TC/TG/MTG/TRG MINUTES COVER SHEET

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

TC/TG/MTG/TRG No. 3.3 DATE August 27, 2017

TC/TG/MTG/TRG TITLE: Contaminant Control

DATE OF MEETING June 27, 2017 LOCATION Long Beach, CA

<table>
<thead>
<tr>
<th>MEMBERS PRESENT</th>
<th>YEAR APPTD</th>
<th>MEMBERS ABSENT</th>
<th>YEAR APPTD</th>
<th>EX-OFFICIO MEMBERS AND ADDITIONAL ATTENDANCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Joe Nigro</td>
<td></td>
<td>Danny Halel</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chris Reeves</td>
<td></td>
<td>Julie Majurin</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Debra Kennoy</td>
<td></td>
<td>Raymond Thomas</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rob Yost</td>
<td></td>
<td>Alan Cohen</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rosine Rohatgi</td>
<td></td>
<td>Alice Reimer (NQM)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ivan Rydkin</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brad Boggess</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>TAC Section Head: Jay Kohler</th>
<th><a href="mailto:SH3@ashrae.net">SH3@ashrae.net</a></th>
</tr>
</thead>
<tbody>
<tr>
<td>All Committee Liaisons As Shown On TC/TG/MTG/TRG Rosters (Research, Standards, ALI, etc.)</td>
<td>Steve Kujak – Research Don Fenton - Standards</td>
</tr>
<tr>
<td>Mike Vaughn, Manager Of Research &amp; Technical Services</td>
<td><a href="mailto:MORTS@ashrae.net">MORTS@ashrae.net</a></td>
</tr>
</tbody>
</table>

Note: These draft minutes have not been approved and not the official, approved record until approved by the TC.
Minutes – TC 3.3 Refrigerant Contaminant Control

1) Call to Order

Joe Nigro (Chair), called the meeting to order at 3:30 pm on Tuesday, June 27, 2017. The meeting was held at the Long Beach Convention Center Room Seaside 3A. After introduction of members and guests, a quorum was confirmed with 7 of 11 voting members present.

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.

MOTION #1: to approve the Long Beach agenda was made by Rob Yost & Rosine Rohatgi seconded. Motion passed 7-0-0

MOTION #2: to approve the Las Vegas minutes was made by Brad Boggess & Debra Kennoy seconded. Motion passed 7-0-0

2) Report on TC 3.0 Chair Breakfast Meeting – Joe Nigro

- The complete TC 3 Chairs Breakfast Notes will be posted on the TC 3.3 website.
- ASHRAE has changed its commercialization process. URL’s may be used in bibliographies. Presentation must remain in URL free.
- ASHRAE publications is working to develop content to publish. Research Papers, Conference Content and articles for Insights are all opportunities for publication. Mark Tone is the Section 3 Publications contact.
- ASHRAE will make single technical session badges available for $70.
- ASHRAE will provide attendees that do not pay for a conference attendance badge a free name badge at the registration desk.
- RAC advises TC’s looking for research co-sponsors to make sure the co-sponsoring TC participates in the research. A point person should be identified as the contact point with the co-sponsoring TC and that individual will be responsible for communicating with the co-sponsoring TC and making sure the TC agrees with the research project before and during the work.
- A WORD based RTAR form will be available soon. The new form will allow copy, paste and graphics additions. RATAR’s should be submitted to RAC as a PDF.
- RAC will no longer pay vendors monthly. Vendors will be paid upon milestone completion.
- 2018 Summer ASAHRAE in Houston will feature a “Chemistry Day”. This will be a non-ASHRAE sponsored event held a day or two before the start of ASHRAE. The focus will be to share presentation on Fundamental Chemistry related to Refrigeration. Information to follow.
- 2018 Summer SHRAE has a Track 7 – Flammability Research Summit – old and new data is being sought for presentations – consider participating.
- The 2018 Annual Meeting will feature a Refrigeration Mini Track held in the Exhibition Center – there is space for addition speakers – if interested let Steve Kujak know.

Upcoming meetings
- Chicago – January 2018
- Houston – June 2018
Liaison Comments:

- Jay Kohler, Section 3 Head, thanked the group as a representative from TAC. He emphasized the need for people to get involved in whatever capacity within the TC and mentioned that the beginning of a society year is a good time to take advantage of various resource training as a refresher or to those new to positions.

- Don Fenton, Refrigeration Handbook, is looking for submittal of the chapter and approval of the TC. This should take place shortly after the meeting. He mentioned a recent survey of YEA members that list the handbook as being the most important aspect of being an ASHRAE member.

Sub-Committee Reports

3) Program – Joe Nigro

- TC 3.3 co-sponsored one seminar in Long Beach: Seminar 23 – Contaminant Control and Lubricant Considerations during Retrofits to Low GWP Refrigerants, Chair Ed Hessel; Presenters – Joe Karnaz, Shrieve; Sarah Kim, Arkema and Andrew Pansulla, Chemours. The seminar was Monday morning and was well attended with over 75 people.

