

**AMERICAN SOCIETY OF HEATING, REFRIGERATING AND AIR-CONDITIONING ENGINEERS,
INC.
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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 10.7 DATE April 9, 2011

TC/TG/TRG TITLE Commercial Food and Beverage Display and Storage Equipment

DATE OF MEETING January 31, 2011 LOCATION Las Vegas, NV

MEMBERS PRESENT	YEAR APPTD	MEMBERS ABSENT	YEAR APPTD	EX-OFFICIO MEMBERS AND ADDITIONAL ATTENDANCE
Scott Mitchell	2008	Massoud Ali	2010	See attachment
Van Baxter	2008	Sam Cantrell	2009	
Georgi Kazachki	2009			
Cesar Luis Lim	2010			
Massoud Neshan	2010			
Maryline Rassi	2010			
Robert Sperl	2010			
Dean Swofford	2010			
Rob Uhl	2008			

DISTRIBUTION

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

TAC Section Head:	Patrick Hughes
TAC Chair:	<u>Donald Brundage</u>
TAC Vice-Chair:	
All Committee Liaisons As Shown On TC/TG/TRG Rosters:	Roberto Aguilo – RAC Alan Podhorodeski – Handbook Michael Beda– Standards Stanley Mumma - Special Pubs Dennis Wessel – Program Scott Wayland– CTTC Florentino Mendez – ALI/PDC
Manager Of Standards	Stephanie 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."

January 31, 2011

Welcome and Introductions – Scott Mitchell

Scott Mitchell called the meeting of TC 10.7 to order at 2:21 pm on January 31 in Room N263 of the Las Vegas Convention Center. Members and guests introduced themselves.

Review Scope/MBOs – Scott Mitchell

Scott reviewed the scope of TC 10.7

Review and Revise Agenda – Scott Mitchell

Scott reviewed the agenda. There were no proposed changes or additions.

Recognition of Liaisons – Scott Mitchell

Handbook Liaison- Allan Podhorodeski. TC 10.7 is the cognizant committee for Chapter 15 (formerly Chapter 46) “Retail Food Store Refrigeration and Equipment and for Chapter 16 (formerly Chapter 47) “Food Service and General Commercial Refrigeration”. The next one due is Chapter 16 on 3/2/13.

Refrigeration liaison- Cynthia Gage- The Refrigeration Committee is working to assemble a conference on low-GWP refrigerants. It would be a three-day conference to be held in 2012. ASHRAE has sponsored refrigerant-dedicated conferences before. This one would be about hydrofluoroolefins (HFOs). ASHRAE and possibly NIST would be co-sponsors.

TC Chairs Meeting Announcements – Scott Mitchell

The Hightower Award this year was given to Dr. Gary Phetteplace for his work in support of TC 6.2 “District Energy” and TC 6.8, “Geothermal Heat Pump and Energy Recovery Applications.

During the past year the membership category “provisional corresponding member” has been introduced. This allows a TC to add a corresponding member between roster update cycles. The term of membership is two years and the TC has the option after the two-year period to add the person as a corresponding member or a voting member or to drop the person from the roster.

Energy design guides will be distributed for peer reviews. Any member who is interested is welcome to participate – anywhere from Feb to May this year. The four reviews are: “Energy Efficiency Guide for Existing Commercial Buildings: Technical Implementation”, “50% Advanced Energy Design Guide for K-12 School Buildings - 60% Draft”, Performance measurement Protocols: Best Practices Guide” and “50% Advanced Energy Design Guide for K-12 School Buildings – 90% Draft”.

The Conference Committee is changing programs and how they are run in the future. Badge scanning is being implemented at this meeting for the first time to track continuing education credits for each attendee. They hope to add USGBC credits into this. At present only New York State credits are included.

The theme for the Montreal meeting is Net Zero Buildings. In Chicago it is the impact of HVACR on our lives. Beginning with the San Antonio meeting ASHRAE will discontinue the practice of having meeting themes.

CEC has offered to work with TC Program Chairs to help improve the quality of their abstracts prior to formal submission to CEC to improve the chances for acceptance.

A new “Help Wanted” section will be added to the Technical Committee page of the ASHRAE website so TCs can advertise requests for help in the various functions of the TC such as research, website and standards.

ASHRAE Google Groups can be used to conduct between-meeting work while avoiding traveling.

