

**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 March 19, 2009

TC/TG/TRG TITLE Positive Displacement Compressors

DATE OF MEETING January 24, 2009 LOCATION Chicago IL

MEMBERS PRESENT	YEAR APPTD	MEMBERS ABSENT	YEAR APPTD	EX-OFFICIO MEMBERS AND ADDITIONAL ATTENDANCE
Alex Lifson	2006	David Bergeron	2008	Not included
Rick Hall	2008	Rick Heiden	2008	
Matt Irons	2005			
Alex Leyderman	2006			
Herman Renz (IM)	2005			
Chris Seeton	2007			
John Tolbert	2005			
Bob Utter	2005			
Ward Wells	2008			

**DISTRIBUTION**

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

TAC Section Head:	<b><u>Vinod Gupta</u></b>
TAC Chair: TAC Vice-Chair:	<b><u>Patricia Graef</u></b>
All Committee Liaisons As Shown On TC/TG/TRG Rosters:	Ronald Bailey – RAC Russell Lindemann – Handbook Steven Skalko – Standards Kimball Ferguson – Special Pubs Lynn Werman– Program Julian De Bullet – CTTC
Manager Of Standards Manager Of Research & Technical Services	Claire Ramspeck Mike Vaughn

## **Call to Order** – Alex Lifson

### **Introductory Comments** – Alex Lifson

Alex Lifson called the meeting to order on January 24 at 3:30 pm in the Logan Room of the Palmer House Hotel in Chicago. Alex noted Curt Slayton's tenure as chair and thanked Curt for his excellent job in that position.

### **Introduction of Members and Guests** – Alex Lifson

Members and guest introduced themselves.

### **Establishment of Quorum** – Rick Hall

Alex circulated the roster to confirm accuracy. Rick Hall is the chair for Standards and for Membership. John Tolbert will become Membership chair at the close of the Summer meeting in Louisville.

A quorum of nine out of eleven voting members was confirmed.

### **Minutes of the Salt Lake City Meeting** – Alex Lifson

It was moved, seconded and passed to accept the Salt Lake City minutes as written.

### **Report of TC Chairs' Breakfast** - Alex Lifson

In general Section 8 has the best websites. Bob Utter is taking over the job of webmaster for our website from Dan Manole who has apparently left the TC. The comment was made that our website is "overly secure" in terms of people accessing it. No details were provided. Mike Wood is the contact for this.

Regarding approval of research projects, ASHRAE in general wants to see RTARs. Terms like sustainability, net zero buildings, and other buzzwords improves prospects for acceptance.

There have been some complaints that when we get RTARs returned for rework, there is not enough detailed information as to the reason for return. If the issue is inadequate documentation, the RTARs must be kept to two pages long, which makes it difficult to include everything that needs to be documented.

The Program Committee has been turning a lot of seminars down. Alex found that this is because of priorities we assigned. Our higher-priority seminar was approved but the lower priority one was not granted.

The required videotaping of seminar presentations continues to be a major issue among the membership. Some sections are saying they are not going to submit seminars because members don't want to be videotaped.

Alex Lifson will write an official letter to the ASHRAE hierarchy expressing our dissatisfaction. The core issue is that ASHRAE staff originally asked for our support in allowing videotaping of seminar presentations and got our support with the proviso that the videotaping was to be voluntary. Then ASHRAE Staff made videotaping mandatory without further consultation with the membership.

Alex will start this discussion with our Program Liaison. Curt Slayton tried this by approaching Lynn Werman during Curt's tenure as TC 8.1 chair but didn't have much luck. Lynn indicated that agreeing to the videotaping is not mandatory but we found out later that this agreement is mandatory. Last year Curt wrote a letter to Lynn expressing our unanimous opposition to the requirement for videotaping seminars but it didn't seem to get any notice.

