

**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 3.3 DATE July 30, 2014

TC/TG/TRG TITLE Refrigerant Contaminant Control <http://tc33.ashraets.org/>

DATE OF MEETING July 1, 2014 LOCATION Seattle, WA

MEMBERS PRESENT	YEAR APPTD	MEMBERS ABSENT	YEAR APPTD	EX-OFFICIO MEMBERS AND ADDITIONAL ATTENDANCE
Rob Yost – Chair & Standards	VM			Joe Nigro – Program
Debra Kennoy	VM			Brad Boggess – Handbook
		Alice Reimer - IM		Ray Thomas – Research
Joe Karnaz	VM			Sonny Sundaresan, Travis Benanti,
Julie Majurin – Vice Chair	VM			Jian Sun-Blanks
Frank Nagy – Secretary & Membership	VM			Alan Cohen, Mark Spatz, Ed Hesssell John Withouse, Sunil Nanjundarum Bob Skorupsky, Mia Daniels
		Danny Hael		Ted Li, Knut Petry
Glen Steinkoenig	VM			Roberto Urrego, Hewitt Gaudin
Marc Scancarello	VM			Tom Leck; Georgi Kazachki
		Bob Woods		Warren Clough,
		Joe Longo		Scott Wujek, John Senediak
		Rosine Rohatgi		Chris Reeves, Greg Smith

DISTRIBUTION

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

TAC Section Head:	<u>Bill Murphy</u>
TAC Chair: TAC Vice-Chair:	<u>Charles Culp</u>
All Committee Liaisons As Shown On TC/TG/TRG Rosters:	Raymond Cohen, Don Bivens – RAC Ramon Pons – Handbook Doug Abramson – Standards William Fleming – Special Pubs C Brian Wandling – Program Mark Tome – CTTC
Manager Of Standards	Stephanie C Reiniche
Manager Of Research & Technical Services	Mike Vaughn
Admin Asst – Technical Services	Tara Thomas

Note: "These draft minutes have not been approved and are not the official, approved record until approved by this committee."

1) Call to Order

Rob Yost (Chair), called the meeting to order at 3:31 pm on Tuesday, July 1, 2014. The meeting was held at the Washington State Convention Center (Room 608) in Seattle, WA. After introduction of members and guests, a quorum was confirmed with 7 / 12 voting members present. There were no changes or additions to the minutes.

MOTION #1: to approve the minutes was made by Glen Steinkoenig & seconded by Debra Kennoy. Motion passed 7-0-0.

2) Report on TC 3.0 Chair Breakfast Meeting – Rob Yost

Please abide by the Ethics Policy – promoting fairness.

Section 3 will be issued the Outstanding TC Award in Chicago!

Hightower Award nominees are due September 1.

ASHRAE biography section has been updated; there are new choices for employment discipline.

CEC attended all section chair breakfast meetings and are listening to section needs / comments.

Abstracts need to be high quality; this is the primary determinant.

ASHRAE is cracking down on commercialism.

Members are encouraged via CEC to volunteer to review technical papers; a sign-up sheet was sent around during the TC meeting.

Subcommittee meetings via web conferencing is available; ASHRAE to provide meeting number / details.

There will be an online roster procedure by 2016.

Upcoming meetings

- Chicago January 2015
- Atlanta June 2015

Liaison Comments:

Research-there is a good balance of funding and research. Improvements have been made on RTAR/WS form; RAC response will state accepted (with comments) or rejected. There are good programs in Section 3. A new Strategic Technology Plan will be effective after 2015.

Rob Yost, Chair was issued a certificate of appreciation (“a job well done”).

Sub-Committee Reports

3) Program – Joe Nigro

- Workshop: “Learn What’s Important about Refrigerant Contaminants” was conducted Sunday morning (8:00am) with Warren Clough as moderator with Rob Yost and Chris Reeves as presenters.

