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**Technical Committee 3.2 – Refrigerant System Chemistry and Contaminant Control**

Draft Minutes – Winter Conference 2026 Las Vegas (Hybrid)  
Tuesday, February 3– 3:30 to 5:30 pm (PST) Caesar's Palace Anzio (P)

*Information provided below for virtual attendees*

**Virtual Meetings and Conference Log-in Information**

**TC 3.2 Meeting (Hybrid) – February 3, 2026 3:30 pm – 5:30 pm (PST)**

Link to Join Online: <https://events.rdmobile.com/Sessions/Details/3148080>

**Combined TC 3 Research and Program Virtual Meeting was held January 16, 2026  
10:00 am – 12:00pm (PST)**

The schedule of all technical programs and meetings can be found at  
[2026 ASHRAE Winter Conference](#)

## 1. Call to Order (Sara Kampfe)

The meeting was called to order at 3:31p.m.

1.1. Virtual conference housekeeping

1.2. Meeting Sign-in

<https://events.rdmobile.com/Sessions/Details/3148080>

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 (Sara Kampfe)

Name	Affiliation	Voting Member
Morgan Leehey – Chair (2027)	Trane Technologies	Yes
Sara Kampfe - Vice Chair	Copeland	No
Amy Shifflett – Secretary (2028)	Savant Labs	Yes
Casey Scruggs – Research (2029)	Metalloid	Yes
Shelby Kent – Programs	Shrieve	No
Henna Tangri – Handbook (2029)	Solstice	Yes
Sheli Porter – Standards	Stellar Laboratories	No
Dave Vincent – Webmaster (2026)	BVA	Yes
Joe Karnaz (2028)	Shrieve	Yes
Raymond Drost (2027)	Calumet	Yes
Bryan Allen (2029)	Copeland	Yes
Rosine Rohatgi (2028)	Spauschus	Yes
Bob Low (2026)	Orbia	Yes MNQ
John DeFranks (2026)	Carrier Corporation	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

The roster will be updated after this meeting, for the term beginning July 1, 2026. 3 members' terms end in 2026. If you are interested in becoming a voting member, please speak with the chair.

If you are interested in becoming a corresponding member, please go to the ASHRAE website and join as a Provisional Member.

4. Approval of TC 3.2 2026 Winter Conference Meeting Agenda (**Sara Kampfe**)

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

*Motion: Approve the agenda as written.*

*1<sup>st</sup>: Amy Shifflett 2<sup>nd</sup>: Dave Vincent  
10/0/0 (for/against/abstention/missing)*

Discussion: No discussion

5. Approval of TC 3.2 2025 Annual Conference Hybrid Meeting Minutes (**Sara Kampfe**)

The meeting minutes from the 2025 Annual Conference were reviewed.

*Motion: Approve the minutes as written.*

*1<sup>st</sup>: Casey Scruggs 2<sup>nd</sup>: Henna Tangri  
10/0/0 (for/against/abstention/missing)*

Discussion: No discussion

6. Report of TC Chair's Breakfast Meeting (**Sara Kampfe**)

Chair was unable to attend. Vice-chair attended instead.

- A new Ad Hoc DEI committee is being formed to replace the BOD DEI subcommittee.
  - o Over next 6 months they will be launching the committee, aligning DEI efforts across the society, and begin delivering practical support and resources to the volunteers, committees, and regions.
- Technology Council has a Special Projects Committee. These projects are usually very large and require substantial outside funding, an extensive effort, require administrative and financial oversight. Some special projects may also be ASHRAE research projects but the distinction is the extent of outside funding.
  - o Current Special Projects:
    - 1977-SP – Expand & Update HVAC Equipment Service Life Table (In Progress)
    - TC 2.8 and TC 7.3
    - 1988-SP – Whole Life Carbon Gap Analysis (In Progress)
    - TC 2.8, TC 4.4, TC 4.7, TC 6.7, and TC 7.6
    - 2025-SP – Whole Building MEP Benchmarking Data Research (Bids Received)
    - 2026-SP – Whole Life Carbon Calculation Guide for Building Systems (Bids Received)
    - TC 2.8 and TC 7.6
    - 2027-SP – Refrigerant Leakage Rate Emissions Tracking (Bids Received)

- Research Advisory Panel (RAP) is responsible for updating ASHRAE's strategic research plan every 8 years.
  - o They would like feedback from the TCs on how to increase interest in research in TCs, improving research turnout, do TC use the strategic plan tool, etc.
  - o <https://www.surveymonkey.com/r/MKKQDVR>
- ASHRAE Global Technical Interaction Committee Meeting (GTIC) is the TAG Administrator to (5) ISO TCs, including ISO/TC86. TC3.1 and ASHRAE Standard 34 fall under this.
- Winter Program Statistics. 50% of Seminars were accepted. They had a few seminars that were recorded and presented prior to the conference due to presenters not being able to attend in person. Will continue to consider this for the future.

