

**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 10.7 DATE August 14, 2011

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

DATE OF MEETING June 27, 2011 LOCATION Montreal, Quebec, Canada

MEMBERS PRESENT	YEAR APPTD	MEMBERS ABSENT	YEAR APPTD	EX-OFFICIO MEMBERS AND ADDITIONAL ATTENDANCE
Scott Mitchell	2008	Massoud Ali	2010	Not noted
Van Baxter	2008	Sam Cantrell	2009	
Georgi Kazachki	2009	Robert Sperl	2010	
Cesar Luis Lim	2010	Rob Uhl	2008	
Massoud Neshan	2010	Robert Sperl	2010	
Maryline Rassi	2010			
Dean Swofford	2010			

**DISTRIBUTION**

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

TAC Section Head:	<u>Eric Adams</u>
TAC Chair:	Charles Wilkin
TAC Vice-Chair:	Charles Culp
All Committee Liaisons As Shown On TC/TG/TRG Rosters:	Roberto Aguilo – RAC Alan Podhorodeski – Handbook Richard Hall – 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."

August 14, 2011

## Call to Order - Scott Mitchell

Scott called the meeting to order at 2:15 pm in the Hochelaga 3 meeting room in the Fairmont Queen Elizabeth Hotel in Montreal Canada.

## Introductory Comments – Scott Mitchell

Members and guests introduced themselves

## Review Scope of the Committee and (MBOs) – Scott Mitchell

Scott reviewed these.

## Review and Revise Agenda – Scott Mitchell

Scott asked for any proposed changes to the agenda and none were offered.

## Recognition of Liaisons and Announcements – Scott Mitchell

### Section Head - Eric Adams

Eric thanked Scott Mitchell for his efforts as chair of the TC for the past two years and presented him with his award certificate.

### Refrigeration Committee - Cynthia Gage

NIST is going to sponsor a conference at their Gaithersburg, MD location from September 29 through 30, 2012. It will be dedicated to refrigerants and related issues. It will deal with low-GWP refrigerants including natural refrigerants and HFOs and with leak minimization.

There is a call for help from TC 8.8 “Refrigerant System Controls and Accessories”. They are looking for additional members. They are the cognizant TC for a number of standards dealing with thermostatic expansion valves, capillary tubes, reversing valves, solenoid valves and pressure regulating valves. They have sufficient manufacturers but need users. They meet from 1 to 3:30 pm on Tuesday.

## Chairmans’ Breakfast - Dean Swofford

The big items in Section 10 were that TCs 10.4 and 10.9 have been absorbed by TCs 10.1 and 10.5. TC10.10 is in the process of being absorbed into TC 3.4 “Lubrication”. An unresolved question at this time is which TC has cognizance over walk-in refrigerated rooms. At present we in TC 10.7 see them as ours. We may need to revise our scope to explicitly include them.

The new roster will be in effect as of July 1. Dean Swofford takes over as chair at the end of this meeting. The roster will be posted on our website.

ASHRAE has formed multidisciplinary Task groups MTGs. They will have TCs, TGs and other groups work together on areas of common interest. There have been four MTGs created so far.

ASHRAE is preparing a webinar on how to maintain the websites. Google groups are still available.

Hightower nominations are due by September 1. This award recognizes outstanding activities not including research.

There are several upcoming workshops and conferences. The 10<sup>th</sup> IEA Heat Pump Conference will be held from June 27 to August 31. It will be a web conference due to the earthquake in Japan. The web address is <http://www.hpc201.org>.

The ECOS 2011 conference will be held from July 4 to 7 and its web address is <http://ecos.011.com>.

The 23<sup>rd</sup> IIR International Conference of Refrigeration will be held from August 21 to 26 in Prague, Czech Republic. Its web address is <http://www.icr2011.org>.

The 48<sup>th</sup> AICARR international Conference will be held from September 22 to 23 in Lago Maggiore, Italy. Its web address is <http://www.aicarr.org>.

The 7<sup>th</sup> International Symposium on Heating, Ventilating and Air-Conditioning will be held from November 6 to 9, 2011 in Shanghai, China. Its web address is <http://www.ishvac2011.org>.

