

ASHRAE TC 10.7
Commercial Food & Beverage Refrigeration Equipment
Minutes of 2017 Annual Meeting
Monday, June 25, 2018, 2:15 pm - 4:15 pm
Hilton Americas-Houston, Grand E Room, 4th floor, Houston, TX

1. Welcome & Introductions

Chairman Tim Anderson welcomed the members and guests and called the meeting to order at 2:20 pm. Members and guests introduced themselves. The Agenda was distributed, and a sign-in sheet was circulated. Mr. Anderson reminded everyone that the ASHRAE Code of Ethics must be adhered to by those doing ASHRAE business whether or not the participant is an ASHRAE Member. The Code of Ethics can be found at <https://www.ashrae.org/about-ashrae/ashrae-code-of-ethics>

2. Review and Revise Agenda

No changes were requested and the agenda was approved.

3. Determination of Quorum

Quorum was established with ten (10) of twelve (12) voting members present.

Members Present: Lauren Zelinski (VM 6/19), Jon Murray (6/18), Cesar Lim (Non-Quorum 6/19), Carl Roberts (6/18), Timothy Anderson (VM 6/19), Daryl Erbs (6/20), Massoud Neshan (6/20), Brian Fricke (VM 6/19), Shitong Zha (VM 6/19), Gustavo Pottker(6/19).

Not Present: Caleb Nelson (VM 6/18), Pradeep Bansal (6/19),

4. Scope / MBO's

For the benefit of guests, the TC's scope and objectives were reviewed.

5. Liaisons & Announcements

Committee Liaisons:

- Section Head Jim Tauby
- Program Committee Liaison Kevin Gallen
- Research Committee Liaison H. Ezzat Khalifa
- Handbook Committee Liaison Scott Fisher
- Chapter Technology Transfer Committee Liaison Gerald Hartford
- Standards Committee Liaison Cecily Grzywacz
- Refrigeration Committee Liaison..... Charlie Hon
- ALI/PDC LiaisonHugh McMillan
- MTG Low GWP Liaison..... Brian Fricke

Committee Liaisons were acknowledged and brief announcements were given.

- **Section 10 (Jim Tauby)**

The section head reminded committee members that nothing should be submitted on ASHRAE letterhead or in ASHRAE's name without full approval from the committee, ASHRAE and with it being sent by ASHRAE staff. No affiliation to ASHRAE can be made when submitting comments to regulatory bodies or codes.

He also mentioned that there would be a refrigeration track in Atlanta and TC 10.7 should submit seminars by August 3, 2018. He reminded the committee that the number one reason for seminars being rejected was often inadequate paperwork submissions and missed deadlines.

▪ **Handbook (Scott Fisher)**

Refrigeration was published and exceeded expectation for the amount of revision completed. The committee will now start the update process over for the next round of revisions. The new committee members will be appointed over the next month and Dave Demma volunteered to remain as the 10.7 handbook subcommittee chair.

▪ **MTG – Low GWP (Brian Fricke)**

This MTG on Low GWP is the cognizant committee for monitoring and review of three projects of joint research by DOE, AHRI and ASHRAE. The following three projects were discussed and brief update given:

- **RP-1806, *Flammable Refrigerants Post-Ignition Simulation and Risk Assessment Update*.** Status: running a bit behind schedule working on modeling issues. Expected completion March 2019.
- **RP-1807, *Guidelines for Flammable Refrigerant Handling, Transporting, Storing, and Equipment Servicing and Installation*.** Status: Draft final report has been submitted and is currently being reviewed by the PMS for completion.
- **RP-1808, *Servicing and Installing Equipment Using Flammable Refrigerants: Assessment of Field-made Mechanical Joints*.**
Status: Draft final report has been submitted and is currently being reviewed by the PMS for completion.

AHRI brought two new research ideas to the committee. The projects proposed were to determine the impact of combustion products on the safe use of flammable refrigerants and to determine the response of refrigerant detectors and compare the performance of these with current code requirements.

These were both proposed as joint AHRI-ASHRAE projects and will have WSs submitted shortly.

▪ **Refrigeration Committee (Charlie Hon)**

Charlie gave brief update from refrigeration committee. He reminded the group that the Atl meeting will contain a refrigeration track and TC 10.7 should submit programs.

He also indicated that the refrigeration committee is pushing for more refrigeration coverage and input at ASHRAE. They will be working with all section 10 TCs in ATL to develop a more cohesive voice for the refrigeration industry at ASHRAE for seminar and WS submissions.

6. Membership

2017-2018 membership table:

Voting Members (12)	End Date	Leadership Team	
Timothy Anderson	6/30/2019	Chair:	Timothy Anderson
Pradeep Bansal	6/30/2019	Vice Chair:	Brian Fricke
Massoud Neshan	6/30/2020	Secretary:	Lauren Zelinski
Lauren Zelinski	6/30/2019	Handbook Chair:	David Demma
Shitong Zha	6/30/2019	Program Chair:	Caleb Nelson
Daryl Erbs	6/30/2020	Research Chair:	Shitong Zha
Cesar Lim (NQ)	6/30/2019	Standards Chair:	Jon Murray
Jon Murray	6/30/2018	Webmaster:	Kyle Larson
Caleb Nelson	6/30/2018	MTG.LowGWP Liaison:	Brian Fricke
Gustavo Pottker	6/30/2019		
Carl Roberts	6/30/2018		
Brian Fricke	6/30/2019		

There are a few members rolling off after this meeting and chairman Anderson asked that anyone interested in becoming a voting member contact Lauren Zelinski. Jeff Bauman asked to be added as a voting member.

