

**AMERICAN SOCIETY OF HEATING, REFRIGERATING AND AIR-CONDITIONING  
ENGINEERS, INC.  
1791 Tullie Circle, N.E./Atlanta, GA 30329  
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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 1, 2014

TC/TG/TRG TITLE Positive Displacement Compressors

DATE OF MEETING July 1, 2014 LOCATION Seattle, WA

MEMBERS PRESENT	YEAR APPTD	MEMBERS ABSENT	YEAR APPTD	EX-OFFICIO MEMBERS AND ADDITIONAL ATTENDANCE
John Tolbert	2012	David Bergeron	2013	See Attachment 1
Rick Hall	2013	Doug Collings	2012	
Andrew Welch	2013	Gene Fields	2013	
Alex Leyderman	2011	Matt Irons	2011	
Margaret Mathison	2013	Bob Utter	2013	
		Heinz Juergensen	2013	
		Jim Douglas	2011	
		Alex Lifson	2013	

**DISTRIBUTION**

TC:	All members of TC8.1
TAC Section Head:	Stephen Duda
TAC Chair:	William McQuade
All Committee Liaisons As Shown On TC/TG/TRG Rosters:	David Yasher– Section 8 Research Liaison Michael Patton – Systems Handbook Chair D Fisher – Refrigeration Handbook Chair James Aswegan – Standards Thursten Simonsen – Technology Transfer Committee
Manager Of Standards Manager Of Research & Technical Services	Stephanie Reiniche 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 3:40 pm on Tuesday, July 1, 2014 in the Greenwood room of the Sheraton. Margaret Mathison served as secretary for this meeting. A sign-in sheet was circulated and is included as Attachment 1 to these minutes.

### **Establishment of a Quorum – John Tolbert**

A roll call was taken. Voting members present were Rick Hall, Alex Leyderman, Margaret Mathison, John Tolbert and Andrew Welch. With 5 of 11 voting members present, a quorum was not established.

Matt Irons has moved to Europe and Scott MacBain will serve as acting chair. Matt will roll off as a voting member after this meeting and Scott MacBain will take over chair.

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

Due to the absence of a quorum, Scott MacBain will send out a letter ballot for approving the NYC meeting minutes.

### **Liaisons**

#### **Section Head – Stephen Duda**

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

Stephen thanked Matt Irons for his service as a chair and will mail him a certificate of appreciation for his service. He offered to help with any roster problems, making adjustments mid-cycle, if the committee is struggling to meet quorum. Otherwise, there were no formal announcements from the TAC other than what was mentioned at the chair's breakfast.

### **TC Chairman's' Breakfast Minutes - Scott MacBain**

- Scott MacBain reminded the committee that we are all subject to the ASHRAE code of ethics, available at <https://www.ashrae.org/about-ashrae/ashrae-code-of-ethics>, and reminded members to respect confidentiality and IP among all members.
- Recently ASHRAE implemented the provisional corresponding member (PCM), which allows the chair to revise the roster immediately instead of waiting for roster revision at next meeting, in order to speed up process of becoming a CM. They are soliciting feedback on how this policy is working. John Tolbert commented that the provisional CM process works, but does not seem to make a significant difference.
- There will be a new outstanding TC award for each section based on points and a subjective analysis of TC activity (agenda and minutes on time, website up to date, seminar sponsorship). The TC will receive feedback on its performance relative to other TCs regardless of whether or not it receives the award.
- If interested in TC-related information, [ashrae.org/TCs](http://ashrae.org/TCs) lists forms and procedures for TC.
- Nominations for the Hightower Award, meant to reward an outstanding individual for TC leadership and contributions (excluding research and standards), are due September 1<sup>st</sup>. The committee proposed Rick Hall if he has not already won.