The 12<sup>th</sup> International Conference of the International Building Performance Simulation Association (BS2011) will be held from November 14 to 16, 2011. The web address is [www.bs2011.org](http://www.bs2011.org).

Thank you letters available from the President of ASHRAE to employers of ASHRAE members are available. See the TC chair for the submission form.

The peer review for the 60% draft of the Performance Metrics Protocols – Best Practices Guide has been posted. The on-line review period is from June 13 to June 30, 2011.

Seminar abstracts for San Antonio seminar and forum sessions are due by August 12. Conference paper abstracts for Chicago are due September 26.

#### Establishment of a Quorum – Scott Mitchell

Scott Mitchell, Dean Swofford, Van Baxter, Georgi Kazachki, Maryline Rassi, Massoud Neshan and Cesar Luis Lim were in attendance. With seven voting members present of eleven voting members on the committee, a quorum was established.

As of July 1 we don't have a vice chair. Scott asked for a volunteer but there was no response. Scott indicated that if anyone wants to be added to the TC as a corresponding member, he or she should so indicate on the sign-in sheet that is circulating around the room at this time.

Cynthia Gage informed the TC that she needs someone else to become Program Subcommittee Chair. The work involves getting speakers lined up for Technical Program presentations and making sure program submissions are made within required time frames.

Her primary issue with continuing in this role is that the EPA travel budget has been cut in half so she may not be able to participate in all upcoming activities. There were no responses. Scott Mitchell indicated he might be able to help but could not commit at this time.

#### Review Draft Minutes from the Las Vegas Winter Meeting - Ward Wells

Ward asked if there were any required or recommended modifications and there were none. Van Baxter moved to approve the minutes as written and Cesar Luis Lim seconded. The motion passed with no objection.

### **Subcommittee reports**

#### Program – Cynthia Gage

The refrigeration Committee has agreed to assist CEC in doing the refrigeration track to be sure it is strong. They had been talking about reviewing the track only once per year.

The Society is having discussions about rating speakers and keeping track of the speakers' scores. We had strong attendance in our sessions of the technical program in Las Vegas. Our speakers typically rated highly, in the range of 4.25 to 4.5.

Scott Mitchell led the program subcommittee meeting last night. The Society is encouraging TCs to hold forums inside the TC meetings.

A forum was proposed for Chicago about supermarket hot-gas defrost design. Carl Roberts agreed to chair the forum, which is tentatively entitled "Supermarket Hot Gas Defrost Piping Guidelines for Best Performance, Reliability and Leak Reduction". Carl has also been talking to TC 10.3 about this. There is not a lot of knowledge of how to integrate hot-gas defrost into the piping, on about how the refrigerants play into this.

The intent of the forum would be to lay the groundwork for a technical program and a paper that would end up in the Handbook. There might also be a guideline published about this. The new information would include comparisons of hot gas, cool gas, electric and off-cycle defrost. Ramin Faramarzi indicated that there is information available on this topic relating to medium-temperature defrost applications which were tested in a laboratory setting. Carl is thinking of this more as a guidelines project instead of a research project. It would be tied to reliability, charge reduction and leak reduction which would be the more prominent topic of the three. Massoud Neshan pointed out that we should move quickly because California is considering not allowing hot-gas defrost due to the expected increase in leakage potential. Carl suggested that if we are under the gun, we might just make a literature review and get it into print.

Van Baxter moved and Dean Swofford seconded a motion to submit the hot-gas bypass forum for Chicago and the motion passed unanimously.

There is a proposed program for San Antonio about demand response schemes for refrigeration/load shifting. Work in this area on cold storage and ice machines could be included in the session.

The Refrigeration Committee tried to get a session on the Montreal Program on "Advancements in Technologies in Low-Global Warming Impact Refrigerants. Georgi Kazachki is now trying to get it on the program for Chicago. It is not limited to natural refrigerants.

