

# ASHRAE TC 10.7

## Commercial Food & Beverage Refrigeration Equipment 2019 ASHRAE Annual Meeting Agenda for Monday, June 24, 2019, 2:15 pm - 4:15 pm Marriott Hotel, Bennie Moten Room, Kansas City, MO

Note: The ASHRAE Code of Ethics is to be adhered to by those doing ASHRAE business whether or not they are an ASHRAE member. <https://www.ashrae.org/about-ashrae/ashrae-code-of-ethics>

### 1. Welcome & Introductions – Sign-In Sheets

### 2. Review and Revise Agenda

### 3. Determination of Quorum

### 4. Review Scope / MBO's

TC10.7 Scope: TC 10.7 is concerned with the application and performance of equipment and systems for the refrigeration of food and beverages in commercial operations. This includes commercial equipment such as refrigerated merchandisers and storage cases, walk-in freezers and coolers (<3000 sq. ft.), beverage vendors and dispensers, commercial ice makers, and water coolers.

TC10.7 MBO's (Objectives):

- The pursuit of technological advancement of commercial food and beverage equipment and systems to enhance overall performance through improved food safety, food quality, energy efficiency, and reduced environmental impacts.
- To provide engineering design, application knowledge, and technical expertise to effectively support research and the Refrigeration handbook chapters and standards for which we are responsible.

### 5. Recognition of Liaisons & Announcements:

Committee Liaisons:

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

Announcements

### 6. Membership:

Current TC10.7 Management Team

- Chair ..... Tim Anderson (VM 6/19)
- Vice Chair ..... Brian Fricke (VM 6/21)
- Secretary ..... Justin Sikorski (VM 6/21)
- Research Subcommittee Chair ..... Shitong Zha (VM 6/19)
- Standards Subcommittee Chair ..... Jon Murray
- Program Subcommittee Chair ..... Gustavo Pottker (VM 6/19)
- Handbook Subcommittee Chair ..... Dave Demma (NV)
- Webmaster ..... Kyle Larson
- Additional Voting Members: Stephen Schaefer (6/21), Jeff Bauman (6/21), Pradeep Bansal (6/19), Cesar Lim (Non-Quorum 6/19), Daryl Erbs (6/21), and Massoud Neshan (6/21)

## **7. Review Draft Minutes from the 2019 Winter Meeting in Atlanta, GA**

### **8. Subcommittee Reports:**

#### **A. Program Subcommittee (Gustavo Pottker)**

Meeting: Sunday, 5:15pm-6:00pm, KCCC (Room 2209)

Seminar or forum ideas:

- Seminar idea for Orlando Refrigeration Track: State of the art refrigeration technologies with low-GWP refrigerants – Chair GK
  - Hydrocarbons
  - TC CO2 – Gas Coolers?
  - Ejector technology in commercial refrigeration system
  - Experiences with low-GWP HFO blends
- Efficient fan operation in condenser applications
- Solar-powered WICF

Previous ideas:

- IoT, Big Data, and control methodologies to improve the operation and efficiency of commercial refrigeration equipment – Ramin and Daryl Erbs
- Transactive control (electrical load shifting) for refrigeration equipment (e.g., ice makers) to correspond to renewable power generation.
  - Could thermal storage fit into this?
- Living with a 150-gram charge limit on Hydrocarbons

#### **B. Research Subcommittee (Shitong Zha)**

Meeting: Sunday, 6:00pm-6:45pm, KCCC (Room 2209)

**WS 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  
Contact: MacGowens, Lauren <[LMacGowens@ahrinet.org](mailto:LMacGowens@ahrinet.org)> (AHRI with DOE), Detlef Westphalen  
Draft sent to TC 10.7 on June 12<sup>th</sup>.

**Action:** Need to submit WS prior to August 2019

**RTAR 1722** Optimizing Air Curtains and the effect on the infiltration load of Refrigerated Display Cases with Glass Doors

Contact: 'Mike Chieffo' <[Mike.Chieffo@zero-zone.com](mailto:Mike.Chieffo@zero-zone.com)>; Carl Roberts [Carl.Roberts@zero-zone.com](mailto:Carl.Roberts@zero-zone.com)

Resubmitted to Dr. Khalifa (RL) in Dec. 2018

**Action:** Waiting on response from RAC

**RTAR proposal from TC 4.1** – Heat gain from self-contained refrigeration equipment

Summary: This research project will measure heat gain loads of popular commercial self-contained refrigeration equipment. These loads will be published in the ASHRAE handbooks and will be used to perform internal heat gain calculations for commercial buildings that include food-service facilities. This published data will allow designers to size HVAC systems correctly.

**Action:** *TC 4.1 is asking 10.7 if it will cosponsor this RTAR.*

#### **Previous ideas:**

RTAR - DOE test according to ASHRAE Standard 72 and how instrument accuracies and input tolerances can affect the outcome of the test results and repeatability.

This could involve both analytical and testing. It was noted that ASHRAE 37 may be doing something similar and this should be considered when developing this RTAR. SPC 37 should be contacted and SSPC 72 should propose an RTAR for this. Lauren will reach out to the chair of SPC 37 to determine the status of this project and then report back to SSPC 72 and TC 10.7

Transactive control (load shifting) for refrigeration equipment (e.g., ice makers) to correspond to renewable power generation. TC 10.5, 10.6, and 10.1 may be interested in co-sponsoring.

Other Ideas?

#### **C. Handbook Subcommittee** (Dave Demma)

No meeting in KC.

Refrigeration, Chapter 15 – Retail Food Store Refrigeration and Equipment

Refrigeration, Chapter 16 – Food Service and General Commercial Refrigeration Equipment

Ideas for next version:

Use of hydrocarbons in commercial refrigeration

Heat gain loads for typical types of self-contained equipment

Standard method of rating capacity of evaporators and condensers? (AHRI 1250)

#### **D. Standards Subcommittee (Jon Murray)**

TC10.7 is the Cognizant TC for the following standards and project committees:

Standard 18-2008, Methods of Testing for Rating Drinking-Water Coolers with Self-Contained Mechanical Refrigeration

Standard 29-2015, Methods of Testing Automatic Ice Makers

Standard 32.1-2016, MOT for Rating Vending Machines for Bottled, Canned and Other Sealed Beverages

SPC-32.2, MOT for Rating Pre-Mix and Post-Mix Beverage Dispensing Equipment

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

Meeting: Sunday (6/23) 1:00 pm – 5:00 pm Marriott-East, Lobby Floor, Roosevelt Room

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

Meeting: Monday (6/24) 8:00 am – 12:00pm Marriott-West, 3<sup>rd</sup> Floor, Lester Young A Room

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

Meeting: Monday (6/24) 4:15pm – 6:30pm Marriott-West, 3<sup>rd</sup> Floor, Julia Lee A Room

#### **9. New Business**

##### **Notes:**

Upcoming ASHRAE Meetings:

ASHRAE Winter Meeting Feb. 1-5, 2020 – Orlando, FL

ASHRAE Annual Meeting June 27 – July 1, 2020 – Austin, TX

ASHRAE Winter Meeting Jan. 23-27, 2021 – Chicago, IL

ASHRAE Annual Meeting Jun 26–30, 2021 – Phoenix, AZ

ASHRAE Winter Meeting Jan. 29-Feb. 2, 2022 – Las Vegas, NV

#### **10. Adjournment**