- ASHRAE Research Award nominations are due September 30<sup>th</sup>. These awards are intended for people involved in supporting ASHRAE research.
- A seventh MTG has been formed related to building dampness. Let Scott know if see any need for TC 8.1 involvement.
- ASHRAE has added an “employment discipline” to the bios. Please update this section of the bio (only 28% of ASHRAE members have done so).
- A few TCs (9) have been testing electronic meetings in Seattle (6<sup>th</sup> beta test). ASHRAE is very close to rolling out that option, although it is not automatic yet. TCs must give notice if they are planning an electronic meeting so all members have the opportunity to attend.
- ASHRAE is looking for potential technical session chairs and technical paper reviewers and will maintain a list of these individuals. Alex Leyderman, John Tolbert and Steve Spletzer have participated after receiving invitations directly from headquarters. A list was circulated to allow individuals to sign up.
- CEC is looking for program track ideas for Orlando 2016 and beyond. Scott has a list of previous program tracks that can be shared. Please submit program track ideas to Erik Anderson.
- Only 1/3 – 1/2 of TC websites are up to date.
- If interested in joining TC 8.1, please give a business card to John Tolbert.
- If interested, ASHRAE will supply a thank you letter for your employer. Everyone involved in TCs should receive an e-mail with instructions for requesting this thank you letter.
- The committee appreciates Matt Iron’s service as a chair and member of the TC. Scott added his thanks for the help Matt has provided him.
- ASHRAE has a presentation available for describing the activities of TAC and TCs to local chapters. Let Scott know if you are interested and he will provide details.
- Roster information will be moving online. There is an RFP out for software that will allow people to submit their information online.

### **Standards – Rick Hall**

TC 8.1 is the responsible TC for four separate 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, Chair. The committee met on Monday, June 30, 2014, and revision work is progressing. The committee is considering a change in title, purpose and scope to address the use of the word “rating” and the scope of the standard regarding multi-stage compressors, but will not submit the change until next summer. New members and visitors are always welcomed. Alex Leyderman commented that compressors without economizing were excluded in the past due to the complexity of defining performance without considering the system. Scott MacBain commented that 23.2 addressed economizing but excluded modulation.

- SPC 23.2P, “Methods of Test For Rating the Performance of Positive Displacement Compressors that Operate at Supercritical Pressures of the Refrigerant.” Scott MacBain, Chair. The draft was approved for publication at the ASHRAE Standards meeting on Saturday. Rick thanked Scott MacBain for leading this new standard to completion and Scott thanked the many members of TC 8.1 who contributed to the standard over the 9 year development process.
- Standard 41.9-2011, “Standard Methods for Volatile Refrigerant Mass Flow Measurement Using Calorimeters.” Michael Perevozchikov, Chair. This standard is being revised and the first meeting of the SPC was held Sunday, June 29, 2014. Michael Perevozchikov announced that the changes in title, purpose and scope have been approved by ASHRAE and progress has been made in revising the draft standard. The committee is aiming to submit a draft for public review by January 2016. New members and visitors are always welcomed. Meetings will be held from 10 – 12 and 4 – 6 on Sundays during the conferences.
- Standard 41.10-2013, “Standard Methods for Refrigerant Mass Flow Measurement Using Flowmeters.” The latest revision of this standard was published in 2013. There will be no activity on this standard until it is due for periodic maintenance in January 2016.

### **Program - Erik Anderson**

- Craig Bradshaw put together a seminar on “Energy efficiency of novel and conventional compressors using low-GWP refrigerants” for Chicago and has lined up speakers. The TC will need to vote on the seminar by a letter ballot. Scott will send out a copy of the seminar proposal to voting members for a letter ballot. The proposal must be submitted by August 11<sup>th</sup> for the Chicago conference.
- TC 8.1 co-sponsored a seminar with TC's 10.7 (refrigeration) and 3.1 (refrigerants) on “application of the new refrigeration commissioning guide for efficiency and profit” at the Seattle meeting, chaired by Georgi Kazachki.
- Talk to Erik Anderson if interested in putting together any additional seminars.