- Seminar on “CO2 System Contaminant Control & Retrofit” was rejected; will possibly resubmit as Workshop for Atlanta (Danny Halel & Rob Yost presenters).
- A joint Section 3 summit was recommended by TC 3.4 Program Chair with following topics for Atlanta: “Contaminant Control in Hydrocarbon Systems”, “Other Natural Refrigerants-CO2” & “Other Low GWP Refrigerants-HFO’s”.
- Georgi Kazachki addressed the TC about co-sponsoring (with TC 9.3 & 10.7) a program “Best Practices in Manufacturing, Field Installations & Servicing Refrigeration & AC Sytems” for Chicago (brazing concerns were discussed). **MOTION#2:** to co-sponsor was made by Joe Karnaz & seconded by Glen Steinkoenig; motion passed 7-0-0. Chris Reeves & Marc Scancarello volunteered as speakers (in addition to 3 other speakers already); abstract is due August 11.

4) Handbook – Brad Boggess

- Chapter 7 was completed; Rob Yost, Chair recognized the committee chair (Brad) & members in appreciation for their efforts: Alan Cohen, Bob Woods, Joe Longo, Sonny Sundaesan, Danny Halel, Amanda Hickman & Jay Field.

5) Standards – Rob Yost

- SPC 35-2010 – “Method of Testing Desiccants for Refrigerant Drying”- was reaffirmed in Dallas (2013).
- SPC 63.1 – “Method of Testing Liquid Line Filter Driers” – under revision; need to finalize / to vote in Chicago. (Scope only encompasses halogenated hydrocarbons; perhaps change to add other fluids?) Bob Woods, subcommittee chair / members: Jorge Cabrera, Chris Reeves, Alan Cohen, Jay Field & Rob Yost.
- SPC 63.2 – “Method of Testing Liquid Line Filter Drier Filtration Capacity” – under revision; Glen Steinkoenig subcommittee chair. Team meeting / member formation initiated in Seattle.
- SPC 78 – “Method of Testing Flow Capacity of Suction Line Filters and Filter Driers” – under revision; Chris Reeves, subcommittee chair / members: Alan Cohen, Juan Flores, Julie Majurin & Rosine Rohatgi.
- “MOT for the Effects of System Contaminants on Expansion Devices” – was discussed in length (write standard vs guideline or do nothing; method complexity: bench vs system based?). Proposal to have TC sponsor paper session initially to validate need for standard with following topics: bench top & system methods and field case studies was also suggested. Motion to accept and send TPS as written to Standards Committee was agreed by TC to postpone and discuss further at next meeting (Chicago). Subcommittee Chair, Marc Scancarello / members: Sonny Sundaesan, Rob Yost, Julie Majurin, Brad Boggess & Warren Clough.
- Added Standard for: “MOT of Liquid Line Filter Driers for Organic Acid Capacity”; Rob Yost to review with Standards Committee.
 - SPC 63.3 “Method of Testing Acid Filters” in limbo as a draft since 1989 was never approved. TRP-1028 followed and a final report was issued in 2002 but was never approved as well. (Glen Steinkoenig authored a TPS: “MOT the Ability of Liquid Line Filter Driers or Adsorbents to Remove Organic Acid” for Denver (2013): a motion to spawn a standard on organic acid removal passed.) John Senediak will chair subcommittee; team to be formed in Seattle.

6) Research – Raymond Thomas

- Raymond Thomas, Chair recommended authors of RTARs / Work Statements to coordinate with Mark Spatz to help push processing through ASHRAE.
- TRP 1495 – “Effect of Oil on Distribution of Moisture between Vapor and Liquid Phases of Refrigerants” (Authors: Alan Cohen, Raymond Thomas, Rob Yost, Liz Dixon): TC 3.2 and TC 3.4 are co-sponsors. This is an extension of Refrigeration Handbook Chapter 7, Table 2 data for pure refrigerants revised by Research Project 1239. TRP-1495 deals with the effect of oil. Final report was accepted in Dallas. (There is little effect noted

with POE and MO with R-134a & R-22; whereas, PAG was more noticeable.) Phase 2 of TRP-1495 was deleted (no longer appropriate).

