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 24, 2013

TC/TG/TRG TITLE  System Chemistry

DATE OF MEETING  June 24, 2013  LOCATION  Denver, CO

<table>
<thead>
<tr>
<th>MEMBERS PRESENT</th>
<th>STATUS</th>
<th>MEMBERS ABSENT</th>
<th>STATUS</th>
<th>EX-OFFICIO MEMBERS AND ADDITIONAL ATTENDANCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raymond Thomas</td>
<td>Chair/VM</td>
<td>Kirsten Ahrenstorf</td>
<td>VC/NQM</td>
<td>Travis Benanti</td>
</tr>
<tr>
<td>Danny Halel</td>
<td>Sec/VM</td>
<td>Liz Dixon</td>
<td>RSC/C</td>
<td>Brad Boggess</td>
</tr>
<tr>
<td>Julie Majurin</td>
<td>VM</td>
<td>Alan Cohen</td>
<td>VM</td>
<td>Leonard Challenger</td>
</tr>
<tr>
<td>Ken Lilje</td>
<td>PSC/VM</td>
<td>Karim Amrane</td>
<td>CM</td>
<td>Pat Gilbane</td>
</tr>
<tr>
<td>Dave Vincent</td>
<td>Web/VM</td>
<td>Chris Bertelo</td>
<td>CM</td>
<td>Hewitt Gaudin</td>
</tr>
<tr>
<td>Rob Yost</td>
<td>SSC/VM</td>
<td>Charlie Butler</td>
<td>CM</td>
<td>Amanda Hickman</td>
</tr>
<tr>
<td>Sonny Sundaresan</td>
<td>VM</td>
<td>Jorge Cabrera</td>
<td>CM</td>
<td>Glenn Hourahan</td>
</tr>
<tr>
<td>Scott Gustafson</td>
<td>ALI/CM</td>
<td>Dale Carr</td>
<td>CM</td>
<td>John Hughes</td>
</tr>
<tr>
<td>Rosine Rohatgi</td>
<td>HBC/VM</td>
<td>Richard Cavestri</td>
<td>CM</td>
<td>Bianca Hydutsky</td>
</tr>
<tr>
<td>Corey Anderson</td>
<td>CM</td>
<td>Yanwei Cen</td>
<td>CM</td>
<td>Joe Karnaz</td>
</tr>
<tr>
<td>Mark Baker</td>
<td>CM</td>
<td>Clinton Finstad</td>
<td>CM</td>
<td>Dan Miles</td>
</tr>
<tr>
<td>Warren Clough</td>
<td>CM</td>
<td>Andrew Gbur</td>
<td>CM</td>
<td>Ramon Pons</td>
</tr>
<tr>
<td>Jay Field</td>
<td>CM</td>
<td>Ersin Gercek</td>
<td>CM</td>
<td>Knut Petry</td>
</tr>
<tr>
<td>Michael Foster</td>
<td>CM</td>
<td>Katrin Juch</td>
<td>CM</td>
<td>Eric Schwein</td>
</tr>
<tr>
<td>Ed Hessell</td>
<td>CM</td>
<td>Barry Milward</td>
<td>CM</td>
<td>Greg Smith</td>
</tr>
<tr>
<td>Joe Karnaz</td>
<td>CM</td>
<td>Tony Min</td>
<td>CM</td>
<td>Roberto Urrego</td>
</tr>
<tr>
<td>Stephen Kujak</td>
<td>CM</td>
<td>Eric Newberg</td>
<td>CM</td>
<td>Brett Van Horn</td>
</tr>
<tr>
<td>Thomas Leck</td>
<td>CM</td>
<td>Fred Polleay</td>
<td>CM</td>
<td>John Whithouse</td>
</tr>
<tr>
<td>Frank Nagy</td>
<td>CM</td>
<td>Alice Riemer</td>
<td>CM</td>
<td>Scott Wujek</td>
</tr>
<tr>
<td>Joe Nigro</td>
<td>CM</td>
<td>Curtis Slayton</td>
<td>CM</td>
<td></td>
</tr>
<tr>
<td>Christopher Reeves</td>
<td>CM</td>
<td>William Walter</td>
<td>CM</td>
<td></td>
</tr>
<tr>
<td>Marc Scancarello</td>
<td>CM</td>
<td>Robert Woods</td>
<td>CM</td>
<td></td>
</tr>
<tr>
<td>Chris Secton</td>
<td>CM</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stephen Spletzer</td>
<td>CM</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Glen Steinkoenig</td>
<td>CM</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

DISTRIBUTION

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

TAC Section Head: Bill Murphy

All Committee Liaisons As Shown On TC/TG/TRG Rosters:
Research Liaison – Mark Spatz
Standards - Douglas Abramson
Special Pubs - William Fleming

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 Ray Thomas, called the meeting to order at 2:15 pm on Monday, June 24, 2013. The meeting was held in the Grand Ballroom B/C of the Sheraton Hotel in Denver, CO. After the introduction of members and guests, a quorum was confirmed with 8 members present (including chair) 0 International Members with 2 members absent.

