



**AMERICAN SOCIETY OF HEATING, REFRIGERATING AND AIR-CONDITIONING
ENGINEERS, INC.**

**ASHRAE MEETING – Annual, Phoenix (Virtual)
TC 9.3 – Transportation Air Conditioning
Main Committee Meeting
Chair: Stephen M. Trent**

June 17, 2025

Meeting Minutes (Approved)
(All times are Mountain Standard Time)

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WELCOME AND INTRODUCTIONS (7:00AM)

a. Presence

- i. Called out during the virtual meeting as well as YEA status of participants (≤ 35 years old)

b. Quorum

- i. Establishment of Quorum: 7 out of 15 Voting members were present, i.e. quorum was not established. Two YEA members were present.

| Name of VM | Present? |
|----------------------|----------|
| Alexander Schmig | Y (YEA) |
| Andreas Bezold | Y |
| Anthony Di Iorio | N |
| Ben Thiesse | Y |
| Byron Jones | Y |
| Christopher McDaniel | N |
| Douglas Eaton | N |
| Gursaran Mathur | Y |
| James Bushnell | N |
| Joshua Kelton | N |
| Judith Anderson | N |
| Ken Warren | N |
| Lubos Forejt | Y |
| Michael Levin | N |
| Stephen Trent | Y (YEA) |

c. Other attendees

- i. Kirk Stifle
- ii. Dwayne Taylor
- iii. Richard Fox
- iv. Rene Beaulieu
- v. Florian Mayer
- vi. Catherine Thibaud

ROASTER UPDATE (7:30AM)

a. Voting Members roll-off after 2025 Winter Meeting

- i. None

b. Voting Members roll-off after 2025 Annual Meeting

- i. Stephen Trent
- ii. Andreas Bezold
- iii. Byron Jones
- iv. James Bushnell
- v. Michael Levin

c. New Voting Members after 2025 Annual Meeting

- i. Catherine Thibaud
- ii. Rene Beaulieu
- iii. Richard Fox
- iv. Don Leblanc

d. Review committee positions (new/continuing)

- i. **Leadership Changes:** Stephen Trent's term as chair expires 6/30/2025, Lubos Forejt rolls on to Chair, Alex Schmig to Vice Chair, Richard Fox to Secretar, Ben Thiesse to Webmaster
- ii. **ASHRAE Leadership Changes:** Joy Altwies as section head wraps up 6/30/25, Roland Charneux as research liaison wraps up 6/30/25, Julie Majurin as standard liaison wraps up 6/30/25

TAC-Update- Joy Altwies (8:00AM)

a. Please check out our basecamp located at:

<https://3.basecamp.com/3106353/buckets/23194253/vaults/3964421607>

OLD BUSINESS (8:05AM)

a. Approval of Minutes from Winter 2025 Meeting:

- i. Routed via e-mail 5/29/25
- ii. Due to non-quorum at this meeting, an e-mail ballot will be sent to the Voting Members after this meeting

NEW BUSINESS (8:15AM)

a. TC 9.3 Research Sub-Committee report (Chair: Andreas Bezold)

- i. WS1968: Mass Transit. Update from Doug Eaton.. Not completed yet. Want to submit by end of 2025
- ii. Brief Overview of External Research Projects
- iii. RTAR ideas
 - *Appropriate boarding temperatures,*
 - *Guideline for transients*
 - *More research on engine oil breakdown products*
 - *Extension on filtration study within CAQIII to enlarge database*
 - *Flammable refrigerants leak risk emissions and ignition*
 - *Airplane PCA Air Filtration (Paul Lebbin)*
 - *Determine factors for electric vehicles. No RTARs to be submitted. Will be done in individual labs*
- iv. Other
 - *Great time to submit RTAR, not enough RAC proposals*
 - *FAA research aims presented, starting with Committee on Health and Safety of Aircraft Cabin Temperature (initiated April 2025)*
 - *CAQIII update, EASA research final stakeholder workshop in September 2025 in Cologne*
 - *Alex Schmig/ GD Mathur to formulate RTAR for flammable refrigerants*
 - *Stephanie Licht to update from Boeing on Aircraft Ground Equipment*
 - *Health project EASA awarded DLR – two year project focused on exposure to disease transmission*

b. TC 9.3 Handbook Sub-Committee report (Chair: Gursaran Mathur)

