



1791 Tullie Circle, N.E./Atlanta, GA 30329

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**DRAFT**

**TC/TG/MTG/TRG MINUTES COVER SHEET**

(Minutes of all Meetings are to be distributed to all persons listed below within 60 days following the meeting.)

TC/TG/MTG/TRG No. 10.07 DATE 8/3/21

TC/TG/MTG/TRG TITLE Commercial Food and Beverage Refrigeration Equipment

DATE OF MEETING 6/21/21 LOCATION Virtual

MEMBERS PRESENT	YEAR APPTD	MEMBERS ABSENT	YEAR APPTD	EX-OFFICIO MEMBERS AND ADDITIONAL ATTENDANCE
Brian Fricke (Chair)	2016/2021	Jon Murry	2019/2023	See attached attendance sheet
Stephen Schaefer (Vice Chair)	2019/2023	Carl Roberts	2019/2023	
Neil Monson	2020/2024	Ramiro Avila	2020/2024	
Jeff Bauman	2019/2023			
Daryl Erbs	2017/2021			
Massoud Neshan	2017/2021			

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

TAC Section Head: sh10@ashrae.net	SHx@ashrae.net Where x is the section number
All Committee Liaisons As Shown On TC/TG/MTG/TRG Rosters (Research, Standards, ALI, etc.)	See ASHRAE email alias list for needed addresses.
Mike Vaughn, Manager Of Research & Technical Services	MORTS@ashrae.net

Note: These draft minutes have not been approved and not the official, approved record until approved by the TC.

**ASHRAE TC 10.7**  
**Commercial Food & Beverage Refrigeration Equipment**  
**2021 Summer ASHRAE Meeting**

**Minutes for Monday, 21 June 2021, 2:00 pm - 4:00 pm (EDT)**  
**Virtual Meeting via Zoom**

**1. Welcome & Introductions**

- a. Meeting was called to order by Chair (Fricke) 1404 EDT
- b. Code and Ethics reviewed by Chair with TC membership.

**2. Review and Revise Agenda**

- a. No additions or changes presented to agenda.

**3. Determination of Quorum**

- a. Quorum present, 6 of 9 VM present.

**4. Review Scope / MBO's**

- a. Completed by Chair

**5. Recognition of Liaisons & Announcements:**

- Committee Liaisons:
  - Section Head: .....Charlie Henck (Present)
  - Program Committee Liaison:.....
  - Research Committee Liaison:.....Lorenzo Cremaschi
  - Handbook Committee Liaison:.....Carlos Brignone
  - Chapter Technology Transfer Committee Liaison:
  - Standards Committee Liaison: .....Kwang Woo Kim
  - Refrigeration Committee Liaison: .....Charlie Hon (Present)
  - ALI/PDC Liaison: .....
  - MTG Low GWP Liaison: .....Brian Fricke (Present)
- Charlie Henck (Section Head)
  - Recognition and thanks for Brian Fricke leadership last 2 years.
  - TAC would like to know if we want to have interim meetings, welcome to use ASHRAE tools as needed.
  - 8/2 submission date for Vegas seminars
  - Activity forms due end of the week
  - Basecamp? Not been using. TC Leadership to investigate
  - Vegas looks to be in-person, currently
  - New way to send motions to TAC
- Charlie Hon (Refrigeration Committee Liaison)
  - Discussion re: AIM and new EPA SNAP proposals should be watched closely by this TC.
- Brian Fricke (MTG LGWP Liaison)
  - Review list of MTG/LGWP
    - RP-1794 White paper re: odorants in flammable refrigerants. Completed and available on ASHRAE site
    - RP-1884 – Follow on from 1794
    - RP-1806 – Post ignition simulation and risk assessment. Progressing but slowly, pilot risk assessment for reach-in coolers.