- TC 3.3 will be represented in a mini track that is being scheduled for Chicago that will include 4 seminar tracks. Most of these tracks have already been filled with speakers and considerations were being made to add additional speakers. The presentations will take place at the convention center and will be part of the expo. The various Section 3 program chairs will plan to meet in September to discuss the details.

- ASHRAE is planning to celebrate their 125-anniversary celebration in 2020 and would like to have seminars related to history aspects of ASHRAE. TC are encouraged to submit ideas, the deadline is September 30, 2017.

- A workshop program for a future ASHRAE was briefly discussed and tabled for further discussion in Chicago.

4) Handbook – Chris Reeves

- Chris Reeves thanked all handbook committee members and reviewers for their help in finishing the Chapter 7 updates and revisions. This will go out as a letter ballot vote to the new society year TC 3.3 members for vote.

5) Standards – Rob Yost

- SPC 35-2014 – “Method of Testing Desiccants for Refrigerant Drying”- paperwork was submitted to Standards and comments were returned on some mandatory language issues with the standard. The committee is reviewing for next steps.

- SPC 63.1 – “Method of Testing Liquid Line Filter Driers” – this standard is under revision and faces challenges with mandatory language. The committee has updated some changes and are currently reviewing. Chris Reeves mentioned that due to some changes in committee members there is a need to find more people for a balanced committee.
• SPC 63.2 – “Method of Testing Liquid Line Filter Drier Filtration Capacity” – this standard has finished the revisions and should be okay until next revision period.

• SPC 78 – “Method of Testing Flow Capacity of Suction Line Filters and Filter Driers” – the committee has made necessary mandatory language updates and submitted to the Standard Liaison for review along with the needed public review documents.

• SPC 219 (has replaced SPC 63.3) -- “Method of Testing Acid Filters” – the committee will have a meeting on Wednesday. They replaced a member to maintain balance and data will be shared amongst the committee for review. A revision was made to the TPS to remove inorganics and a draft is planned in one year.

6) Research – Tony Barthel

Tony Barthel has taken over as Research Sub-committee Chair from Glen Steinkoenig. The TC recognized Glen for his service.

• RP 1740: “Hydrogen Fluoride Capacity of Desiccants” – there continues to be difficulty in getting contractors to bid on this project. Mike Vaughn has asked for the committees help in trying to identify qualified bidders. Since Alan Cohen, who initially was leading this research, has retired Rob Yost volunteered to take the point.

• WS 1790 - “Water Solubility and the Distribution of Water between Vapor and Liquid Phases of Low GWP Refrigerants” – This went out as a letter ballot and sent to RAC. Improvements were suggested such as more detail and more student involvement factored in. Revisions will be made and resubmitted to RAC.

• WS 1774 – “Effect of System Chemicals Towards the Breakdown of Lubricants and Lower GWP Refrigerants” Per Rosine Rohatgi of Spauschus, an update of the work was given and the final report should be done by August 31st.

• New RTAR – “CO₂ Systems” to address right level of water in system with actual testing due to potential expansion valve issues (hydrate at 11C, acid problems). Per Ivan Rydkin, TC 10.6 voted to sponsor as written. The committee will receive the RTAR to review and could be voted on by letter ballot.

• Research Ideas
  - Based on going through the Handbook revisions some suggestions were made that might require additional research needed on such things as:
    • Effects of common contaminants on dielectric properties of refrigerants.
    • Filter dryer needs with low GWP refrigerants.

7) Webmaster – Elyse Sorenson

• Per Elyse, the Website is up to date. (http://tc0303.ashraetcs.org). It was suggested that the Research Plan be uploaded to the website.

8) Low GWP MTG – Marc Scancarello

• Marc updated the committee on the current activities being performed by the MTG particularly those regarding Research and Standards & Codes.
9) **Membership – Joe Nigro/Joe Karnaz**

- **Committee and Voting Members for next society year:**
  - **Committee:** Joe Nigro – Chair/Program; Chris Reeves – Vice Chair; Frank Nagy – Secretary/Membership; Rob Yost – Standards; Tony Barthel – Research; Angel Mendez – Handbook; Elyse Sorenson - Webmaster
  - **Voting Members:** Joe Nigro, Chris Reeves, Rob Yost, Debra Kennoy, Brad Boggess, Ivan Rydkin, Joe Karnaz, Elyse Sorenson, Roberto Urrego and Alice Reimer (NQM)

10) **Old Business**

- None

11) **New Business**

- Standard 41.4 - Methods for Proportion of Lubricant in Liquid Refrigerant Measurement is being revised and it was asked if anyone was interested in joining this standard.

12) **Adjournment**- a motion to adjourn the meeting was made by Brad Boggess & seconded by Ivan Rydkin; meeting was adjourned at 5:02PM

Respectfully submitted,

Joe Karnaz substituting for, Frank Nagy Secretary TC 3.3