### **Chicago Meeting – January 24-28, 2015**

- Conference paper abstracts due March 24, 2014
- Conference paper accept/reject notifications – April 7, 2014
- Technical papers due April 14, 2014
- Web site opens for seminar, forum and paper proposals – June 2, 2014
- Final conference papers due July 7, 2014
- Seminar, forum and workshop proposals due August 11, 2014
- Technical papers final review due August 18, 2014
- Conference Website: <http://www.ashrae.org/chicago/>

### **Atlanta Meeting - June 27-July 1, 2015**

- Conference Paper Abstracts due September 22, 2014
- Technical Papers Due for Review – September 22, 2014
- Acceptance/Reject Notifications issued for Conf. paper abstracts – Oct. 6, 2014
- Website Opens for Seminar, Forum and Workshop Proposals – January 5, 2015
- Final Conference Papers Submitted for Review – January 5, 2015
- Seminar, Forum and Workshop Session Proposals due February 9, 2015
- Revised Conference Paper and Final Technical Papers due February 13, 2015
- Conference Website: <http://www.ashrae.org/atlanta/>

**Research – Michael Perevozchikov**

- Michael Perevozchikov attended the research committee breakfast, where it was reported that ASHRAE currently has total of 63 active research projects with a value of \$10.8 million.
- There will be a new rule that RTARs are accepted or not accepted without any revisions or discussions.
- TC 8.1 does not have any RTARs at the moment.
- Rick Heiden from Trane, chair of TC 8.2, centrifugal machines, and research chair of TC 1.11, motors and controls, visited to discuss a proposed research topic. The project aims to bridge the gap between centrifugal and positive displacement machines to address motor cooling and rating. Methods for designing motors for hermetic machines do not take full advantage of current tools, such as CFD. Therefore, he is proposing that a researcher develop a method of test for determining the standard set of heat transfer characteristics of the motor package, which could then be used in a CFD package for thermal evaluation. TC 1.11 and TC 8.2 are interested in seeing an RTAR developed to better define the idea. They will aim to accomplish this before the Chicago meeting; let Rick Heiden know if interested in helping. Greg Chilcote volunteered to help. Once the idea is developed, TC 8.1 will re-evaluate the idea of co-sponsoring the RTAR.
- Let Michael know about any ideas for research projects.
- The research subcommittee will meet at future conferences; please attend if interested in discussing research ideas further.

**Handbook - Alex Leyderman**

- Alex received a completely rewritten section on scroll compressors from Michael Perevozchikov and very good information from John Tolbert for the reciprocating section. Also received very good information from Hermann Renz at Bitzer on twin screw compressors.
- All of Chapter 37, “Compressors,” was updated with this information, including references. Incorporated twin rotary screws; scroll will be incorporated by end of August. Also will add under- and over-compression. Aiming to send it to the committee for comments by the end of September in order to have it in good shape for the January meeting in Chicago.
- The chapter contains a dated performance chart that shows R-22 performance, so would be good to have updated performance characteristics with new refrigerants. Would be greatly appreciated if a compressor manufacturer could provide this information.
- Looking for very good set of generic performance charts for any type of compressor.
- Chapter 42, “Liquid Chilling Systems,” still needs information for updates (including information on scroll chillers from Scott MacBain).
- Alex encourages everybody to look at the compressor chapter and send comments when he distributes the draft.
- A handbook meeting will be scheduled for Chicago if necessary.

**Membership – John Tolbert**

- Generally in good shape, but membership will drop in about four years (FY 18 down to 9 members, 3 members above minimum number) and it will be necessary to convert some CMs into voting members
- John is retiring and has recommended Kelly Chandler for membership chair.
- Membership chart in NYC minutes needs to be corrected.

**Website - Drew Welch**

- The NYC minutes did not get posted to the website before the meeting but will be posted soon.
- New members should contact Scott MacBain for information on accessing the website.

**Old Business – Scott MacBain**

- No old business was re-introduced.

**New Business - Scott MacBain**

- Margaret Mathison was proposed to replace Scott as vice-chair. Drew Welch will become secretary. Craig Bradshaw was proposed to serve as website manager. Scott MacBain will send out a letter ballot to vote on these changes.

**Motion to Adjourn - Scott MacBain**

- With no further business before the TC, the meeting was adjourned.



## 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.