A discussion continued in this (Chicago) TC 8.1 meeting on this subject. It was suggested that to get the hierarchy's attention we should get everyone to agree not to submit seminars until the mandatory requirement is rescinded. The general sense of the discussion was that a few people were looking to develop some kind of compromise, whereas a majority considers this policy as a genuine encumbrance if not a significant barrier to getting their management's permission to present. A lawyer who is likely to approve a set of slides, recognizing

that the speaker will adhere reasonably close to their content, is less likely to approve them if he knows that every word spoken or inadvertently misspoken will likewise be preserved for posterity

We asked for an extension on the mailbox drop off time for our TC activity sheets because of the late ending time of our TC meeting. Our deadline was extended to 7 pm this evening.

Alex attended an update meeting for TC chairs. There was not much new except that a new member category, “provisional corresponding member” (PCM) has been created. A PCM can be added at any time during the year. There can be an unlimited number of corresponding members (CMs). The limit of term length for a voting member (VM) is four years. The membership duration of a CM is unlimited.

## **Liaison Comments** –

### **Vinod Gupta, Section 8 Head**

1) On behalf of TAC Vin thanked the TC’s leadership for the work we do. Our work is very important, especially the RTARS, seminars, standards, and the Handbook chapters. These activities are critical to ASHRAE’s functioning.

2) TCs are run using Management by Objectives (MBO). A couple of objectives are management of the membership roster and submission of activity sheets. Leave these in the mailbox by 7 pm tonight (Tuesday). We (TC 8.1) had heard from Section 10 that activity sheets had been discontinued but Vin said they are still required. He is also fully aware of the issue about recording seminars and will take the message to TAC. Vin suggested Mike Vaughn would be a good contact for us in this matter.

3) Our website is out of date and needs to be updated. Keeping the website up to date is important. It is visited by people both inside and outside the U.S.

We pointed out that Bob Utter is our new webmaster, taking over effective at this Chicago meeting. He will take the necessary steps to get it in proper shape.

### **Russ Lindemann - Handbook Liaison**

Russ will work with our Handbook chair on the 2012 Handbook . He will work with our Handbook Chair. We have multiple liaisons for the handbook because our chapters are two volumes, Chapter 45, Positive Displacement Compressors is one and Alex Leyderman will find out the name of the other.

## **Program** - Alex Lifson (in Dan Manole’s Absence)

Alex thanked Curt Slayton for chairing Seminar 9 “Compressor Modulation Techniques” and the three speakers, John Tolbert, Reiner Grasse-Kracht and Matt Irons. Alex noted that there was standing room only at the seminar. Alex also thanked Georgi Kazachki for chairing seminar 46 “CO2 Systems, Components and Applications” and Hermann Renz, the speaker from that seminar who attended our TC meeting. It was noted that there was significant background noise coming from a session in an adjacent room.

Scott McBain suggested that we could have another “Back to Basics” seminar with three speakers. Chris Seeton had submitted a package but it had been rejected. It was decided to submit a seminar package for Louisville with Chris Seeton as Chair and Alex Lifson, Curt Slayton and Bob Utter as speakers. The deadline for submission is February 8. Rick Hall moved to re-approve the seminar, Curt Slayton seconded and it passed without dissent. This will be TC 8.1’s priority 1 program item for Louisville.

Georgi Kazachki pointed out that two seminars on CO2 had been requested for the Chicago meeting but that only one was presented. The second CO2 will now be submitted for Louisville. TC 3.1 and TC 10.7 will cosponsor this session, which will be on “CO2 Systems, Components and Field Experience”. It was moved and seconded at that TC 8.1 should cosponsor this session at Louisville and it passed unanimously.

Georgi needs to submit the package by February 6 so if any member of TC 8.1 wants to present at this seminar should see Georgi soon. rgi needs to submit by Feb 6 next Friday. Anyone wants to, send to Georgi. No volunteers at this time.