- Go/No go pending due to budget
  - RP1807 – Flamm. Guidelines. Complete, referred to SSPC15 for possible Std. 15 work.
  - RP1808 – Servicing Complete, referred to SSPC15
  - RP-1855 – Complete
- General Announcements
  - TAC Open mike policy reviewed
  - TC Re-Org
    - Several have merged (10.1+10.3) more in the works
  - Las Vegas 1/29-2/2 2022
    - 9 tracks, tracks 3 and 8 of interest to this TC
  - Hightower Award Nominations due 9/1/21

## 6. Membership:

- Current TC10.7 Management Team
  - Chair: .....Brian Fricke (VM 06/21)
  - Vice Chair: .....Stephen Schaefer (VM 06/23)
  - Secretary: .....Justin Sikorski (NV) - *resigned*
  - Research Subcommittee Chair: .....Vishaldeep Sharma (NV)
  - Standards Subcommittee Chair: .....Jon Murray (VM 06/23)
  - Program Subcommittee Chair: .....Gustavo Pottker (NV) - *resigned*
  - Handbook Subcommittee Chair: .....Dave Demma (NV)
  - Webmaster: .....Kyle Larson (NV)
- Additional Voting Members:
  - Ramiro Avila (6/24), Jeff Bauman (06/23), Daryl Erbs (06/21), Neil Monson (6/24), Massoud Neshan (06/21), Carl Roberts (06/23)
- Proposed 2021-2022 Roster
  - Management Team
    - Chair: .....Stephen Schaefer (VM 06/23)
    - Vice Chair: .....Davide Ziviani (VM 06/25)
    - Secretary: .....Neil Monson (VM 06/24)
    - Research Subcommittee Chair: .....Vishaldeep Sharma (NV)
    - Standards Subcommittee Chair: .....Jon Murray (VM 06/23))
    - Program Subcommittee Chair: .....Jian Sun (volunteered on 1/11/2021)
    - Handbook Subcommittee Chair: .....Brian Fricke (NV)
    - Webmaster: .....Neil Monson (VM)
  - Additional Voting Members:
    - Cesar Lim (Non-Quorum 06/25), Ramiro Avila (06/24), Jeff Bauman (06/23), Heather Sharif (06/25), Davide Ziviani (06/25)

## 7. Review Draft Minutes from the 2021 Winter Meeting (Virtual)

- a. Approved 5-0-0 CNV (Chair not voting)

## 8. Subcommittee Reports:

- Program Subcommittee (Brian Fricke)
  - Meeting held Monday, 14 June 2021, 2:00pm – 4:00pm (EDT), Virtual Meeting via Zoom
  - Summer 2021 Program:
    - Seminar 52 (on-Demand Session): Latest Developments in Low-GWP Refrigerants and Systems for Refrigeration. Thanks to G. Kazachki for developing.

- **Potential program ideas:**
  - Proposed Seminar (Winter 2022): Latest Developments in Low-GWP Refrigerants and Systems for Refrigeration, and Related Regulations
    - G. Kazachki will submit proposed seminar
    - General theme: flammable refrigerant charge limits, updates on standards and codes (ASHRAE Standard 15, UL 2-89, building codes, etc.), technology developments related to low GWP refrigerants, trends in Europe
    - Tim Anderson can provide an update regarding ASHRAE Standard 15
    - Other potential speakers: Helen Walter-Terrinoni (AHRI), Brian Rodgers (UL), Rajan Rajendran (Emerson)
    - Potential co-sponsorship: REF-CPCC, TC3.1, MTG.LowGWP
  - Potential Seminar (Winter 2022): Refrigerant allocations and AIM
    - Charlie Hon to discuss this with Cindy Newberg (EPA) to identify potential speakers
    - Discussion about combining with above seminar, Charlie and Georgi to develop.
  - Potential Forum (Summer 2022): Transactive control (electrical load shifting) for refrigeration equipment to correspond to renewable power generation.
    - Could be used to inform research direction for RTAR that D. Erbs has drafted.
    - Get feedback first from RAC regarding RTAR, then schedule forum to answer any questions.
    - D. Erbs volunteered to lead Forum
- **Previous program ideas:**
  - Servicing equipment containing flammable refrigerants
  - IoT, Big Data, and control methodologies to improve the operation and efficiency of commercial refrigeration equipment
  - Living with a lower charge limit on Hydrocarbons: Forum or Seminar? “Lower”? Include perspective on A2Ls? Limit discussion to more severe hydrocarbons, vs discussing both A2L and A3? What types of systems are suitable for A2L/A3 and lower charge limits (proper design of secondary systems – separate issue from refrigerant efficiency)?
  - Efficient fan operation in condenser applications
  - Solar powered WICF
  - Other ideas?
    - Summer 2022 – Larger charge limits re: A3 refrigerants from Charlie Hon. Will need to see how AHRI meeting in October 2021 goes before planning this.
- Motion was made to submit combination seminar (Georgi and Charlie for Winter 2022. Approved 5-0-0 CNV
- Research Subcommittee (Vishaldeep Sharma)
  - Meeting was held Monday, 14 June 2021, 2:00pm – 4:00pm (EDT), Virtual Meeting via Zoom
  - **TRP 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: Lauren MacGowens, Detlef Westphalen
    - PES has recommended a contractor; approved by RAC
    - Waiting for funding from ASHRAE

