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 27, 2011

TC/TG/TRG TITLE System Chemistry

DATE OF MEETING June 27, 2011 LOCATION Montreal, Quebec CN

<table>
<thead>
<tr>
<th>MEMBERS PRESENT</th>
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<th>MEMBERS ABSENT</th>
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<tr>
<td>Thomas Leck</td>
<td>Chair/VM</td>
<td>Robert Woods</td>
<td>VM</td>
<td>Nandini Mouli</td>
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<tr>
<td>Allen Cohen</td>
<td>VM</td>
<td>Kirsten Ahrenstorff</td>
<td>IM</td>
<td>Fred Pulley</td>
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<td>Danny Halel</td>
<td>Sec/VM</td>
<td>Raymond Thomas</td>
<td>VC/VM</td>
<td>William Walter</td>
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<td>Rob Yost</td>
<td>SSC/VM</td>
<td>Yanwei Cen</td>
<td>CM</td>
<td>Thomas Watson</td>
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<td>Stephen Kujak</td>
<td>VM</td>
<td>Richard Cavestri</td>
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<tr>
<td>Liz Dixon</td>
<td>RSC/IM</td>
<td>Jorge Cabrera</td>
<td>CM</td>
<td>Xiaomei Yu</td>
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<td>Sonny Sundaresan</td>
<td>HBC/VM</td>
<td>Charlie Butler</td>
<td>CM</td>
<td>Stephen DeNoia</td>
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<td>Dave Vincent</td>
<td>Webmaster</td>
<td>James Bouril</td>
<td>CM</td>
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<td>Stephen Speltzer</td>
<td>CM</td>
<td>Chris Bertelo</td>
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<td>Scott Gustafson</td>
<td>ALI/CM</td>
<td>Karim Amranre</td>
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<td>Ken Lilje</td>
<td>PSC/CM</td>
<td>Jay Field</td>
<td>CM</td>
<td>Chris Reeves</td>
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<td>Don Schuster</td>
<td>CM</td>
<td>Clinton Finstad</td>
<td>CM</td>
<td>Ray Cohen (Research Liaison)</td>
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<td>Dale Carr</td>
<td>CM</td>
<td>Sunil Nanjundaran</td>
<td>CM</td>
<td>Warren Clough</td>
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<td>CM</td>
<td>Andrew Gbur</td>
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<td>Julie Majurin</td>
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<td>John Manselas</td>
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<td>David Bellas</td>
<td>CM</td>
<td>Corey Anderson</td>
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<td>Marc Scancarello</td>
<td>PCM</td>
<td>Robert Doerr</td>
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<td>Barry Milward</td>
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<td>Richard Kelley</td>
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<td>Joe Nigro</td>
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<td>Katrin Juch</td>
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DISTRIBUTION

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

TAC Section Head: Bill Murphy
TAC Chair: Charles Wilkin
All Committee Liaisons As Shown On TC/TG/TRG Rosters:
Ray Cohen  Research (In attendance)  Douglas Abramson  Standards
John Clark  Special Pubs
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.
Minutes  TC 3.2 System Chemistry

Call to Order

Tom Leck, Chair, called the meeting to order at 2:20pm on Monday, June 27, 2010. The meeting was held in the Mont Royal of the Hilton Bonaventure in Montreal, Quebec, CN. After the introduction of members and guests, a quorum was confirmed with 8 members present (including chair) 1 International Members with 1 member absent.

MOTION #1 A motion was made by Ken Lilje and seconded by Rob Yost to approve the Agenda as written and distributed.

MOTION PASSED 8-0-0 CV

MOTION #2 A motion was made by Sonny Sundaresan and seconded by Rob Yost to approve the Minutes from Las Vegas as corrected.

MOTION PASSED 8-0-0 CV

Report on TC 3.0 Chair Breakfast Meeting

The TC/TG/TRG Manual of Procedures (MOP) has been revised to include a new committee type, Multi-disciplinary coordinate and focus the activities of the affiliated TC and non-TC groups that make up the MTG on the task for which the MTG was created without duplicating the functions of a TC or TG so that the task can be completed as efficiently as possible. I see these having a, depending on the subject a specific lifespan, however, the Chair, Vice Chair, Members andAlternates do not have term limits.