### **Standards** – Rick Hall

Our SPC 23 2005R “Methods of Testing For Rating Positive Displacement Refrigerant Compressors and Condensing Units” has six members. The committee met yesterday (Monday 1/26). They plan to conclude the summer meeting with a Public Review draft and are looking for new members. Rick feels like the rewrite is about 80% complete. They are revising the title, purpose and scope, and plan to renumber the standard as 23.1, anticipating that the standard for supercritical compressors will become 23.2. This has been proposed to Standards but may not have been acted on today.

On the 41 series standards “Standard Methods of Measurement to Maintain and Revise Each of the 41 Series individual Standards”, 41.10 “Flowmeter Test Method for Flow Measurement of Volatile Refrigerants” was published in 2008 so there is no activity at present.

Standard 41.9 “Calorimeter Test Methods for Mass Flow Measurement of Volatile Refrigerants” is about to come up for its five-year renewal. We need to revise, reaffirm or withdrawal the standard. Re-approval is no longer allowed unless no references need updating. If we are asked to revise, Rick will ask for members for the subcommittee.

### **SPC 179** – Bob Utter

We have balance although we’re still one member short. We have talked with universities and quality-control organizations, none of whom have agreed to have people join our committee. Before we can take any votes, we need one more member. We are making good progress with rough preliminary draft. Members will take that back and make suggestions and Bob will collate and return the stuff to the SPC for work at Louisville. We have one user, one producer and one general interest.

### **SPC 186P** - Rick Hall

This is a parallel document to Standard 23 discussed above, dealing with supercritical refrigerants instead of the sub-critical refrigerants addressed in Standard 23. Dan Manole was the chair of that standard committee for several years. Very little progress has been made in the past couple of years in Dan’s absence. The TC needs to appoint a new chair and Scott McBain volunteered. Rick Hall moved to make Scott the new chair, Alex Lifson seconded and the motion passed 7,0,0, chair not voting.

### **SPC-41 Standards** – Rick Hall

Regarding the 41 series standards, TC 1.2 “Instruments and Measurements” will be the Lead Cognizant TC for SSPC 41. There will be two co-cognizant TCs, TC 1.1 “Thermodynamics and Psychrometrics” and TC 8.1 “Positive Displacement Compressors”. Each of these three TCs will have a designated representative (a TC Liaison) serving on SSPC 41 Project Committee at all times.

Each new revision of individual 41-series standards will be done by a subcommittee that will be similar to a normal Standards Projects Committee. All of the work will be done by a subcommittee with relevant expertise. The TC 8.1 Standards are TC 41.9 “Calorimeter Test Methods for Mass Flow Measurement of Volatile Refrigerants” and Standard 41.10 “Standard Methods For Volatile Refrigerant Mass Flow Measurement Using Flowmeters”. This standard was published in 2008 so no activity is going on at present. TC 8.1 is also assigned Standard 41.10 “Flowmeter Test Methods for Mass Flow Measurement of Volatile Refrigerants”. Standards 41.1, 41.2, 41.3, 41.4, 41.7 and 41.8 are assigned to TC 1.2 and Standard 41.6 is assigned to TC 1.1. See the ASHRAE website for titles of these other TCs’ standard titles.

In the recently published version of 41.10, ASHRAE only listed TC 1.2 as the cognizant TC. Rick hall will request that ASHRAE also list the two co-cognizant TCs in subsequent publications fo 41-series standards.

## **Standards Vice-Chair Position – Rick Hall**

Mike Wegenka volunteered to replace Ward Wells as Standards Subcommittee vice-chair.

### **Research - Chris Seeton**

We have a couple of draft RTARS in different stages of development, comparing normal-pressure Falex machines with high pressure Falex machines (R-410A type refrigerants). Chris wants someone to help him get the RTARS in shape. He is looking to have a draft completed in time for Louisville. Chris and Hermann Renz will work on this.

The next RTAR is measuring the dielectric properties of oil/refrigerant mixtures. Alex Leyderman drafted it and Chris has submitted it. Ron Bailey hasn't yet responded. Chris will re-contact him.