Upcoming international conferences include the 10th IEA Heat Pump Conference from May 16 through May 19, 2011 in Tokyo, Japan, the 14th European Conference Part 2: Latest Technologies in Renewable Energy and Applications in Heating & Cooling, June 10-11, 2011 in Milan Italy and ECOS 2011, the 24th International Conference on Efficiency, Cost, Organization. Simulation & Environmental Impact of Energy Systems on July 4-7, 2011 in Novi Sad, Serbia.

Establishment of Quorum - Scott Mitchell

Eight voting members were present, Scott Mitchell, Dean Swofford, Van Baxter, Rob Uhl, Maryline Rassi, Massoud Neshan, Robert Sperl and Cesar Luis Lim. Georgi Kazachki, Sam Cantrell and Massoud Ali were missing at this time. Georgi Kazachki arrived later in the meeting.

Scott confirmed that the number of voting members who would be leaving for the 3 pm DOE meeting on certification in Room 109 of the convention center would not interfere with the quorum.

Scott updated the roster recently. He will roll off as chair at the end of the Annual Meeting in Montreal and Dean Swofford will become chair. This will create a vacancy in the vice chair position that will need to be filled.

Review Draft Minutes from The Albuquerque TC 10.7 Meeting – Ward Wells

The minutes of the TC 10.7 meeting in Albuquerque were approved as written by unanimous vote.

Program Subcommittee – Cynthia Gage

Seminar 40 will be held on Tuesday at 11 am on “Advancing Energy Efficiency in Commercial Refrigeration. The four presentations will be “Best Practices for Commercial Refrigeration”, “Proposed Methodology for LEED Baseline Refrigeration Modeling”, “Case Study of the Design Process of an Advanced Refrigeration System for a Commercial Supermarket” and “National Energy Savings of DOE Rulemakings on Commercial Refrigeration Equipment”.

During the Program subcommittee meeting it was recommended that a seminar be held in Montreal on modeling work and experimental work on walk-in refrigeration units. Papers would be on infiltration, thermal loading, impact of fan speeds and on AHRI model evaluation and field evaluation of walk-ins.

TC 10.8 is considering a session on “how low can you go for industrial and commercial refrigeration”. They tentatively have three speakers, two on industrial and one on commercial refrigeration.

The program subcommittee also suggested the TC put out a call for conference or technical papers for San Antonio.

Van Baxter made a motion for a program in Montreal about modeling and experimentation of walk-in coolers. Massoud Neshan seconded the motion and it passed unanimously.

Massoud Neshan moved that TC 10.7 should cosponsor the session on “How Low Can You Go in Industrial and Commercial Refrigeration”. Van Baxter seconded the motion and it passed unanimously.

Research - David Hinde

The Research subcommittee met last night after the Program subcommittee and reviewed all projects in progress.

Project 1402, “Comparison of Vertical Display Cases” by Bryan Becker and Brian Fricke is basically complete. It has been published as an ASHRAE Journal article, at the FMI Energy Conference, and at Purdue. It is available in the ASHRAE Bookstore and will be presented in tomorrow’s poster session.

There was an intensive discussion about the value of the comparisons of open-door versus closed-door results in terms of energy performance and impact on sales volume. The discussion primarily focusing on whether or not the comparisons were on an “apples-to-apples” basis, with significant advocates on both sides. The issue was not resolved.

The PMSC for Project 1467 “Balancing Latent Heat Load Between Display Cases and Store Comfort Cooling” met yesterday. The project is in its second phase at the University of Colorado. The team is finishing model validation and doing a sensitivity analysis. The next step is for the team to refine the set of variables for the simulations. The PMSC agrees with the team on the variables they will focus on and the work is on track.

Project 1484 “Energy and Performance of Secondary Coolant Low Temperature Refrigeration Systems” is being cosponsored by TC 10.7 with TC 3.1. The work is almost complete and a paper will be submitted at Purdue. A summary report will be submitted to ASHRAE after this meeting. Excerpts of this work are expected to be included in the next handbook revision.

Another prospect is charge reduction strategies focusing on heat exchangers. Daryl Erbs and Chad Bowers are involved and Dan Manole is helping with the RTAR.

TC 10.7 is cosponsoring RTAR 1615 “Fault Detection and Diagnostic Methods For Supermarkets” which has TC 7.5 as the cognizant TC. The RTAR was resubmitted to RAC with changes they requested and RAC approved the changed submission. Carol Lomonaco of TC 7.5 is the lead on the work statement. The RTAR will be distributed with the minutes of this meeting.

