



Technical Committee 3.2 – Refrigerant System Chemistry and Contaminant Control

Draft Minutes – Winter Conference 2025 Orlando (Hybrid)
Tuesday, February 11– 3:30 to 6:00 pm (EDT) Hilton Orlando Key West A (LL)

Information provided below for virtual attendees

Virtual Meetings and Conference Log-in Information

TC 3.2 Meeting (Hybrid) – February 11, 2025 3:30 pm – 6:00 pm (EDT)

Link to Join Online: [Join the meeting now](#)

Combined TC 3 Research and Program Virtual Meeting was held January 28, 2025 2:00 pm – 4:00 pm (EDT)

The schedule of all technical programs and meetings can be found at
[2025 ASHRAE Winter Conference](#)

1. Call to Order (**Julie Majurin**)

The meeting was called to order at 3:30 p.m.

- 1.1. Virtual conference housekeeping
- 1.2. Meeting Sign-in
- 1.3. ASHRAE Value Statement

In ASHRAE meetings, we will act with honesty, fairness, courtesy, competence, inclusiveness and respect for others, which exemplify our core values of excellence, commitment, integrity, collaboration, volunteerism and diversity, and shall avoid all real or perceived conflicts of interest. Our culture is one of inclusiveness, acknowledging the inherent value and dignity of each individual. We celebrate diverse and inclusive communities, understanding that doing so fuels better, more creative and more thoughtful ideas, solutions and strategies for the Society and the communities our Society serves. We respect and welcome all.

Code of Ethics - <https://www.ashrae.org/about/governance/code-of-ethics>

Core Values - <https://www.ashrae.org/about/ashrae-s-core-values>

Diversity Statement - <https://www.ashrae.org/about/diversity-equity-and-inclusion-dei>

2. Introduction of Members and Guests

2.1. Confirmation of Quorum (**Julie Majurin**)

| Name | Affiliation | Voting Member |
|---|-----------------------|---------------|
| Julie Majurin – Chair | Daikin | Yes |
| Morgan Leehey - Vice Chair | Trane Technologies | Yes |
| Amy Shifflett – Secretary | CPI Fluid Engineering | Yes |
| Casey Scruggs – Research | Metalloid | No |
| Shelby Kent – Programs | Shrieve | No |
| Andrea Hernandez Irias – Handbook | Metalloid | No |
| Sheli Porter – Standards | Stellar Laboratories | Yes |
| Dave Vincent – Webmaster | BVA | Yes |
| Joe Karnaz | Shrieve | Yes |
| Raymond Drost | Calumet | Yes |
| Brad Boggess | Emerson | Yes |
| Rosine Rohatgi | Spauschus | Yes |
| Bob Low | Koura | Yes MNQ |
| Ed Hessell | Lanxess | Yes |
| Rashid Zakeri- MTG Sustainable RAC | Circle Proscio | No |

Those highlighted in **yellow** were present in-person and those highlighted in **green** attended virtually.

10/11 voting members were present. Quorum was met.

3. Roster Changes taking effect July 1, 2025

Julie/Sheli/Ed/Brad will be rolling off after the June meeting. Roster updates will be made in February.

| Name | Affiliation | Voting Member |
|------|-------------|---------------|
|------|-------------|---------------|

| | | |
|--|-----------------------|---------|
| Julie Majurin – Chair (2025) | Daikin | Yes |
| Morgan Leehey - Vice Chair (2027) | Trane Technologies | Yes |
| Amy Shifflett – Secretary (2028) | CPI Fluid Engineering | Yes |
| Casey Scruggs – Research | Metalloid | No |
| Shelby Kent – Programs | Shrieve | No |
| Andrea Hernandez Irias – Handbook | Metalloid | No |
| Sheli Porter – Standards (2025) | Stellar Laboratories | Yes |
| Dave Vincent – Webmaster (2026) | BVA | Yes |
| Raymond Drost (2027) | Calumet | Yes |
| Brad Boggess (2025) | Copeland | Yes |
| Joe Karnaz (2028) | Shrieve | Yes |
| Bob Low (2026) | Koura | Yes MNQ |
| Ed Hessell (2025) | Lanxess | Yes |
| Rosine Rohatgi (2028) | Spauschus Associates | Yes |

Anyone interested in becoming a corresponding member please go to the ASHRAE website and join as a Provisional Member.