Mark Spaatz and someone from Arkema volunteered to present papers. Georgi asked for anyone interested in being a presenter to send an e-mail to him giving their name, brief professional biography, the title and a brief abstract of about 200 words. The deadline is close-of-business this Thursday.

Georgi said that if we have more speakers than will fit in the allowed time frame, he will try for a second time slot in Chicago or the overflow papers will carry over to San Antonio. Mark Spaatz volunteered to present in both Chicago and San Antonio.

TC 3.1 has been working on a program on high-glide refrigerants and how they impact the design of refrigeration systems. The discussion has been about how to apply design data for non-glide refrigerants to glide refrigerants. Sonny Sundaresan is putting the program together for Chicago.

Georgi Kazachki suggested that if the high-glide refrigerants were low-GWP, the presentations for the 3.1 session could be combined into his session. The key is lining up continuity.

We also have a potential paper in RP 1484 "Energy and Performance of Secondary Coolant low-temperature Refrigeration Systems" for Chicago. Another paper could be ready for the San Antonio conference, RP 1467 "Balancing Latent Heat Load between Display Cases and Store Comfort Cooling". Contractor Penny Cole indicated that the September 26 abstract deadline can be met.

Ramin Faramarzi suggested a program for San Antonio or Chicago on demand defrost in display cases.

There will be a paper in San Antonio on load shifting for ice machines but it will be in the paper sessions, not in ours.

Research - David Hinde

The Research Subcommittee met from 6:00 pm to 6:45 pm on Sunday. Twenty-one people attended. Pradeep Bansal is the incoming Research liaison. There is a huge backlog of research projects as of the last meeting. The Research budget has improved and some of the backlog has been cleared out. The research chairs were given pointers on RTARs and Work Statements and why they get rejected

In RP 1402 “Comparison of Vertical Display Cases”, Bryan Becker and Brian Fricke have basically completed the work and we need to get it incorporated into the next revision of the Refrigeration Handbook.

In RP 1467 “Balancing Latent Heat Load between Display Cases and Store Comfort Cooling”, Daryl Erbs is chairing the Project Monitoring Subcommittee (PMSC). The group discussed status of work on floating head pressure and the researchers are waiting for a correction to Energy Plus that will relieve problem in simulating heat recovery. Once this is resolved, they will move on to the next set of simulations. They will have simulations done at the end of this month. The plan is to finish the project by the end of this year.

In RP 1484 “Energy and Performance of Secondary Coolant Low-temperature Refrigeration Systems”, Eckhard Groll and Joe Poland have submitted the final paper to ASHRAE, targeting Chicago. It will need to be included in the next revision of the Refrigeration handbook. TC 3.1 is considering the possibility of a phase 2 of this project. Phase 1 was a paper study. Phase 2 would be experimental work.

There is a potential research project on “Minimum Refrigerant Charge Attainment for Commercial Refrigeration Systems”. Daryl Erbs is drafting the RTAR. It needs to be in to RAC by August 16. Pradeep Bansal will be involved and TC 8.4 will cosponsor to work.

Jon McHugh is writing an RTAR regarding global warming impact (GWI) of refrigerants with respect to leakage in heat exchangers. One display case manufacturer has had leakage problems with suction/liquid heat exchangers in low-temperature applications. David Hinde might take this matter up with TC 8.5 and get their perspective. Finding out about this might be more effectively handled by a survey and is probably not amenable to testing. The RTAR is about the whole system and is not limited to just the heat exchangers.

TC 3.1 has a work statement and a proposed RTAR on 2L flammability. The work statement deals with refrigerants in stationary residential and air-conditioning and small commercial, smaller systems, has been approved and has gone out for bid at this time. The RTAR deals with larger systems and they are still working on it at this time.

The Refrigeration Committee has an approved work statement for RTAR 1634 “Guide for Sustainable Refrigerated Facilities and Refrigeration Systems”. They are looking for major co-funding. ASHRAE has requested UNEP to give us money for that design guide, with the idea that it would be used. Progress is on hold while the money gets sorted out.