We are cosponsoring work statement 1580 “Risk Assessment of 2L Flammable Refrigerants in stationary Applications for a) Residential A/C and Heat Pumps, and b) Small Commercial Refrigeration”, which has TC 3.1 as the cognizant committee. The lead author is Barbara Minor. The work statement has been approved. The PMSC is providing input to potential investigators and will select a contractor.

TC 3.1 was also pursuing a parallel project to 1580 but for larger systems such as centrifugal chillers and supermarkets. It has been dropped at least for the time being.

David Hinde said that the project we were pursuing with TC 10.10 about lubricants in CO2 systems is dead.

David Hinde asked for other prospects and Doug Scott indicated that TC 10.1 has a project they are working on and want help. It deals with studying return gas temperatures and modeling real supermarket refrigeration systems with appropriate return gas temperatures. A scope of work is being prepared and they will probably ask us to cosponsor this.

Daryl Erbs is working on a proposed project with a title of “Sources of Leakage in North American Retail Refrigeration Systems”. Issues to be considered would include current maintenance practices, leakage rates, quantification of potential leaks, opportunities for tightening systems and prospects for improving the situation.

There might be information from recent California Air Resources Board (CARB) studies that would help with development of best practices guidelines. Cynthia Gage and Don Bivens looked at the data, which included the amount of refrigerant brought to service stores. 1144 stores reported data but the data were primarily for HCFCs with less than 5% reporting HFC data. This analysis was done around 2006-2007. There are also two other projects which might help. One in 1992-1993 which was cosponsored by ASHRAE and EPA involved doing field measurements of store leak rates. Another project was done by EPA and was a case study of three stores and their best practices in reducing refrigeration emissions. Cynthia agreed to forward these studies to Daryl.

Project 1634 – Design Guide. The Refrigeration Committee approved an RTAR for a design guide for sustainable refrigeration systems. The next step is to develop a work statement for this. They would like someone from TC 10.7 to help with the work statement. The RTAR has been approved by RAC. A little more than half of the funding is coming from ASHRAE so they are looking for someone else's support. Doug Scott is a contact.

Handbook – Ramin Faramarzi .

We made modifications to our chapters last year and submitted the modifications for approval. None of the modifications made it in to the 2010 Refrigeration Handbook. We resubmitted them yesterday. The new Handbook liaison is Ted Hansen. Ramin will check with him for an updated status. Ramin has been Handbook subcommittee chair for the past eight years and would like to be replaced. Dave Demma said he would consider it but made no commitment at this time. If Dave decides not to become Research subcommittee chair, Ramin will continue to serve in that position for now.

Standards – Van Baxter

TC 10.7 is the cognizant committee for four standards, Standard 29 “Methods of Testing Automatic Ice Makers”, Standard 32.1 “Methods of Testing For Rating Vending Machines For Bottled, Canned And Other Sealed Beverages”, Standard 32.2 “Methods of Testing for Rating Pre-mix and Post-mix Beverage Dispensing Equipment” and Standard 72 “Method of Test Of Commercial Refrigerators And Freezers”.

We will probably have to start considering whether to reaffirm or review Standard 29 next summer.

Standard 32.1 was reaffirmed at the Albuquerque meeting this past summer and has been published.

The last time Standard 32.2 came up for action the TC voted to reaffirm it. There is no immediate need for further attention on Standard 32.2 at this time.

The SPC 72 subcommittee met yesterday and wrapped up the revisions. They are going out for public review and the standard should be published by the end of the year. They want to add more information about secondary loops. These will be in the next revision.

John Gallaher discussed progress on SPC-147 “Reducing the Release of Halogenated Refrigerants from Refrigerating and Air-conditioning Equipment and Systems”. The subcommittee met for several hours going through all the comments. They will probably have to go through a second public review and anticipate it will probably be ready for that public review around the time of the Chicago meeting

At the last meeting we were asked to look into preparing a new Method of Test (MOT) standard for walk-in coolers and freezers. We are waiting for DOE who has published a supplemental Advance Notice of Proposed Rulemaking (ANPR) in the Federal Register. It includes an appendix A which gives a test procedure. It incorporates AHRI Standard 1250. Van doesn't understand why appendix A is needed and is not sure at this time how we should proceed.

Rick Hall said that the normal situation is that ASHRAE has an MOT for rating and AHRI provides the conditions for those tests. AHRI and ASHRAE have a Memorandum of Understanding (MOU) that ASHRAE will use AHRI conditions until ASHRAE develops their own. Darly Erbst indicated that AHRI Standard 1250 does not require the equipment to be located in the field; that a laboratory location is fine.

