

**AMERICAN SOCIETY OF HEATING, REFRIGERATION AND AIR-CONDITIONING ENGINEERS, INC.**

1791 Tullie Circle, NE, Atlanta, GA 30329  
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**TC/TG/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/TRG No. 3.2

Date: June 30<sup>th</sup>. 2003

TC/TG/TRG TITLE: Refrigerant System Chemistry

DATE OF MEETING: - June 30, 2003

LOCATION: - Kansas City, MO.

Voting Members Present		Voting Members Absent	
David J. Vincent Chair Horst Thamm International Member Robert Doerr Handbook Chair Danny Halel Secretary Robert Yost Research Chair Alan Cohen Joe Karnaz Michael Glenn Lacey Sonny Sundaresan		Warren Clough - Vice Chair Dietrich Huttenlocher - Standards Chair Glen L. Steinkoenig Alice Riemer - International Member Cary Haramoto David Wilson Corresponding members absent Karim Amrane Finn Broesby-Olsen Charlie Butler Joel Kerstein Gary Dudley Clint Finstad Bob Vincent Shelvin Rosen William Walter	
Corresponding members present Ken Lilje Jay Field Andrew Gbur Bouril		Ray Thomas James Bouril Fred Polley James	Eldon Ward Motoshi Sunami Tom Watson Wayne Sumi Barry Millward Tony Min Frank Nagy Yanwei Chen Lois Lin
Ex-Officio Members and Additional Attendance			
Scott Gustafson	Richard Kelley	John Danaher	Chris Seeton
Curt Slayton	George Psillas	Hideki Suto	Rosine Rohatgi
Bob Woods	Hewitt Gaudin	Sunil Nanounbaram	Joe Nigro
Dave Bellas	Pat Gilbane	Steve Christopher	

**DISTRIBUTION:**

All members of the TC/TG/TRG

TAC Chairman: William Murphy

TAC Section Head: Daniel Int-Hout

LIAISONS:

Program: John Bisset

Journal:

Standards: Arthur D. Hallstrom

Special Publication: Marilyn Listvan

RAC Research Liason: Richard Cawley

Education: Alexander J. Boome

TEGA LIASONS: Marvin Ginsburg [01]

Jon C.Larry

ASHRAE STAFF LIAISONS:

Research: Michael Vaughn

Handbook:

Handbook:

Standards: Claire Ramspeck

Technical Services: Michael Vaughn

Additional Distribution:

## **Minutes – TC 3.2 Refrigerant System Chemistry**

David Vincent, Chairman, called the meeting to order at 2:15 p.m. on Monday June 30, 2003. The meeting was held in the Atlanta Room of the Wyatt Crown Center located in Kansas City, MO. After the introduction of members and guests, a quorum was confirmed with 8 members present and 5 absent, 2 additional members arrived after the formal introductions.

A motion was made and seconded to approve the minutes as written from the Winter ASHRAE meeting held in Chicago, IL. MOTION PASSED 8-0-0 (Chairman voting).

The agenda for the present meeting was approved with minor changes.

### **Report on TC 3.0 Chair Breakfast Meeting and ASHRAE Liaisons Present**

Standards Liaison - Dr. Gideon Shavit  
Standards 141 and 175 need additional members in order to continue.

#### **Chairman's Breakfast**

- ✍ The bound edition of the Handbooks is still the preferred format; in 2005 the CD will be the preferred version.
- ✍ Of those Handbooks ordered or sent with dues payments 90% were requesting the bound version.
- ✍ Seminar and Forum Packages for Anaheim need to be submitted by August 8<sup>th</sup>.
- ✍ Review for Symposia papers need to start by Sept 26 for Nashville.
- ✍ There are presently 74 research projects underway, 29 were completed in the last year.
- ✍ Fourteen work statements were reviewed at this meeting.

### **Sub-Committee Reports**

#### **Program – Ken Lilje**

Kansas City  
Summer 2003  
No programs planned.

Anaheim  
Winter 2004  
Symposia "System Chemistry and Contaminants Research". Chair - Danny Halel  
Only one of the three papers have been sent to ASHRAE for review, Danny Halel will call Dr. Cavestri and Dr. Kaufmann about their submittals. The Symposia will be rescheduled for Nashville.

Seminar entitled "Issues for Alternative Refrigerant Systems" Chair - Ken Lilje. Three speakers have been lined up for the Seminar. This seminar will be mixed with another Seminar planned for Anaheim entitled "System Chemistry, Safety, Contaminants, and Handling Issues when Utilizing CO<sup>2</sup> as a Refrigerant".