- TRP 1641 – “Effect of Unsaturated Fluorocarbon Contaminants on the Reliability and Performance of HVAC&R Equipment” – phase 1 completed; Spauchus presented initial data. Data review to select level for next round being conducted; work to be completed by next meeting (Chicago).
- RTAR / Work Statement – “Hydrogen Fluoride Capacity of Desiccants” – draft via Alan Cohen was reviewed: comment made was to correct Chapter 6 (previous Handbook Chapter) reference to Chapter 7. Approved during NYC meeting for RAC funding; TC 3.2 approved to co-sponsor as well (in Seattle). Alan Cohen to submit.
- RTAR: “Determine Maximum Allowable Level of Impurities in HC (non-fluorocarbon) Refrigerant Systems”- on hold for now as await field feedback via trial specification set by AHRI-700.
- TRP 1665 - “Reactivity of R-40” work statement to fast track research was approved. (There is a safety concern with the reactivity of R-40 contaminant in R-134a primarily with aluminum. McCampbell Analytical was awarded the bid.) Data indicates reactivity from 100ppm to 5% levels. Final report to be ready for TC approval at next meeting (Chicago).
- RTAR - “Distribution of Water between Vapor and Liquid Phases of Low GWP Refrigerants ” was modified with title change and R-134a was added as control. Finalized version to be sent to VM for comment; should be ready for TC approval next meeting (Chicago). Brad Boggess author. TC 3.1, 3.2 & 3.4 co-sponsors.
- New RTAR - “In Situ Identification of R-40 in Remediation and its Degradation Products” was championed by Glen Steinkoenig. Committee decided to await feedback via TRP-1665 report first before pursuing. Alan Cohen posted on website. On hold for now.
- New RTAR – “Effect of Additive Residues in Retrofitted Equipment”: Chris Seeton to champion with Chris Reeves & Sonny Sundaresan to assist.
- New RTAR – “System Chemistry Effects in Wet CO2 Units”: Glen Steinkoenig to champion (TC 3.2 research topic; recommending co-sponsor via TC 3.3) with Chris Seeton & Marc Scancarello to assist.
- New RTAR – “Effects of Non-Condensable & Other Contaminants on Lowering the Efficiency/Capacity/Healthiness of Buildings”: Rob Yost to champion.
- New RTAR – “Breakdown of Lubricant at High Discharge Temperature”: Lix Dixon to champion.

7) **Webmaster – Alan Cohen**

- Website is in compliance (<http://tc33.ashraetcs.org>) & up to date.
- Obituaries for long time members Richard Cavestri and Shel Rosen were copied on the site; their significant contributions over the years were discussed and greatly appreciated.

8) **Membership – Frank Nagy**

- **Voting Members for upcoming society year (through June 30, 2015):** Danny Halel, Rosine Rohatgi, Julie Majurin, Debra Kennoy, Glen Steinkoenig, Marc Scancarello, Joe Longo, Bob Woods, Ray Thomas, Alan Cohen & Alice Reimer-IM.
- **Committee positions for upcoming society year (through June 30, 2015):** Julie Majurin (Chair), Rob Yost (Standards), Raymond Thomas (Research), Joe Nigro (Program & Vice Chair), Alan Cohen (Webmaster), Chris Reeves (Handbook) & Frank Nagy (Secretary & Membership).

9) Old Business

- None

10) New Business

- None

11) **Adjournment-** **MOTION #3**: to adjourn meeting was made by Frank Nagy & seconded by Joe Karnaz (7-0-0); meeting adjourned at 4:49PM.

Respectfully submitted,

Frank Nagy
Secretary TC 3.3