

**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 8.1 DATE July 19, 2016

TC/TG/TRG TITLE Positive Displacement Compressors

DATE OF MEETING June 28, 2016 LOCATION St. Louis, MO

MEMBERS PRESENT	YEAR APPT D	MEMBERS ABSENT	YEAR APPTD	EX-OFFICIO MEMBERS AND ADDITIONAL ATTENDANCE
Doug Collings	2012	David Bergeron	2013	See Attachment 1
Scott MacBain	2014	Rick Hall	2014	
Dr. Margaret Mathison	2013	Dr. Jason Hugenroth	2014	
Dr. Michael Perevozchikov	2011	Heinz Juergensen (MNQ)	2013	
Michael Wegenka	2014	Dr. Georgi Kazachki	2014	
Andrew Welch	2013			

**DISTRIBUTION**

TC:	All members of TC8.1
TAC Section Head:	Dustin Meredith
TAC Chair:	Michael Bilderbeck
All Committee Liaisons As Shown On TC/TG/TRG Rosters:	David Yasher– Section 8 Research Liaison David Fisher – Refrigeration Handbook Chair Michael Patton – Systems Handbook Chair James Aswegan – Standards Jim Tauby – SPLS Liaison Francis Mills – Special Pubs Joseph Sanders – Technology Transfer Committee
Staff Liaison	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 - Scott MacBain**

Scott MacBain called the meeting to order at on Tuesday June 28, 2016. A sign-in sheet was circulated and is included as Attachment 1 to these minutes. Reminder to review the ASHRAE Code of Ethics (Attachment 2)

### **Establishment of a Quorum – Jim Douglas (Membership Chair)**

A roll call was taken. Voting members present were Scott MacBain, Drew Welch, Michael Perevovich, Doug Collings, Michael Wegenka, and Margaret Mathison. With 6 of 10 voting members present, a quorum was established.

Scott MacBain welcomed visitors and provided instructions to become a provisional member of the committee. All members and visitors present self-introduced.

### **Liaisons**

#### **Handbook Liaison – Scott Fisher**

There is a new authoring tool that is suggested for use in the next cycle.

Interested in addition of information relating to new refrigerants, especially 2L flammability

#### **TAC Section Head – Dustin Meredith**

Thank you to Scott MacBain for his service as TC Chair.

E-mail [Sh8@ashrae.net](mailto:Sh8@ashrae.net) with any questions for the section head.

### **Approval of the Orlando Minutes – Scott MacBain**

An amendment was proposed by Greg Chilcote to correct the minutes from “Approval of Chicago Minutes” to “Approval of Atlanta Minutes” and change header from “Atlanta” to “Orlando”. Michael Wegenka moved to accept the Orlando minutes as amended and Michael Perevozchikov seconded the motion. The motion passed unanimously. (6-0-0, 4 absent and the Chair voting).

### **Chair’s Report (from TC/TG Section 8 Breakfast Meeting)**

- Subcommittee meetings – this can be done by conference call interim, let Scott or Margaret know if a subcommittee interim meeting is useful
- New MTG.IAST – Impact of Energy Standards
- New MTG.OBB – Occupant Behavior in Buildings
- Other MTGs considered – Air Change Rate
- New website template – Greg Chilcote says it is easy to use
- E-mail aliases – available for all subcommittee chairs
- Restructure Manual of Procedures for TCs
- Update to Distribution of TC Minutes, Coversheet and Form have been update, no longer include TAC chair
- Go to Bio/My Committees to find voting membership of TCs can be pasted into Outlook
- Presentation template for sharing in local chapters on what TCs do
- Where quorum is a challenge, remote participation is available through ASHRAE
- RAC prioritizes residential related research topics
- CEC has a standing request – open to suggestions for future tracks (Tony G)
- Additional information not discussed to be included in the minutes (Separate Attachment to e-mail)

## **Standards – Jim Douglas**

TC 8.01 is the cognizant or co-cognizant technical committee for four separate ASHRAE standards:

- SPC 23.1-2010R, “Methods of Testing For Rating the Performance of Positive Displacement Refrigerant Compressors and Condensing Units that Operate at Subcritical Temperatures of the Refrigerant.” Margaret Mathison is the Chair of this revision committee and the revision work is progressing. New members and guests are always welcomed.
  - 2 Interim meetings planned before Las Vegas meeting in January, planned for PPR in January
- SPC 23.2P, “Methods of Test For Performance Rating Positive Displacement Refrigerant Compressors That Operate at Supercritical Temperatures of the Refrigerant.” This new standard was published in 2014 and will be due for periodic maintenance in January 2017.
- Standard 41.9-2010, “Standard Methods for Refrigerant Mass Flow Measurement Using Calorimeters.” Michael Perevozchikov is the Chair of this revision committee and revision work is progressing. New members and guests are always welcomed.
  - Committee met Monday morning for 4 hours
- Standard 41.10-2013, “Standard Methods for Refrigerant Mass Flow Measurement Using Flowmeters.” This standard was published in 2013 and will be due for periodic maintenance in January 2016.
  - John Neel chairing committee, first meeting this morning, first pass completed this morning
  - New members and guests are always welcome
- ASHRAE Guideline 2 will be discontinued – this will impact 7 of 10 41 series standards

## **Program - Erik Anderson**

- Conference website for St. Louis annual meeting: <http://www.ashrae.org/StLouis/>
- TC 8.1 sponsored Seminar 13: Advancements in Design, Testing and Performance Modeling For New Efficiency Standards and Alternative Refrigerants on 6/26 in Room 221, chaired by G. Kazachki, with presentations by J. Sanchez, G. Powell, V. Aute and A. Lifson8,2 approved a seminar for variable speed drives applied to chillers Rick Heiden chair
  - Motion to co-sponsor by Margaret Mathison, Second by Michael Perevozchikov
    - Approved 6-0-0 CV
  - Joe Sanchez expects he can also find a speaker (due 8/8/16)
  - Scott MacBain had previously agreed to provide a speaker
- Tracks for Las Vegas are listed on the website – due by 8/8/16
- Discussion on scheduling of seminars and interaction within tracks or committee meetings
- Speaker ratings – if a speaker is poorly rated, the society may ask that member not present again without proof of speaker training. Also submissions must be made on time to allow review for non-commercialism. Both three strike policies
- No other seminars or conference papers proposed – Long Beach conference paper abstracts due 8/20

## **Research Subcommittee – Craig Bradshaw (Chair)**

- Please bring any suggestions for new RTARs or improvements to the RTAR process to Michael Perevozchikov
- If you have ideas or an interest in the research subcommittee, please contact Michael Perevozchikov or attend the subcommittee meeting in future meetings.
- RAC is targeting applied research over fundamental technology
- RAC discussing allocating research funds to advancing completed research to develop tools/applications
- Research database lists 250 complete projects and access if free for members on the research page, they are continuing to add projects to access; very similar research provided by Bristol University in UK for hermetic motor research
- \$1M has been appropriated to updating risk assessment to overall risk of 2L refrigerants with DOE
- 1 accepted, 4 conditionally accepted work statements among 9 submitted

- RTAR 1793 accepted for motor cooling research / thermal conductivity (co-sponsored)
- Alex Leyderman has concerns for replacement refrigerants compatibility with compressor components
  - TC 3.4 has research into Daniel Chart miscibility data of new refrigerants
  - TC 3.4 also researching foamability of new refrigerants (already cosponsored)
  - Electrical conductivity of new refrigerants in compressors (hermetic motors and connectors)
  - Chris Seeton interested to help if concept is advanced
  - Using PAG lubricants with HFO refrigerants and in hermetic compressors/ Dielectric properties
  - Request Craig Breadshaw to coordinate with Alex Leyderman with supporting material from Chris Seeton to initiate an RTAR for discussion in Las Vegas
- Justin Prosser – performance prediction uncertainty of off design speed or pulse modulated compressors to support AHRI standard development
  - Can be done as an unsolicited research proposal – or the committee could submit a RTAR
  - Justin to work with likely researcher, AHRI cosponsorship, and work with Craig for interim subcommittee meeting

