 who approved to Co-Sponsor. The documents were sent to RAC - RAC has returned documents asking for more data. Brad is working on the re-write.
- Steve Kujak and Mark Baker are still working on a RTAR titled: *Mechanistic Studies of HFO Decomposition – Reactions taking place in the HVAC/R system.*
- A work statement (WS) to the follow-up work on RP-1410 was drafted by Julie Majurin in Chicago and submitted to the RAC liaison, Mark Spatz, along with the cover sheet for his comments. Julie made the minor changes to the document and submitted to a few individuals for review. These changes were found to be acceptable and since they were minor in nature it was agreed that no TC voted was needed to approve the modifications. The incoming TC 3.2 chair, Rosine Rohatgi, will submit the amended document along with the previous cover sheet to Mike Vaughn of RAC.
- Dave Wilson, SSPC 34 Chair, contact the TC 3.2 chair to request some assistance with potential technical advice or a research project on a refrigerant and refrigerant blend that the SSPC 34 committee is evaluating for ASHRAE designation. The refrigerant and blend is HFO-1123 and blends with the HFO submitted by Asashi Glass. There is concerns with the stability of HFO-1123 and maybe some research will be required to make this evaluation. The committee discussed the situation and the overall feeling was that this refrigerant has potential stability issues but even if testing was done to prove this SSPC 34 had no mechanism in place to use this information to decline assigning a designation. Based on this the committee felt ASHRAE research dollars should not be used for this project. This information will be relayed by the TC 3.2 chair back to Dave Wilson.

Webmaster – Dave Vincent

Joe Karnaz reported that all items are up to date.

Membership – Joe Karnaz

The roster was reviewed and the Chair advised that he has the next slate of officers and voting members. Those interested in joining the committee can submit the request on-line during off cycle rollover roster submissions. The roster that goes into effect July 1st, 2015 will have:

Voting Members – 11 International Members - 1 Corresponding Members – 53

The following is the voting member and management committee starting July 1st, 2015

Voting members – Rosine Rohatgi; Greg Smith; Brad Boggess; Rob Yost; Alice Reimer (MNQ); Tom Leck; Danny Hale; Ed Hessel; Steve Kujak; Chris Reeves; Chris Seeton; Sonny Sundaresan

Chair – Rosine Rohatgi
Vice-Chair – Warren Clough
Secretary – Joe Karnaz
Programs – Brad Boggess
Standards – Rob Yost
Handbook – Greg Smith
Research – Mark Baker

MTG Lower GWP Refrigerants (Tom Leck)

The group takes an umbrella approach visiting what work is being done throughout ASHRAE on Low GWP Refrigerants. The group will be meeting on Wednesday at 10 am.

They also had a mid-meeting meeting – they are trying to put together a presentation for Orlando, St. Louis or Long Beach.

They are also tracking AHRI work in this area. The work includes looking at over 50 refrigerants that meet the criteria.

Old Business

No old business was brought before the committee.

New Business

Mark Scanarello commented on the work that AHRI is doing with 2L refrigerants. They are looking for existing research and research that is still needed with 2L's and would like feedback by way of the recent survey that is due July 10th.

Mark Spatz and Tom Leck are now officially retired however, they will continue to work with ASHRAE. The Chair asked for a round of applause thanking them for their work and dedication to ASHRAE.

Alan Cohen was recognized by the committee with a round of applause for his recent ASHRAE Distinguished Service Award.

Adjournment

The meeting was adjourned at 4:05pm by Chair Joe Karnaz thru a Motion made by Rob Yost and seconded by Glen Steinkoenig.

Respectfully submitted,

Danny Harel – Secretary