- **RTAR 1876:** Optimizing Air Curtains and the effect on the infiltration load of Refrigerated Display Cases with Glass Doors
  - Contact: Mike Chieffo; Carl Robert
  - Action: Accepted and waiting for a work statement; Mike was to draft work statement. Vishal to follow up with Mike on status.
- **New RTAR:** Renewable Energy Electrical Grid Balancing via Dynamic Commercial Refrigeration Equipment Energy Storage
  - Contact: Daryl Erbs, Xudong Wang
  - Develop an estimate of the potential for electrical grid energy absorption through conversion of electricity to frozen water or frozen brine by dynamic control of phase change storage incorporated into commercial refrigeration equipment.
  - Approved for submittal to RAC 5-0-0 CNV
- **Co-Sponsor Request:** Capillary Tube and Short Tube Orifice Performance for Low GWP Refrigerants (TC 8.8)
  - Contact: Christian Bach
  - Develop updated design guidelines for capillary tubes and short tube orifices using low GWP refrigerants. Includes experimental testing and modeling tasks.
  - Co-Sponsor ship approved by vote 5-0-0 CNV
- **Previous research 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.
    - Discussion was that accuracy in STD 72 is in good shape. Decision taken to table this RTAR idea.
  - Matching hot water load (rack controls) to refrigeration load. Discussion that there is little interest in this research. Without further interest from TC membership this idea should be dropped.
  - Low GWP refrigerants. Nothing specific
  - Other Ideas? Bring new ideas to sub-committee when you have them.
- Handbook Subcommittee (Brian Fricke)
  - **Meeting:** Monday, 14 June 2021, 2:00pm – 4:00pm (EDT), Virtual Meeting via Zoom
  - 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)
    - How to deal with refrigerant glide
    - Thermal energy storage
    - Transactive control
  - Existing chapters we approved as-is for next publication 5-0-0 CNV
  - Brian Fricke took the action to make electronic copies available to TC for work to start on next revisions ASAP.

- Standards Subcommittee (Brian Fricke)
  - TC10.7 is the Cognizant TC for the following standards:
    - Standard 18-2008, MOT for Rating Drinking-Water Coolers with Self-Contained Mechanical Refrigeration
    - Standard 29-2015, MOT for Automatic Ice Makers
    - Standard 32.1-2017, MOT for Rating Vending Machines for Bottled, Canned and Other Sealed Beverages
    - Standard 32.2-2018, MOT for Rating Premix and Postmix Beverage Dispensing Equipment
    - Standard 72-2018, MOT for Open and Closed Commercial Refrigerators and Freezers
    - Standard 210, MOT for Rating Commercial Walk-in Cooler and Freezer Equipment
    - Standard 220, MOT for Rating Small Commercial Blast Chillers, Chiller-Freezers, and Freezers
  - **SSPC 72:** Stephen Schaefer. Out for public review hoping for 2021 maybe 2022 publication.
  - **SPC 210:** Ned Bent is new chair for 210. Monthly meetings are underway for review and revisions.
  - **SCP220** – Daryl Erbs reports that they have met, progress has been made but still somethings to finalize. Probably another 6 months to get something for initial review.
  
- Website (Kyle Larson)
  - TC10.7 Website: <https://tc1007.ashraetcs.org/>
  - New website lead will be Neil Monson

## 9. New Business

- a. None.

## 10. Adjournment

- a. Meeting adjourned 1550 EDT

Upcoming ASHRAE Conferences:

Winter 2022 Conference: Jan 29 – Feb 2, 2022, Las Vegas, NV

Summer 2022 Conference: Jun 25 – 29, 2022, Toronto, ON

Last Name	First Name	Type	E-mail	Notes
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Bent	Ned	G		
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