Program	Proposals Submitted	Proposals Scheduled
Panel Sessions	19	6
Forum Sessions	9	6
Seminar Sessions	131	65
Workshop Sessions	7	4
Debate Sessions	9	4
<b>Total</b>	<b>175</b>	<b>85</b>
<b>Total with Paper Sessions</b>		<b>121</b>

## 2026 Annual Meeting - Austin– June 27 – July 1, 2026

Conference Chair : Cindy Calloway([cindy.calloway@p2sinc.com](mailto:cindy.calloway@p2sinc.com))

### Fundamentals and Applicaitons

- Track Chair: Mikeal Salonvaara | [salonvaaramh@ornl.gov](mailto:salonvaaramh@ornl.gov)

### HVAC&R Systems and Equipment

- Track Chair: Atilla Biyikoglu | [abiyik@gazi.edu.tr](mailto:abiyik@gazi.edu.tr)

### Research Summit

- Track Chair: Craig Bradshaw | [crbrad@illinois.edu](mailto:crbrad@illinois.edu)

### Workforce Development

- Track Chair: Mike Bilderbeck | [mbilderbeck@pickeringfirm.com](mailto:mbilderbeck@pickeringfirm.com)

### Ground Source Heat Pumps

- Track Chair: Ahmed Elatar | [elataraf@ornl.gov](mailto:elataraf@ornl.gov)

### Hot Climate Building System Design, Operation and Resilience

- Track Chair: Jie Cai | [cai40@purdue.edu](mailto:cai40@purdue.edu)

### AI in Building Design and Construction

- Track Chair: Jeslu Jacob | [jesluceline@gmail.com](mailto:jesluceline@gmail.com)

### Building Decarbonization

- Track Chair: Raul Simonetti | [raul.simonetti@carel.com](mailto:raul.simonetti@carel.com)

## Key Dates – Austin

**Wednesday, Jan. 7, 2026** | Website Opens for Extended Abstracts and Seminar, Workshop, Forum, Debate, and Panel Proposals

**Wednesday, Feb 25, 2026** | Debate, Panel, Seminar, Forum, Workshop, and Debate Proposals Due

**Wednesday, Feb 25, 2026** | Conference Papers Due

**Wednesday, March 25, 2026** | Conference Paper Accept/Revise/Reject Notifications

**Thursday, April 2, 2026** | Debate, Panel, Seminar, Forum, Workshop Scheduling Notifications

**Wednesday, April 8, 2025** | Revised Conference Papers Due

**Wednesday, April 22, 2025** | Conference Paper Final Accept/Reject Notifications

**Tentative Topics:**

Fundamentals and Applications  
HVAC&R Systems and Equipment  
Research Summit  
Refrigeration and Refrigerants  
Residential HVAC Research  
Thermal Network Systems  
Nexus of Real and Artificial Intelligence Decarbonization  
Retrofits

- For the next winter conference they are trying something new to have some seminar tracks that can have a short paper submitted with them. They are still working through all the details of this.
- TC Meeting Changes

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7. Liaison Comments

Tina Brueckner (Section Head)-Tina thanked the committee for what we do and for being an easy TC to work with. During her report a comment came from the floor about ASHRAE needing to do a better job of publicizing meeting times, especially for subcommittee meetings.

8. Subcommittee Reports

8.1 Programs (Joe Karnaz on behalf of **Shelby Kent**)

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

Seminar 25: Too Hot to Handle-Is Decarbonization of Heating Decreasing System Life and Increasing Service Needs

Presenters: Joe Karnaz, Steve Kujak, & Henna Tangri; Chair: Sara Kampfe

Date/Time: Monday February 2, 2026 – 8:00-9:30 am PST

Location: Caesars Palace Las Vegas, P, Milano VII/VIII

<https://events.rdmobile.com/Sessions/Details/3151178>

Feedback was received saying that the title of the program was misleading from what the content was. The abstract was correct but attendees most likely did not read the abstract. Moving forward we may need to be careful with program naming to avoid misleading attendees.