#### **Handbook – Alex Leyderman (Chair)**

- No issues identified with chapter dehydration charge and test – currently obsolete, need information from manufacturers
  - Chris Seeton will offer suggestions
  - Standard 147 has been updated – could be reviewed (Greg Chilcote)
  - Interim meeting maybe requested if significant additions are made
- Next chapter will be done using new tools

#### **Membership – Jim Douglas (Chair)**

- We have 10 voting member at this meeting, 1 non-quorum international member
- We have Rick Hall, Scott MacBain, Doug Collings rolling off, Alex Leyderman, Chris Seeton, Jim Douglas rolling on 7/1/16

#### **Website – Greg Chilcote (Webmaster)**

- The website is up to date for minutes and agenda
- The membership link did not work for Greg
- Seminar presentations are up to date through Chicago
  - Greg working on adding Orlando and St. Louis
- Research link to project final reports exists on the TC website

#### **Old Business – Scott MacBain**

- No old business was re-introduced.

#### **New Business - Scott MacBain**

- Justin Prosser from AHRI to share the details on the AHRI 1520P working group.
  - Performance rating standard for centrifugal compressors
  - We will likely need an ASHRAE method of test to support the rating standard that will soon be under development

#### **Motion to Adjourn**

- Scott thanks committee, subcommittee, and session participants
- Motion to adjourn by Doug Collings, Second by Mike Wegenka

**Attachment 1 ATTENDANCE LIST**

TC 8.1 Attendance List – St. Louis

Name	Company	Status
Scott MacBain	Carrier UTC	Chair/VM
Margaret Mathison	Iowa State University	Vice Chair/VM
Mike Wegenka	Trane	VM
Greg Chilcote	Trane	Webmaster/CM
Drew Welch	Johnson Controls	Secretary/VM
Doug Collings	Tecumseh Products	VM
Jim Douglas	Imagineering and More	Membership Standards/CM
Alexander Lifson	Carrier	CM
John Neel	Johnson Controls	CM
Michael Perevozchikov	Emerson Climate Tech.	Research/VM
Domenique Lumpkin		Guest
Miguel Boscan	Bitzer	Guest
Vishal Sharma	ORNL	CM
Dwayne Johnson	Trane	CM
Lee Sibik	Trane	Guest
Erik Anderson	Anderson Engineering	Programs/CM
Chris Campo	Shrieve	Guest
Chris Seeton	Shrieve	CM
Eddie Rodriguez	Daiken Applied	CM
Joe Sanchez	Bitzer	CM
Justin Prosser	AHRI	CM
Stefan Elbel	Creative Thermal Solutions	Guest
Ed Hessell	Chemtura	Guest
Kyle Larson	Vacom	Guest
Eric Berg	Lennox	CM
Rick Heiden	Trane	CM
Pat Geoghegan	ORNL	Guest
Bruce Griffith	Johnson Controls	CM
Eckhard Groll	Purdue University	CM
Brandon Lane	Carel	CM
Alex Leyderman	Fairchild Controls	VM
Scott Fisher	Retired	Handbook Liaison
Dustin Meredith		Section 8 Head

## **Attachment 2: Code Of Ethics**

### **ASHRAE Code of Ethics**

(Approved by ASHRAE Board of Directors January 31, 2007)

As members of ASHRAE, we pledge to act with honesty, fairness, courtesy, competence, integrity and respect for others in our conduct.

Efforts of the Society, its members, and its bodies shall be directed at all times to enhancing the public health, safety and welfare.

Members and organized bodies of the Society shall be good stewards of the world's resources including energy, natural, human and financial resources

Our products and services shall be offered only in areas where our competence and expertise can satisfy the public need.

We shall act with care and competence in all activities, using and developing up to date knowledge and skills.

We shall avoid real or perceived conflicts of interest whenever possible, and disclose them to affected parties when they do exist.

The confidentiality of business affairs, proprietary information, intellectual property, procedures, and restricted Society discussions and materials shall be respected.

Each member is expected and encouraged to be committed to the code of ethics of his or her own professional or trade association in their nation and area of work.

Activities crossing national and cultural boundaries shall respect the ethical codes of the seat of the principal activity.