A motion was made by Alan Cohen and 2<sup>nd</sup> by Danny Halel to sponsor a forum entitled "*How has the field practice evolved from initial recommendations for good chemical system compatibility with process fluids?*" Moderator – Raymond Thomas  
MOTION PASSED 8/0/0

A motion was made by Ken Lilje and seconded by Jay Field to sponsor a Forum entitled "HFC/POE's – System Chemistry – Did the Sky Fall?" Moderator – Jay Field  
MOTION PASSED 8/0/0

## **Handbook - Bob Doerr**

Chapter is complete and submitted. A new Handbook committee will be formed to work on the next version. Members of the Subcommittee include; Raymond Thomas, Robert Doerr, Chris Seeton, and Ken Lilje.

## **Standards – Rob Yost**

Standard SPC141P

*"Method of Testing Fluorocarbon Refrigerants for Contaminants"*.

Doug Tucker – Assistant Manager of Standards – International, has volunteered to put the draft into ISO format. ISO 12810 has been dropped from ISO due to excessive time. Sonny Sundaresan, Rob Yost and Danny Halel are going to work with ASHRAE staff to complete the staging of the document after ARI 700-2003 is complete.

Standard SPC175P

*"Metal Pressure Vessel Method to Test Materials Used with Refrigerant Systems"*.

The SPC is working on the draft Joe Karnaz, Ken Lilje, Glen Steinkoenig, Mike Lacey, Alan Cohen, and Rosine Rohatgi are the suggested committee members. Membership paperwork needs to be completed on the ASHRAE website. The SPC has a scheduled meeting immediately following this meeting in the Westin, Suite 1539.

## **Research – Jay Field for Glen Steinkoenig**

*1158 TRP - Effects of System Materials towards the Breakdown of POE Lubricants and HFC Refrigerants*

Rosine Rohatgi:

Complete - final report has been submitted to ASHRAE.

A motion was made by Joe Karnaz and 2<sup>nd</sup> by Rob Yost to approve the 1158 TRP Final Report based on the recommendation of the Project Monitoring Subcommittee.

MOTION PASSED 10/0/0 CV

The report will be sent out with the minutes.

*1211 TRP - Mechanism for the Reactions between Polyolester Lubricants and Ferrous Metals.*

Bob Kauffman: The project was started in September 2001.

The project Monitoring Subcommittee is ready to move the report to the TC for vote.

Part I – Literature search is complete and has been compiled

Part II – Thermal tests have been conducted under various conditions to understand ester/metal reactions and kinetics. Side reactions and metal accelerated hydrolysis complicate ester/metal reactions.

Part III – Run a 2<sup>nd</sup> set of tests optimising conditions to isolate and determine reaction mechanisms and products. - Complete

A motion was made Sonny Sundaresan and 2<sup>nd</sup> by Joe Karnaz accepting the final report and recommendations of the Project Monitoring Subcommittee for 1211TRP *1211 TRP - Mechanism for the Reactions between Polyolester Lubricants and Ferrous Metals.*

MOTION PASSED - 9/1/0

Wants to read it before voting.

*1249 WS – Determine the Mechanism for Copper Plating and Methods for its Elimination from HVAC Systems"*.

The work statement was returned by ASHRAE. The comments and changes needed look manageable. Ken Lilje and Bob Doerr have not made the changes to the document, they will prepare the changes and send to Danny Halel for Letter Ballot to the Technical Committee.

*RTAR – Identify Safe Methods for Testing System Components and Materials with Non-halogenated Refrigerants*

RTAR was approved by ASHRAE in 2001. There is a need for volunteers to write the work statement, the attendees of this meeting were not interested. RTAR has been tabled.

Jay Field has a list of projects that need to be transferred to RTARS, Mike Lacey has volunteered to do this.

Jay Field has volunteered to write an RTAR to identify the next 14 chemicals from process fluids that were generated from 1158TRP research.

The Research Subcommittee will meet in Anaheim to discuss future RTAR's. This meeting is usually held on Sunday from 5pm to 6pm.

**Membership – Dave Vincent**

The roster for voting and corresponding members was read for the upcoming year. Anyone interested in becoming a corresponding member contact Dave Vincent.

**Website – Dave Vincent**

The website will be current within the week. Dave will have a link on the ASHRAE website. See David Vincent for submittals..

**Old Business – Ken Lilje**

At the meeting in Chicago a Motion was made to have the chairman write a letter to ASHRAE Program Committee asking to make all Forums available for attendance by the open public.

David Vincent will send a letter to ASHRAE.

**New Business – Ken Lilje.**

No new business was brought before the committee.

**Adjournment**

A motion was made and seconded to adjourn the meeting.  
Motion Passed 10 – 0 – 0

The meeting was adjourned at 4:25 pm.

Respectfully submitted

Danny Halel  
ASHRAE TC 3.2 Secretary