#### Handbook - Ramin Farmarzi

The subcommittee worked together to make modifications to our two chapters. Last year when we submitted changes, some didn't get through. Ramin submitted the entire set of changes and we have been notified that the Handbook Committee has received our requested changes. We have received only one comment, a minor one. Dave Demma will become Handbook Subcommittee Chair effective July 1. Then we will need to start talking about 2014. It is not yet resolved whether or not the Society will update the CDs. It has been proposed to put them in electronic version but we don't have confirmation yet.

#### Standards - Van Baxter

The revision of Standard 72 “Method of Testing Commercial Refrigerators and Freezers” has been completed and the SPC has started another review of this standard. One glaring hole in the standard now is

discussion about testing a unit with a transcritical inlet or outlet condition. The standard will now be issued as the 2012 edition and the group will then start working on the transcritical problem.

Standard 32.1 "MOT for Rating Vending Machines for Bottled, Canned and Other Sealed Beverages" is now in publication as the 2010 edition so no work is pending at this time. Standard 32.2 "MOT for Rating Pre-Mix and Post-Mix Beverage Dispensing Equipment" has been reaffirmed and will be published as the 2011 edition.

Standard 29 "Method of Testing Automatic Ice makers", will be up for vote to revise or reaffirm in 2012. We need a motion to start the revision process. Then Standards will set up a standard review committee. Daryl Erbs agreed to be the chair. Van moved to "Ask the Standards Committee to Form a Project Committee to Revise Standard 29 with Daryl Erbs as Chair". Massoud Neshan seconded. The vote was 6 of 7 voting members present with the chair not voting but in support.

Regarding Standard 18 "Method of Testing for Rating Drinking-water Coolers and Self-contained Mechanical Refrigeration" we need to revise or reaffirm as soon as possible. Van will get a draft copy of the standard. The Standards Committee has suggested editorial changes. Van will contact voting members in the next month or so to determine a course of action.

David Hinde asked how we became the cognizant TC for Standard 18. TC 10.9 was formerly cognizant for Standard 18 but they disbanded after the Las Vegas meeting. The TC 10.9 chair at the time (Brian Fricke) suggested TC 10.7 as a possible home for the standard. This was agreed to after the Las Vegas meeting and the standard was formally transferred to TC 10.7 by the PPIS subcommittee of Standards Committee during their February 2011 conference call.

We voted last time to put up an SPC for a Method of Test (MOT) for walk-in coolers and freezers. We sent the forms in. We don't have a volunteer yet to chair the SPC. The Standards committee won't keep an SPC open past 18 months and we have already used up six months. Kristina Kamensky volunteered and the TC members unanimously agreed to accept Kristina's offer to act as chair of the walk-in MOT.. Daryl Erbs, Maryline Rassi, Scott Mitchell, Dan Manole, Ramin Faramarzi, Dave Cowen and Aris Marantan will serve as members.

SPC 147 Committee, "Reducing the Release of Halogenated Refrigerants from Refrigerating and Air-conditioning Equipment and Systems" met last night and went through the twenty-eight second public review comments. There are now an additional five comments and ten substantive changes so there will be a third public review. By this time next year it should be issued.

#### Website –Rob Uhl

Scott discussed the status in Rob's absence. Rob has posted everything we have used at this meeting including the Las Vegas minutes and the Montreal agenda. Scott thinks this is the most efficient way to distribute the information.

Cynthia Gage pointed out that we can post presentations on the website provided the speakers giving the presentations approve of us doing so.

#### **New Business – Scott Mitchell**

John McHugh indicated that California has a standard for refrigerated warehouses. It has requirements for compressors, condensers, evaporators, etc., but no requirements for unitary condensing units and no measure for EER and related parameters. He sees this as a gap and asked the group where a relevant test method would reside in ASHRAE. AHRI has a standard for rating unitary condensers and has a method to measure capacity, and EER and subcooling. We would have to look at the AHRI Standard to see what ASHRAE standard it would be appropriate to relate to. It was generally agreed around the table that TC 10.7 would not be the cognizant committee.

**Adjourn – Scott Mitchell**

With no further business before the committee, Scott adjourned the meeting at 4:05 pm.