4. Approval of TC 3.2 2025 Winter Conference Meeting Agenda (**Morgan Herried**)

The meeting agenda was reviewed. No changes to the agenda were requested.

Motion: Approve the agenda as written.

1st: Amy Shifflett 2nd: Dave Vincent

9/0/1/1 (for/against/abstention/missing) – Chair abstained

Discussion: No discussion

5. Approval of TC 3.2 2024 Annual Conference Hybrid Meeting Minutes (**Morgan Herried**)

The meeting minutes from the 2024 annual conference were reviewed.

Motion: Approve the minutes as written.

1st: Joe Karnaz 2nd: Rosine Rohatgi

9/0/1/1 (for/against/abstention/missing) – Chair abstained

Discussion: No discussion

6. Report of TC Chair's Breakfast Meeting (**Morgan Herried**)

Mentor program coming for YEA members. Programs: 198 submissions-75 accepted. February 26 deadline for seminars and workshop submittals. If interested in getting involved in building decarbonization, e-mail decarb@ashrae.org.

7. Liaison Comments

Tina Brueckner (Section Head) was present to listen to challenges but commented that the TC is doing a great job. Comment from Joe Karnaz regarding resources for online meetings. Julie commented on committee chairs needing to bring their own projectors and speakers, the fact that WebEx isn't even provided anymore, and the internet is poor. Will be discussed in TAC tomorrow.

8. Subcommittee Reports

8.1. Programs (Joe Karnaz in place of Shelby Kent)

Orlando meeting our TC had no programs. The program that we submitted was rejected. Morgan mentioned numbers of what was approved vs. submitted and there was only a 44.6% acceptance rate. The Refrigeration and Refrigerants track in Orlando had 5 sessions, 4 seminars and 1 forum. There was only one section 3 group represented (TC 3.1). A session chaired by Danny Halel was well attended too.

8.1.1 Review of Sponsored, Co-sponsored or programs of interest for this meeting

The program System Chemistry and Contaminant Control for Reliable Low GWP Refrigerant Systems was rejected without feedback. Shrieve, Trane, Arkema, Circle Proscio, and Metalloid would have been presenters. It covered a range of topics but still got rejected. Phoenix is the next conference (Summer 2025) followed by Las Vegas (Winter 2026). Phoenix does not have a Refrigeration track but has an HVAC&R Systems and Equipment track that we could consider submitting the program to. The previous proposed speakers in attendance were still on board, but Arkema was not present so we would need to verify with them. No need for a vote since we are not going to change anything. Sara is open to feedback on her submission.

8.1.2 Programs Ideas and Discussion of Future Programs:

For Las Vegas we can start thinking now. Discussion whether we should try to combine some things like we have done in the past. We previously had a mini-track that went over really well. Was hosted at the AHR Expo and was open attendance. Steve Kujak was the lead for that. Could maybe look at some of the info that Trane presented at Purdue, TC 3.1 could contribute info on PFAS and refrigerants, TC 3.4 could look at miscibility/solubility with new refrigerants, hydrocarbons, and CO₂. Danny Halel may have information coming back from the field on R-410A. Or data may be coming back from the field on the new refrigerants related to transitions. Possible topic could be dryers related to HFOs. We should create an ad-hoc group to discuss this and maybe get Program Chairs together from section 3 and discuss it. The group would meet before the summer meeting to have an organized plan to present and vote on. Joe Karnaz will lead the effort to get people together. Bob Low is on board as well as Sara Kampfe. Julie brought up a previous session in which we had YEA members present at the AHR Expo; could be an idea for future consideration.

8.2. Handbook (Casey Scruggs in place of Andrea Hernandez Irias)

8.2.1. Updates on Handbook activities and meetings

Chapter 6 Refrigerant System Chemistry and
Chapter 7 Control of Moisture and Other Contaminants in Refrigerant Systems

The Handbook chair wasn't at the meeting. Casey will check in with her. The June 2025 timeline for chapters is looming. We need volunteers or we won't be updating chapters. Chapter 6 needs the most attention. Rosine Rohatgi volunteered to read through the chapter. Brad Boggess, Bryan Allen, and Henna Tengri will also help.