The Agenda was approved as written.

MOTION #1 A motion was made by Rob Yost and seconded by Ken Lilje to approve the Minutes from Dallas with updates as to who are voting members.
MOTION PASSED 8-0-0 CV

Report on TC 3.0 Chair Breakfast Meeting

- Nominations for Hightower Award will be accepted by ASHRAE Staff.
- Fill out the your BIO Information with new classifications as soon as possible.
- If you require a Thank You letter from ASHRAE to your employer, please advise the Chair.
- ASHRAE continues to do trial E-meetings, if we want to participate in that the Chair should contact the Section Head.

Upcoming meetings

- New York City January 18-22, 2014
- Seattle June 2014

Sub-Committee Reports

Program – Ken Lilje

There were no programs set for this meeting.

August 13 is the date for final submittal of Programs for New York.

An Open Forum for New York was suggested for CO\textsubscript{2} Issues in A/C and Refrigeration systems.
Chair – Danny Halel.

MOTION #2 A MOTION was made by Ken Lilje and seconded by Rob Yost to sponsor an Open Forum at the meeting in New York entitled Issues with CO\textsubscript{2} Refrigeration Systems. Chair – Danny Halel
MOTION PASSED 8-0-0 CV

Rosine Rohatgi (Spauchus Associates) has a paper ready for presentation in New York.

A Seminar for New York was suggested to discuss rogue refrigerants and problems in the field.

MOTION #3 A MOTION was made by Ken Lilje and seconded by Rosine Rohatgi to sponsor a Seminar entitled The Pitfalls and Challenges with Current and Future Refrigerants Chair – Thomas Leck
MOTION PASSED 8-0-0 CV

Handbook – Rosine Rohatgi

Ramon Pons our Handbook Liaison was present and thanked the Committee and more specifically Rosine Rohatgi and her Subcommittee for their work on Chapter 6 Refrigerant System Chemistry – Refrigeration Handbook.

The draft is complete and sent to ASHRAE.
Committee Members include – Rosine Rohatgi – Chair, Warren Clough, Joe Longo, Chris Seeton, Sonny Sundaresan, Ed Hessell, and Jay Field.

The committee wishes to thank the Subcommittee for their work on this Chapter.

Standards – Rob Yost

- SPC 175 – “Metal Pressure Vessel Method to Test Materials Used with Refrigeration Systems”
  - Joe Karnaz – Chair. Committee members are Joe Karnaz, Alan Cohen, Ed Hessel, Brad Boggess, Rosine Rohatgi and Chris Seeton, will not meet at 4:15 pm on Monday. The committee is very close to a final draft. ASHRAE has asked that the committee develop a “Definition of Key Terms”, when this is complete a letter ballot will be submitted.

- SPC 97-2007 – Sealed Glass Tube Method to Test for Chemical Stability of Materials for Use Within Refrigerant Systems
  - Chris Seeton is Chair. References are out of date. Meeting have been held and progress is being made.

Research – Mark Baker

- RP 1410 – Effects of System Materials Towards the Breakdown of POE Lubricants and HFC Refrigerants Part 2
  - The draft Final Report is reviewing the Draft Final Report a Letter Ballot will be submitted as soon as possible. Project Monitoring Sub-Committee includes: Jay Field, Joe Karnaz, Mark Scancarello and Steve Kujak - Chair.

- RP-1665 “Reactivity of R-40” Vendor has been selected and first phase will be complete in July. DOE is being worked on by the committee.

RTAR “Reactivity studies comparing Low GWP Refrigerants in the presence of Contaminates” is being written.
The team assembled to help write the RTAR. Joe Karnaz, Alice Riemer, Tom Leck, and Warren Clough.
Deadline March 15, 2013 for April Meeting; May 15 for June Meeting.

Webmaster – Dave Vincent

Dave Vincent reported that the website is up to date.

Membership – Ken Lilje

The roster was reviewed and the Chair advised that if anyone in the room wanted to join this Committee please see the Chair or Membership Chair.
The Chair asked for additional members if anyone was interested.

Voting Members – 12  International Members - 1  Corresponding Members – 33

Leadership of the committee as of July 1, 2013:
Joe Karnaz – Chair  Rosine Rohatgi – Vice Chair & Handbook
Danny Halel – Secretary  Brad Boggess – Program
Rob Yost – Standards  Mark Baker – Research
David Vincent – Webmaster  Scott Gustafson – ALI

Old Business

- No old business was brought forth to the committee.
New Business

The committee thanked Raymond Thomas for his work as Chair of this committee as he will be rolling off after this meeting. Bill Murphy Section Head thanked Chair Thomas for his work as Chair and presented him with a Certificate of Appreciation.

Adjournment

The meeting was adjourned at 3:22pm by Chair Raymond Thomas.

Respectfully submitted,

Danny Halel - Secretary