#### 8.1.2 Programs Ideas and Discussion of Future Programs:

Austin is the next conference, followed by Chicago. We don't have any program ideas in the queue beyond this conference. Joe asked if we should aim to have a program for the Winter Meeting in Chicago versus aiming to have something ready for Austin. If we were going to get a program together for Austin, we would need to have it submitted by February 25. Joe thinks it's a better idea to aim for a seminar in Chicago. As an example of a potential program, Joe threw out the idea of HFO performance versus HFC performance in equipment from a chemical stability standpoint. He thinks we should table it for now and maybe revive the discussion during the Austin meeting. He suggested that maybe the program chairs and committee chairs of TCs 3.1, 3.2, and 3.4 should meet offline to figure out a plan prior to Austin.

### 8.2 Handbook (Henna Tangri/Casey Scruggs)

#### 8.2.1 Updates on Handbook activities and meetings

An update isn't needed for the chapters our TC is responsible for until 2030 but we will need to begin work in 2029 at the latest. A lot of info needs to go into Chapter 6 and that will require a lot of help. Casey Scruggs, Brad Boggess, Steve Kujak, Rosine Rohatgi, and Morgan Leehey have volunteered to be part of the Chapter 6 committee. Our TC doesn't really have participants from the contaminant control industry attending any longer to represent the TC 3.3 part of our committee to help with Chapter 7. Ideally it would be great to have a working group formed by Austin so the committee isn't pulling it together last minute. For Chapter 7, John Sendiak and Brad Boggess have volunteered.

Chapter 6 Refrigerant System Chemistry

Chapter 7 Control of Moisture and Other Contaminants in Refrigerant Systems

### 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. Two companies represented in the committee have confirmed they use this standard.

**ASHRAE 97-2007 (RA 2017)**, Sealed Glass Tube Method to Test the Chemical Stability of Materials for Use within Refrigerant Systems (ANSI Approved) –Chris Seeton has been working on this standard. A vote has been taken on it and two people on the review committee are no longer active and will be removed. The

appendix section is currently being reviewed and then the review committee will reconvene in 3-4 weeks to provide more feedback. The standard updates will probably be finalized by Austin.

**ASHRAE 35-2014 (RA 2024)**, Method of Testing Desiccants for Refrigerant Drying (ANSI Approved) - Mandi Shook was not present, but Amy Shifflett provided an update on her behalf that Mandi has been unable to make progress on this standard due to a review committee that has not been active. A comment was made from the floor that maybe we sit on this standard if we don't have the representation to move it forward. We would need five volunteers to form a new committee. The current standard is very difficult to follow and it may be best to start from scratch. A comment came from the floor about reaching out to refrigerant manufacturers or Parker Hannifin to see if this standard is still valid.

**ASHRAE 63.2-2017**, Method of Testing Liquid-Line Filter Drier Filtration Capability (ANSI Approved) –No actions needed on this standard.

**ASHRAE 78-1985 (RA 2017)**, Method of Testing Flow Capacity of Suction Line Filters and Filter-Driers (ANSI Approved) – No recent activity on this standard and considering discontinuing it.

**ASHRAE 219-2021**, Method of Testing the Ability of Liquid Line Filter Driers or Adsorbents to Remove Organic Acid (ANSI Approved) – Rashid Zakeri is chair. He reports that no actions have been taken since Phoenix, but there is a balanced committee and they will work on the standard.

### 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

#### 1. Research Advisory Panel

- 10-member panel formed to help develop the next ASHRAE Research Strategic Plan.
- Members represent academia, industry, and government labs.
- Organizations represented include Purdue University, TU Berlin, Johnson Controls, NIST, Daikin, Drexel University, and others.
- Purpose: Provide strategic direction for future ASHRAE research priorities.

#### 2. RAP Current Activities

- Developing a plan to solicit research input from within ASHRAE and external stakeholders.
- Engaging with the Technical Activities Committee (TAC) to gather feedback from Technical Committees (TCs).
- Holding a forum during the Winter Meeting to collect feedback.
- Working with Research Subcommittee Chairs to gather input.