8.3. Standards (Sheli Porter)

8.3.1. Updates:

Guideline 38-2023, Guideline for Using Metal Pressure Vessels to Test Materials Used in Refrigeration Systems – *standard was published in 2023; no current activity.*

ASHRAE 97-2007 (RA 2017), Sealed Glass Tube Method to Test the Chemical Stability of Materials for Use within Refrigerant Systems (ANSI Approved) – Casey provided update. The body of the document is done but Chris Seeton has spoken with liaison to find out what actions need to be done. Casey is looking for 6-7 people to get on the committee to keep balance. Rosine Rohatgi, Brad Boggess, Casey Scruggs, Ivan Rydkin, Andrew Sumner, Sheli Porter, Bob Low, Henna Tangri, John Senediak, John DeFranks, and Ray Drost all volunteered.

ASHRAE 35-2014 (RA 2024), Method of Testing Desiccants for Refrigerant Drying (ANSI Approved) - Mandi Shook is chair. E-mail sent out to team a few weeks ago and only got a few responses and follow up received no new responses. This is close to voting stage and may need new volunteers if no one responds. Question raised if this standard is needed but the TC agreed it is probably still needed as we move toward new refrigerants. It was discussed if the group should just disband and start fresh. We already have revisions and sent out letter ballots and just have not had enough people for quorum. Brad Boggess, Casey Scruggs, Ivan Rydkin, Andrew Sumner, Bob Low, Henna Tangri, John Senediak, Seth Hill, Ray Drost all volunteered to be part of a new committee.

ASHRAE 63.2-2017, Method of Testing Liquid-Line Filter Drier Filtration Capability (ANSI Approved) – No action needed at this time.

ASHRAE 78-1985 (RA 2017), Method of Testing Flow Capacity of Suction Line Filters and Filter-Driers (ANSI Approved) – Was a committee chaired by Chris Reeves and never disbanded. Asked if we should disband and Sheli said she'd like to disband it. Current Parker representative will look into it.

ASHRAE 219-2021, Method of Testing the Ability of Liquid Line Filter Driers or Adsorbents to Remove Organic Acid (ANSI Approved) – Need member from OEM side to balance committee. No one came forward

8.3.2. New Ideas for standards or guidelines

No new ideas

8.4. Research (Casey Scruggs)

8.4.1. TC 3 Combined Research Web Meeting Report

New ASHRAE strategic plan that will result in new ASHRAE research plan. Will cover 2025-2028 and will roll in after summer meeting and ASHRAE Research Plan will cover 2025-2030. Reminder that RAC members need to attend your PES meetings and to include milestones in your plans. There is going to be a digital system coming out.

8.4.2. Current Research Activities Updates

RTAR 1856 – “Determine the Effect and Allowable Limits of Moisture and Contaminants in CO2 Systems”

RTAR was developed in 2018. It went to work statement in 2020 and has been there ever since. Work statement was rejected. Ivan said rejection comments didn't make sense. Discussed taking a vote if we want to send it back to RAC with our explanations.

*Motion: Approve the work statement to be re-submitted to RAC with explanations.
1st: Brad Boggess 2nd: Amy Shifflett*

9/0/1/1 (for/against/abstention/missing) – Chair abstained

RTAR 1886 – “Kinetic and Mechanistic Studies of the Breakdown of HFO Refrigerants”

Got comments back from RAC on the Work Statement. Had to get alignment and that has been mediated. Need to get PES aligned. Morgan Herried is chair. Steve Kujak, Casey Scruggs, Brad Boggess, Joe Karnaz, Sheng Peng, and Henna Tangri are all taking part. We have addressed the comments.

Motion: Resubmit the WS to RAC with the modifications.

1st: Brad Boggess 2nd: Joe Karnaz

9/0/1/1 (for/against/abstention/missing) – Chair abstained

8.4.3. Review discussion/ideas from Winter Meeting

Nothing discussed

8.4.4. Others – Any research needs and gaps from review of Handbook Chapters

Nothing discussed

8.4.5. Future Research needs and New Research ideas

Rosine proposed RTAR 1774 reboot with new low GWP Refrigerants. Anyone interested in writing RTAR? Can take discussion offline and see what could be involved in this.

9. Webmaster (**Dave Vincent**)

Website is up to date and notes from the TC Breakfast can be added.

10. MTG Low GWP

No one is representing TC 3.2 on this but it may disband soon.

11. Old Business (**Julie Majurin**)

No old business

12. New Business (**Julie Majurin**)

TAC is interested in developing an ALI course on A2L refrigerants. Looking for input from TC 3.2 on providing content for 3 hour course - talk to Julie for more info if you are interested.

13. Adjournment

Joe Karnaz moved to adjourn. The meeting was adjourned at 5:06 p.m.