- i. Handbooks are due for the 2027 revisions by the dates below:

| Chapter | Volume | Title | TC | Files due to HQ |
|---------|-------------------|--------------|-------|-----------------|
| 11 | HVAC Applications | Automobiles | 09.03 | 7/5/26 |
| 12 | HVAC Applications | Mass Transit | 09.03 | 7/5/26 |
| 13 | HVAC Applications | Aircraft | 09.03 | 7/12/26 |
| 14 | HVAC Applications | Ships | 09.03 | 7/19/26 |

- ii. Automobile & Chapter 11 (GD Mathur)
 - *Files due July 5*
 - *Making good progress, plan to send out for review between winter and annual meeting*

- iii. Mass Transit & Chapter 12 (Rene Beaulieu)
 - *Files due July 5*
- iv. Aviation & Chapter 13 (Richard Fox)
 - *Appears to be in good condition from 2022, references the most recent research*
 - *Collaborated with FAA KSU study*
 - *Small wording changes*
- v. Ship & Chapter 14 (Tom Chang to lead)
 - *Don Leblanc reaching out to member of Canadian Coast Guard*
 - *GD has not received any feedback yet*

c. TC 9.3 Program Sub-Committee report (Chair: Catherine Thibaud)

- i. Topics for the next two conferences (will send invite to participate)
 - *Sustainable transportation*
 - *Getting ready for the next pandemic*
 - *PFAS*
- ii. Generative AI affecting the HVAC&R industry
- iii. Refrigerant discussed in Orlando, but plan to revisit in 2027
- iv. EASA health project. Airbus supporting DLR, so could ask to present on next conference
- v. Dwayne T (chairman of SAE for disinfections in cabins). Would like to participate in the next programs topics
- vi. Cabin IAQ and buildup on of CO2 in cabin
 - *Wait for RTAR results from door opening prior submitting seminar proposal*

d. TC 9.3 SSPC161: Cabin Air Quality Within Commercial Aircraft (Chair: Richard Fox)

- i. SSPC161: No update.
- ii. G28: no update.
- iii. G48P: presented by Ben Thiesse. Meetings monthly, progressing 2 to 3 sections per month. Ballot aim before January 31, 2026.

e. TC 9.3 GPC 23: Guideline for The Design and Application of Heating, Ventilation, and Air-Conditioning Equipment for Rail Passenger Vehicles (Chair: Rene Beaulieu)

- i. ON track, planning to release guideline in 2026
- ii. Reviewing each section 1 by 1 and already have 3 completed
- iii. Approximately 79% of action items completed
- iv. Estimated completion dates have slipped a little but still confident in 2026 completion
- v. Interim meetings regularly



**f. TC 9.3 SPC 26: Mechanical refrigeration and air conditioning installations aboard ship
(Chair: Kevin Glover)**

- i. The 2020 reaffirmation contains no substantive changes

**g. TC 10.6 and TC 9.3 SPC 243: Safety Standard for Transportation Refrigerating Systems
(Chair: Alex Schmig)**

- i. Holding monthly virtual interim meetings to work towards completing draft
 - Monday, August 18, 2025
 - Monday, September 22, 2025
 - Monday, October 20, 2025
 - Monday, November 17, 2025
 - Monday, December 15, 2025

OTHER BUSINESS (8:40AM)

a. Next Meeting Date and Location

- i. Winter Meeting February 2-4, 2026 Las Vegas, NV
- ii. Annual Meeting June 27-July 1, 2026 Austin, TX & Virtual

ADJOURNMENT (7:42AM)