Regarding the third of the three RTARS, "Thermophysical properties of CO<sub>2</sub>/Lubricant mixtures", Chris is Research Subcommittee Chair of TC 3.4 and Joe Karnaz is the Chair of 3.4. Chris will contact Joe and will contact the chair of TC 3.2 asking about them cosponsoring this work. Alice Riemer, Sonny Sundaresan and Alex Lifson will review. A draft has been submitted to Section 3 RAC liaison Ray Cohen for review.

TC 10.10 is putting together an RTAR relating to on-line measurement of oil circulation rate. Pega Hrnjak will hopefully get the RTAR for us in Louisville.

An RTAR about oil return in suction risers is being pursued in TC 10.10. This could turn into one of their big projects. Chris will make sure Pega Hrnjak has the RTAR reflect the anticipated size of the project. Chris is the Research Subcommittee chair of TC 10.10.

Chris Seeton had discussed "Quantification and Mechanisms of Oil Hold-up in Horizontal and Vertical Lines With Immiscible and Miscible Oils" with TC 10.10. TC 10.10 has decided to discontinue that RTAR and resubmit it as a new RTAR for accelerated consideration dealing with R-22 retrofit considerations. Chris will keep TC 8.1 apprised about how it develops. TC 3.4 said they will vote to approve the RTAR and then TC 8.1 will hopefully vote to cosponsor it. Sonny Sundaresan and Alice Reimer want to review it.

### **Handbook - Alex Leyderman**

The review of Chapter 45 has been completed. Alex' plan is to send it to voting members in February. He asked for a quick turnaround so he can submit it to our liaison. Alex will send the drafts to Bob Utter for inclusion on the website for ease of access. There are two files, one in English units. We could put it on the members-only part of the website.

### **Rick Hall - Membership**

The current membership after the Summer Meeting in Louisville will be Alex Lifson, Chris Seeton, Rick Hall, Dave Bergeron, Alex Leyderman, Mike Wegenka, Bob Utter, Reiner Grasse-Kracht, Jurgen Suess, Ward Wells, Bruce Griffith, Jason Hugenothe, Georgi Kazachki and John Tolbert. There will be fourteen in all if the roster is approved as proposed.

In the new roster, Alex Lifson is the Chair, Matt Irons is the vice Chair, Ward Wells is secretary, Chris Seeton is the Research subcommittee chair and Rick Hall will be succeeded by Scott McBain in Standards. Scott will also be Program Subcommittee chair. Alex Leyderman is Handbook subcommittee chair. Bob Utter is Webmaster and John Tolbert will succeed Rick Hall as Membership chair.

Curt Slayton became an ASHRAE Fellow on Saturday

### **Website - Bob Utter**

As incoming Webmaster, he will get it up to speed.

### **Old business**

#### **Hall of Fame Award – Chris Seeeton**

He got the reminder to do the award submittal but still needs to submit it. The first person he is working on is Dr. Hans Spauschus. He has received supporting information from Rosine Rohatgi.

#### **New Business** – Alex Lifson

#### **Discussion of Motor Electrical Requirements – Rick Bunch**

Proposals came in two weeks ago affecting motor wiring requirements. There are three proposals and they are looking for comments by June. The first proposal specifies that the lead wire sizing that can be used on motors regardless of amps is 18 gage or larger. He will comment against that.

The second proposal is to take 125% of the highest-rated motor load all the other non-continuous loads and the average load.

The third proposal is that equipment grounding in Article 270 covers all grounding requirements. This proposal would require a separate round wire regardless of the type of refrigeration or air-conditioning system. Independent ground. It started with a ground requirement for rooftop ac systems. He will send Ward Wells a link to where you can comment. Comments are due between now and June.

#### **Adjourn** - Alex Lifson

With no further business before the committee, the meeting was adjourned.