7. Review Draft Minutes from the 2017 Summer Meeting in Long Beach, CA.

Minutes will be reviewed at the next meeting for approval.

8. Subcommittee reports

A. Program Subcommittee (Gustavo Pottker, Chair)

Seminar 27: Supermarket Refrigeration System Diagnostics: Opportunities and State of the Art

Monday, June 25th, 8:00am – 9:30am

Seminar 71: Recent Advances in Solid-State Cooling Technologies

Wednesday, June 27th, 11:00am – 12:30pm

For the Refrigeration Track for the Atlanta Winter 2019 meeting, TC 10.7 discussed submitting the following topics for consideration:

- **Life After R-404A (Jon Murray)**
 - Using A3s (hydrocarbons) in self-contained equipment (Daryl Erbs)
 - Regulatory/policy side of refrigerant transitions (Rajan R)
 - lab test with A2L direct replacement Refrigerant (CTS)

- No pain no gain – transition from R-502 to R-22 to R-404A to something great (Dave Demma)

A motion was made to submit Life after 404A for consideration in Atlanta. VOTE: 10-0-0-2 (**ACTION 1**)

- **Advances in Low GWP Refrigeration System Architectures (Georgi Kazachki)**
 - Micro-Distributed systems (Tim Anderson)
 - Advanced Transcritical CO2 for Hot Climates (Shitong Zha)
 - Use of HFO Refrigeration in Supermarket Refrigeration systems (Gustavo Pottker)
 - Topic from Low-GWP MTG?

A motion was made to submit Advances in Low GWP Refrigeration System Architectures for consideration in Atlanta. VOTE: 10-0-0-2 (**ACTION 2**)

Submissions for seminars are due August 3rd. All authors will need to submit the following items: Presentation title, abstract, Q&As and brief bio.

Other ideas for future consideration:

- IoT, Big Data, and control methodologies to improve the operation and efficiency of commercial refrigeration equipment – Raman and Daryl Erbs
- Coating technologies – Stefan Elbel and Raman F.
- Transactive control (electrical load shifting) for refrigeration equipment (e.g., ice makers) to correspond to renewable power generation.
 - Could thermal storage fit into this?
- Seminar on blast chillers and freezers and other “specialty refrigeration applications”
- Living with a 150 gram charge limit on Hydrocarbons
- Doing it All efficiently with CO2 Refrigeration anywhere in the World
- Design and Performance Validations of Ultralow Charge Ammonia Cascade Systems for Retail Food Environment
- Opportunities for Utilizing Two-Phase Ejectors to Increase Efficiency of Commercial Refrigeration Systems Using Natural Refrigerants
- Packaged Ammonia/CO2 Systems for Refrigeration
- Mitigating Refrigeration Impacts on the Grid

B. Research (Shitong Zha, Chair)

- RTAR 1706 – *Minimum Refrigerant Charge Attainment for Commercial Refrigeration Systems*
This RTAR was returned with comments. Still need TC 10.6 to vote on revisions this was requested for today’s meeting of 10.6. Shitong will follow up (**ACTION 3**)
- RTAR 1722 – *Optimizing Air Curtains for Refrigerated Display Cases with Glass Doors*
Mike and Carl to work on rewrite and resubmit. (**ACTION 4**)
- RTAR 1831-*Validation of a Test Method for Applying a Standardized Frost Load on a Test Evaporator in a Test Chamber with an Operating Conditioning System* WS must be submitted before 2019 to address comments submitted with acceptance of RTAR. Lauren to follow up with Detlef (**ACTION 5**)

Future Suggestions:

CO2 DX case test method: different from HFC DX cases (e.g., entering refrigerant liquid temperature) TC 2.6 and 10.6 possibly interested in cosponsoring

Cold storage transactive control load shifting- 10.5 10.1 10.6 interested – Daryl to draft and submit **(ACTION 6)**

C. Handbook (Dave Demma, Chair)

Updates were recently completed and the handbook was published. No additional action at this time.

D. Standards subcommittee (Jon Murray, Chair)

Standards:

- **SPC 18:** *Methods of Testing for Rating Drinking-Water Coolers with Self-Contained Mechanical Refrigeration*

Standard is up to date

- **SPC 220P** *Method of Testing for Rating Small Commercial Blast Chillers, Chiller Freezers and Freezers* (Denis Livchak)

Meeting this afternoon.

- **SPC-29** *Methods of Testing Automatic Ice Makers* (Daryl Erbs)

Daryl moved to reaffirm, Jon seconded. VOTE: 8-0-0-3 **(ACTION 7)**

- **SPC 32.1** *MOT for Rating Vending Machines for Bottled, Canned and Other Sealed Beverages* (Scott Mitchell)

Standard is up to date.

- **SPC 32.2** *MOT for Rating Pre-Mix and Post-Mix Beverage Dispensing Equipment* (Daryl Erbs)

Waiting to be published

- **SSPC-72** *MOT Open and Closed Commercial Refrigerators and Freezers* (Jon Murray)

Waiting to be published

- **SPC-210** *MOT/for Rating Commercial Walk-in Refrigerators and Freezer* (Lauren Zelinski)

210 members have been assisting with the current update to AHRI Standard 1250 and will take the MOT items from this standard to draft 210 directly after the publication of 1250. Goal to be submitted for PPR at January meeting.

E. website (Kyle Larson, Webmaster)

N/A

9. New Business

No new business was stated at this time.

10. Adjournment

The meeting adjourned at 3:30 pm.

TC 10.7 ACTION ITEMS

Summer meeting 2018

[illegible]