MTG.EEC Energy Efficient Classification of General Ventilation Air-Cleaning Devices
MTG.ET Energy Targets

CEC was in attendance and the Section 3 Chairs continued to explain their disgust in the lack of approved programs in the past years. The representative explained that CEC has heard the cry and has responded. We have made 4 of the 10 Tracks in the Chicago meeting and 4 of the 7 Tracks in San Antonio dedicated to HVAC&R.

The TC 3.2 website is up-to-date and is functioning well.

There was a reminder to utilize the ASHRAE Google Groups and Sites

If there is anyone who has a suggestion to nominate a person for the Hightower Award they are due September 1, 2011.

Thank you Letters to Employers  ASHRAE President Lynn Bellenger will send letters of appreciation to employers

Upcoming meetings
Chicago  January 21-25,2012
San Antonio  June 23-28, 2012

Sub-Committee Reports

Program – Ken Lilje

Bill Murphy Section Head advised that he appreciated the work and comments made by Section 3. And he advised question concern comments to Bill Murphy.

 Seminar and Forum Proposal for Chicago are due August 12, 2011.
 Seminar and Forum Proposal for San Antonio are due February 13, 2012
Montreal

- Seminar 51 - Wednesday 8 to 9:30  New and improved lubricants to accommodate low GWP refrigerants

Potential Programs

- Fundamentals of Carbon Dioxide Refrigeration Systems, Chair Ken Lilje
  We have one speaker Ken will continue to look for another.
- Others?

**Handbook – Sonny Sundaresan**

- The Handbook Liaison Ramon Pons was at our meeting. He advised that the next rewrite for the 2014 Edition is due May 25, 2013 Our Chapter number will change to 6.
- An e-mail was sent to the Chair and asked to recruit a new Handbook Chair.

**Standards –Rob Yost**

- SPC 175  *Metal Pressure Vessel Method to Test Materials Used with Refrigeration Systems*  
  - Joe Karnaz  Chair. Committee members are Alan Cohen, Ken Lilje, Rosine Rohatgi and Chris Seeton, they meet at 4:15 pm on Monday. A few minor issues need to be discussed.

- 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. A call for members was put out, we need members and the first meeting will be in Chicago.

**Research – Liz Dixon**

Research Liaison  Ray Cohen

Ray Cohen Research Liaison will be retiring and the new Liaison will be Don Bivens after this meeting. Danny Halel asked for a round of applause by the committee for Ray for his work keeping us focused and up to date.

The money is opening up for Research and there is available money to spend.

Sub committee members include: Jay Field, Ken Lilje and Bob Doerr.

TC 3.2, 3.3 and 3.4 meet as a group on Sunday afternoon at 4pm. All interested parties are welcome.

- WS 1410  *Effects of System Materials Towards the Breakdown of POE Lubricants and HFC Refrigerants Part 2*  
  Accepted for bid by ASHRAE RAC October 2009. Committee includes: Bob Doerr, Jay Field, Joe Karnaz, and Steve Kujak - Chair. The Work Statement went out for bid, bids have been received and has asked that we go into Executive Session after this meeting to present and vote.

- RP 1409  *Stability of Candidate Lubricants for CO₂ Refrigeration Systems*  – Awarded to Spauschus Associates. Work is complete. The report has been submitted and the recommendation by the subcommittee is to accept the report.

MOTION #3  accept and approve Spauschus Associates Document 1409. Motion made by Liz Dixon and seconded by Steve Kujak.  6-0-1 CNV abstain reason one of the committee members did not get a chance to review the document.

Research Sub-committee met and generated some new possible research subjects including:

Cooperating with TC 3.4 on General System Chemistry and MCLR.

**Webmaster – Dave Vincent**

- The website is up to date and accessible on the ASHRAE website.
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. The Chair asked for additional members if anyone was interested.

Voting Members 9 International Members - 2 Corresponding Members 37

Leadership of the committee as of July 1, 2011:
Raymond Thomas Chair Danny Halel - Secretary
Ken Lilje Program Rob Yost - Standards
Elizabeth Dixon Standards David Vincent Webmaster
Scott Gustafson ALI VACANT - HANDBOOK

Old Business

- No old business was brought forth to the committee.

New Business

Our next Meeting will be on Monday, January 23, 2012 in Chicago, IL.

Adjournment

The meeting was adjourned at 3:55. By Chair Dr. Thomas Leck.