Van Baxter made a motion that TC 10.7 request a standards committee be formed to develop an MOT for walk-in coolers and freezers and that TC 10.7 be the cognizant TC with TC 10.5 as a cosponsor. Massoud Neshan seconded. The motion passed, 8, 0, 0 CNV (8 in favor, none opposed, no abstentions, chair not voting). The subcommittee needs a chair and members.

Web site – Rob Uhl

TC 10.7's website is now up and running on the ASHRAE server. It does have a glitch in that some of the content is still posted on the University of Wisconsin server and its firewall causes an impedance when that information is called by the ASHRAE server. Rob will move that information onto the ASHRAE server to eliminate this problem. The website is TC107.ashrae.tcs.org. Rob will be posting committee information on the website going forward instead of by sending it by e-mail. The roster will be posted there with only name and firm, omitting contact information like e-mail addresses, telephone numbers etc. Cynthia Gage pointed out that we can post presentations on our web site with the author's approval.

New business – Scott Mitchell

Cynthia Gage introduced a new program prospect. The Refrigeration Committee is sponsoring a seminar for Montreal about "Advancement and Trends in Low-GWP Technologies". So far they have three potential speakers including one from the University of Maryland who will speak on CO2. The session is not limited to natural refrigerants. The deadline for submission of biographical information and abstracts is February 14. Mark Spaatz indicated he might be able to provide a speaker.

Cesar Luis Lim moved to have TC 10.7 cosponsor the seminar. Van Baxter seconded the motion and it passed unanimously 9, 0, 0, CNV.

Adjournment – Scott Mitchell

With no further business pending before the committee, Scott adjourned the meeting at 3:52 pm.

Attachments

1) Attendance List

TC 10.7 Attendance List – Las Vegas, NV

Name	Company/Affiliation	Status
Scott Mitchell	Southern California Edison	Chair/VM
Van Baxter	Oak Ridge National Lab	Stds/VM
Ramin Faramarzi	Southern California Edison	Handbook/CM
Cynthia Gage	US EPA	Refg Liaison/CM
David Hinde	Hill Phoenix	Research/CM
Ward Wells	DuPont Company	Secretary/CM
Georgi Kazachki	Cryotherm/DRS	VM
Cesar Luis Lim	San Miguel Corporation	VM
Massoud Neshan		VM
Maryline Rassi	AHRI	VM
Robert Sperl		VM
Dean Swofford	Hill Phoenix	VM
Robert Uhl	Safeway Inc	VM
Pradeep Bansal	The University of Auckland	CM
John Behr	Hussmann Corporation	CM
David Cowen	Food Service Technology Center	CM
David Demma	United Refrigeration	CM
Daryl Erbs	Manitowoc Food Service Group	CM
John Gallaher	Hill Phoenix	CM
David Godwin	US EPA	CM
Charles Hon	True Manufacturing	CM
Aristotle Marantan	Navigant Consulting	CM
Neil Monson	Target	CM
John Murray	KeepRite Refrigeration	CM
Carl Roberts	Zero Zone Inc.	CM
Mark Spatz	Honeywell	CM
Samir Traboulsi	Thermotrade/Ranec	CM
Eric Adams	Carrier	Guest
Tim Anderson	Hussmann Corporation	Guest
Bryan Becker	Univ of Missouri Kansas City	Guest
Cathy Chappell	HMG	Guest
Penny Cole	University of Colorado	Guest
Laura Degitz	Navigant Consulting Inc	Guest
Brian Dobbs	VaCom Technologies	Guest
Brian Fricke	Oak Ridge National Labs	Guest
Emery Goniea	Tecumseh Products Company	Guest
Ted Hansen	KPI Engineering Inc	Guest
Randy Haseman	Underwriters Laboratories	Guest
Kunal Kapoor	Ingersoll Rand	Guest
Kyle Larson	VaCom Technologies	Guest

1) Attendance List - Continued

TC 10.7 Attendance List – Las Vegas, NV

Name	Company/Affiliation	Status
Rebecca Legett	Navigant Consulting Inc	Guest
Kristina Makensky	Prismitech	Guest
Dan Manole	Ingersoll Rand	Guest
Jon McHugh	McHugh Energy	Guest
Christopher Rogers	PECI	Guest
Paul Sullivan	Honeywell	Guest
Julianna Wei	HMG	Guest