### **3. TC / RAC Input Opportunities**

- A short questionnaire has been developed to gather feedback.
- Topics include increasing research participation in Technical Committees.
- Understanding why some TCs do not conduct research.
- Assessing how often the ASHRAE Research Strategic Plan is used.
- Collecting suggestions to improve the Strategic Plan.
- Members are encouraged to complete the survey.

### **4. Research Promotion Campaign (2024–2025)**

- Purpose: Raise funds to support ASHRAE Research, Education (ALI), YEA programs, and the ASHRAE Foundation.
- Chair: Les Pereira
- 1st Vice Chair: Haley Goslinga (Trane)
- 2nd Vice Chair: Andy Manos
- Year-to-date funds raised: \$2,309,888
- Previous year YTD: \$2,171,676
- Increase: +6.4%
- Campaign goal: \$2,680,000

### **5. Winter 2026 Research Activity**

- 3 Research Topic Acceptance Requests (RTARs): 1 conditionally accepted, 2 returned.
- 3 Work Statements (WS): 1 conditionally accepted, 2 returned.
- 6 tentative research projects currently under review.
- ASHRAE Research Budget (2025–2026): \$4.012 million.
- Technical Committees are encouraged to submit research proposals as funding is available.

### **6. RTAR, PTAR, and Work Statement Development**

- Proposal to create a mentorship program for writing successful RTARs, PTARs, and Work Statements.
- Potential workshop following the Research Chair meeting.
- Possible collaboration with YEA for a panel discussion with experienced authors.
- Research Subcommittee Chairs are encouraged to share ideas with their Research Liaison.

### **7. Additional Reminders for Research Authors**

- RTAR and Work Statement forms must show full Technical Committee approval vote.
- Votes from co-sponsoring Technical Committees must also be included.
- Work Statements must include clear project milestones for tracking progress.
- Resubmissions must include a tracked-changes version and a document explaining how RAC comments were addressed.
- Submission deadlines: March 15, May 15, August 15, December 15.
- All submissions must go through the Section Research Liaison.

## **8. PES / PMS Participation Requirements**

- Recorded training must be completed before serving on PES or PMS.
- Online Q&A sessions occur in spring and fall.
- Two PES meetings should be scheduled in advance.
- Two RAC members must be invited to PES and PMS meetings to ensure proper procedures.

## **9. Research Manual Update**

- STBE papers will now require deliverables.
- ASHRAE Technical Papers are being eliminated.
- Updates to co-funding processes for research projects.
- Revised budget approval thresholds requiring RAC/TechC/BOD RP approval.
- New templates added for PTAR/WSP including cover sheet, outline, and evaluation form.
- Various editorial updates.

## **10. ASHRAE Research Portal**

- New online tool for proposing, managing, and administering ASHRAE research.
- Allows submission of RTARs and Work Statements.
- Enables approvals by TC, Research Liaison, and RAC.
- Collects research bids and supports PES evaluations.

## **11. Research Portal Implementation Schedule**

- Portal already used for some recent RTAR and WS submissions.
- Encouraged for all new submissions moving forward.
- Goal is full adoption by the March 15 submission deadline.
- Future updates will include improved bid collection and evaluation tools.
- Only one individual should submit the final document to avoid duplicate submissions.

### **8.4.2. Current Research Activities Updates**

#### **RTAR 1856 – “Determine the Effect and Allowable Limits of Moisture and Contaminants in CO<sub>2</sub> Systems”**

The Word document is finished and needs to be run through the submission portal. It should be submitted next week and will be in time to make the March 15 submission deadline.

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

This RTAR went out for bid in the fall and no bids came back this round. Casey is hoping to get feedback on why.

### **8.4.3 Review discussion/ideas from Annual 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:

No ideas brought forward

9 Webmaster (**Dave Vincent**)

Website is up to date and approved minutes will be posted.

10 MTG Low GWP

Not sure we need a person for this committee because they are going to close it out. Marc Scancarello was our former representative.

11 Old Business (**Sara Kampfe**)

No old business

12 New Business (**Sara Kampfe**)

No new business

13 Adjournment

Amy Shifflett moved to adjourn. The meeting was adjourned at 4:51p.